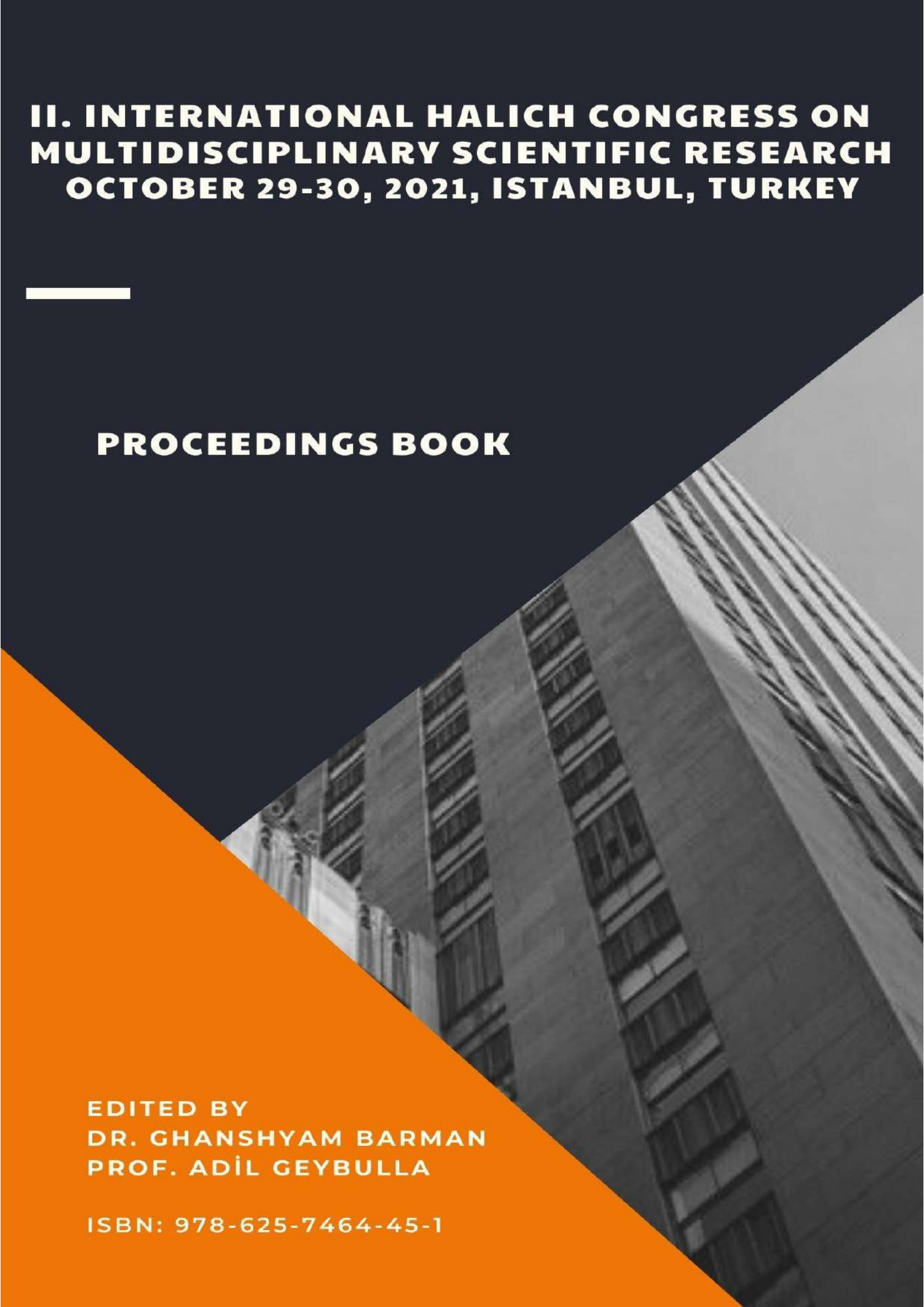
II. INTERNATIONAL HALICH CONGRESS ON MULTIDISCIPLINARY SCIENTIFIC RESEARCH OCTOBER 29-30, 2021, ISTANBUL, TURKEY

PROCEEDINGS BOOK



EDITED BY
DR. GHANSHYAM BARMAN
PROF. ADİL GEYBULLA

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II. INTERNATIONAL HALICH CONGRESS ON MULTIDISCIPLINARY SCIENTIFIC RESEARCH

October 29-30, 2021 Istanbul, TURKEY

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Dr. Ghanshyam BARMAN

Prof. Adil GEYBULLA

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CONGRESS ID

II. INTERNATIONAL HALICH CONGRESS ON MULTIDISCIPLINARY SCIENTIFIC RESEARCH

DATA AND PLACE

October 29-30, 2021 Istanbul, TURKEY

CONFERENCE CHAIR

Prof. Dr. Muhittin ELİAÇIK- Kırıkkale University

COORDINATOR

Gulnaz GAFUROVA

PRESENTATION

Oral Presentation/ Virtual

PARTICIPANT COUNTRIES

TURKEY, NIGERIA, CANADA, INDIA, BENIN, VIETNAM, AZERBAIJAN, CHINA, ALGERIA, IRAQ, PHILIPPINES, IRAN, PORTUGAL, TUNISIA, HUNGARY, UKRAINE, ETHIOPIA, ARGENTINA, KYRGYZSTAN, BOTSWANA, MOLDOVA, ITALY, PAKISTAN, INDONESIA, RUSSIA

TOTAL NUMBER OF PAPERS: 171

THE NUMBER OF PAPERS FROM TURKEY: 82

OTHER COUNTRIES: 89

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All applications have undergone a double-blind peer review process

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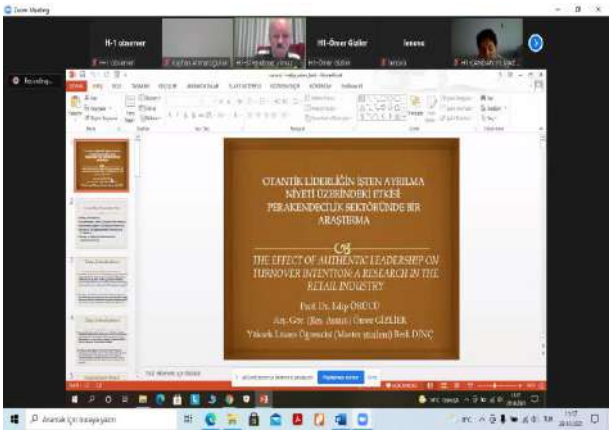



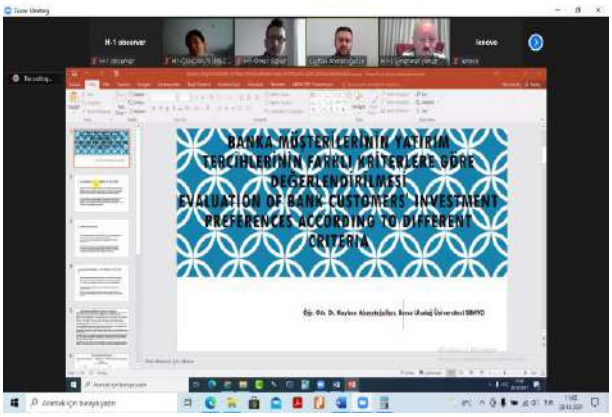

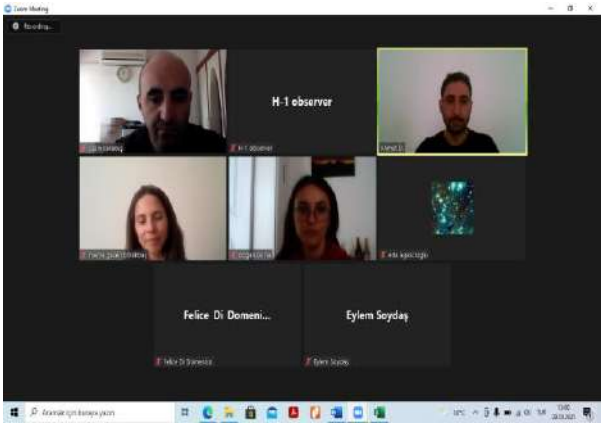

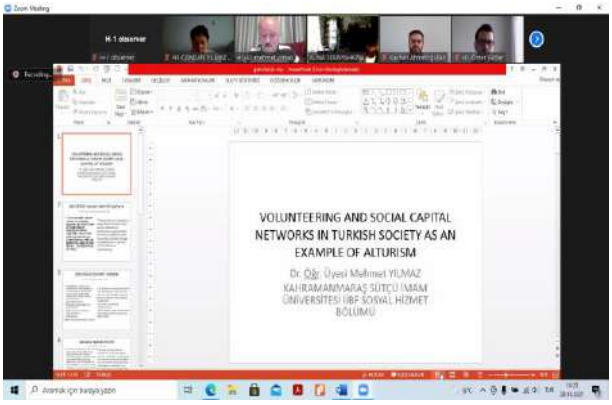

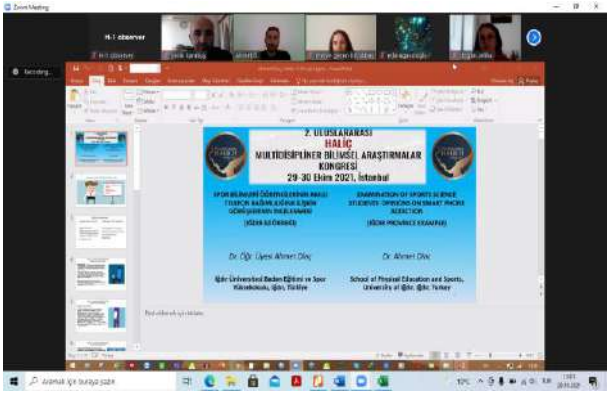





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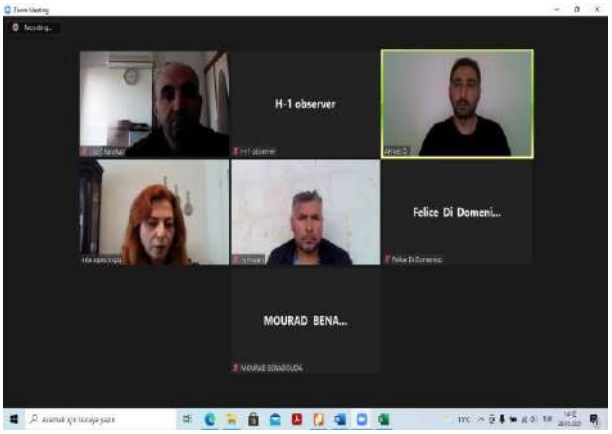





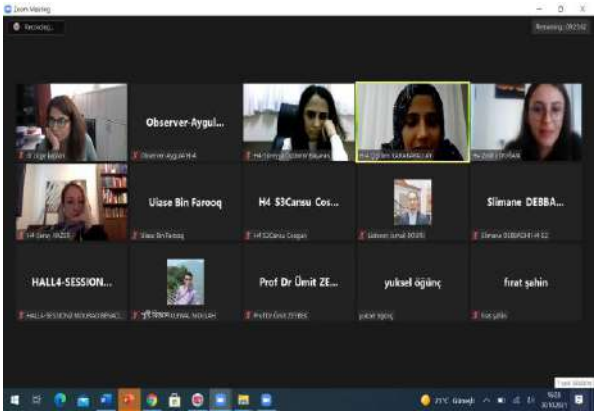

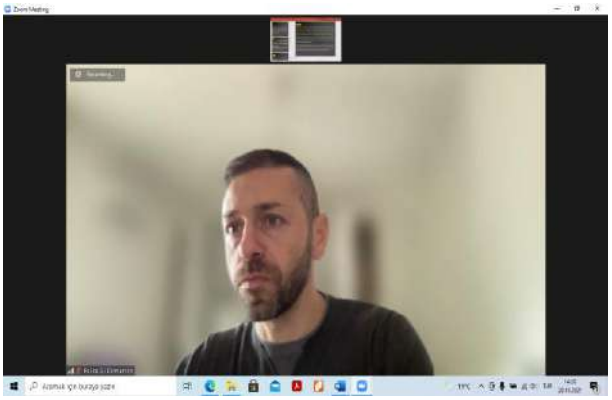

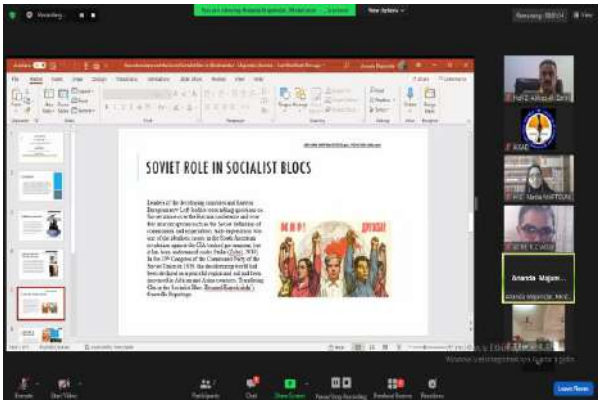

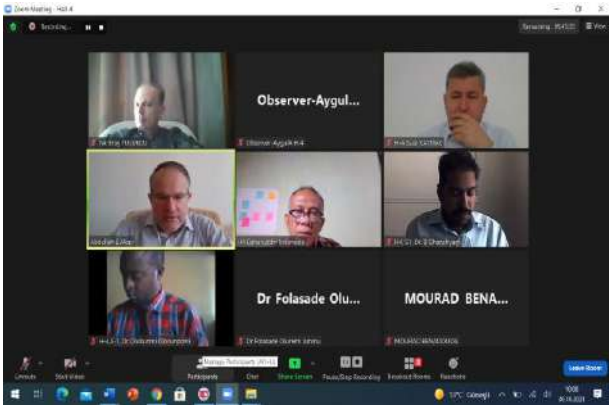



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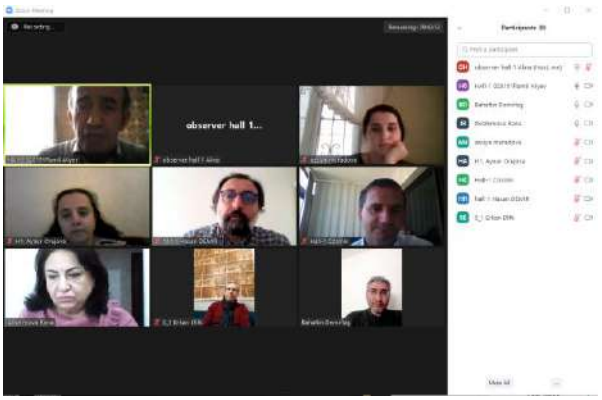

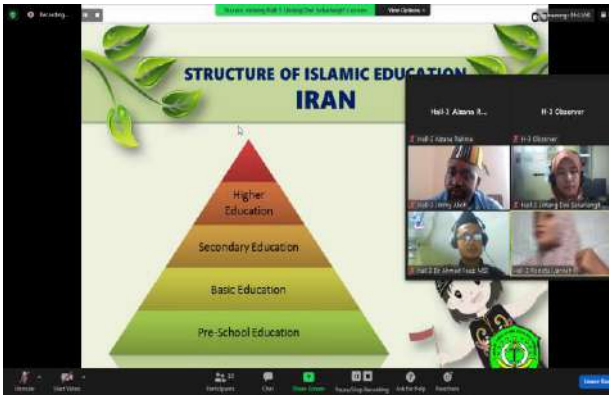



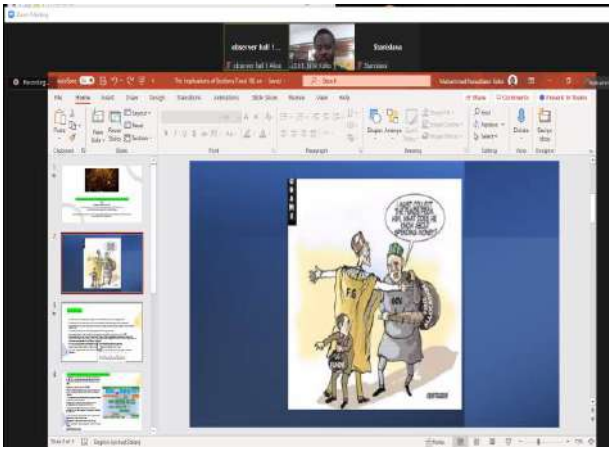



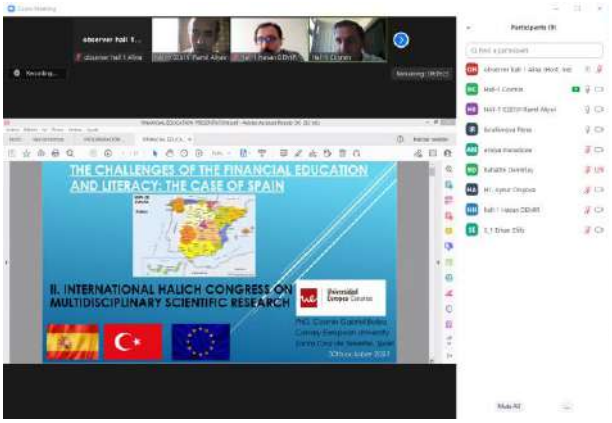



II. INTERNATIONAL HALICH CONGRESS ON MULTIDISCIPLINARY SCIENTIFIC RESEARCH

October 29-30, 2021, Istanbul, TURKEY



CONGRESS PROGRAM

zoom

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028191

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CONGRESS LANGUAGES: Turkish and all dialects, English, Russian

PARTICIPANT COUNTRIES: Turkey, Nigeria, Canada, İndia, Benin, Vietnam, Azerbaijan, China, Algeria, Iraq, Philippines, Iran, Portugal, Tunisia, Hungary, Ukraine, Ethiopia, Argentina, Kyrgyzstan, Botswana, Moldova, İtaly, Pakistan, İndonesia, Russia

DATE: 29.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-1, SESSION-1

HEAD OF SESSION: Asst. Prof. Mehmet YILMAZ		
Midhat Fatima Prof. S.M. Jawed Akhtar	Aligarh Muslim University, İndia	THE IMPACT OF COVID-19 ON INDIAN MSMES AND THE OPPORTUNITIES OFFERED BY E-COMMERCE
Asst. Prof. Candan YILMAZ UĞUR	Gümüşhane University	INTERNET DIFFUSION AND GOVERNMENT CORRUPTION
Assisst. Prof. Alina SOLNYSHKINA	Oles Honchar Dnipro National University Ukraine	METHODS AND TECHNOLOGIES OF SOCIAL PREVENTION
Dr. Tamer UTKUCU	Independent Auditor	A RESEARCH ON PERCEPTIONS OF ORGANIZATIONAL COMMUNICATION AND LEGITIMATE POWER OF THE LEADER
Asst. Prof. Mehmet YILMAZ	Kahramanmaraş Sütçü İmam University	VOLUNTEERING AND SOCIAL CAPITAL NETWORKS IN TURKISH SOCIETY AS AN EXAMPLE OF ALTURISM
Asst. Prof. Mehmet YILMAZ	Kahramanmaraş Sütçü İmam University	THE EFFECTS OF PANDEMIC AND DIGITALIZATION ON FAMILY STRUCTURE
Asst. Prof. Kayhan AHMETOĞULLARI	Bursa Uludağ University	EXAMINATION OF THE EFFECT OF FINANCIAL ATTITUDE, PERCEIVED BENEFIT AND RELIABILITY ON ONLINE PURCHASE INTENTION DURING THE PANDEMIC PERIOD
Asst. Prof. Kayhan AHMETOĞULLARI	Bursa Uludağ University	EVALUATION OF BANK CUSTOMERS' INVESTMENT PREFERENCES ACCORDING TO DIFFERENT CRITERIA
Prof. Dr. Edip ÖRÜCÜ Res. Assisst. Ömer GİZLİER Berk DİNÇ	Bandırma Onyedi Eylül University	THE EFFECT OF AUTHENTIC LEADERSHIP ON TURNOVER INTENTION: A RESEARCH IN THE RETAIL INDUSTRY
Prof. Dr. Edip ÖRÜCÜ Res. Assisst. Ömer GİZLİER Nijat BALAZADE	Bandırma Onyedi Eylül University	THE EFFECT OF PSYCHOLOGICAL OWNERSHIP ON ORGANIZATION COMMITMENT: A RESEARCH ON ACCOMMODATION ESTABLISHMENTS IN BANDIRMA

DATE: 29.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-2, SESSION-1

HEAD OF SESSION: **Dr. Suresh KUMAR**		
Povar I. Spinu O.	Institute of Chemistry, Chisinau, Republic of Moldova	THE NATURE OF SYNERGISM IN CHEMICAL PROCESSES
Aderemi Timothy Adeleye Olufayo Oluwakemi Augustina Chuks K. Odoh Soyomi Samuel Oluwagbenro Lanre Anthony Gbadegesin Mustafa Ahmed Olatubosun	Chinese Academy of Sciences (CAS), Dalian, China Ladoke Akintola University of Technology, Nigeria University of Lagos Institute of Mountain Hazards and Environment, China University of Chinese Academy of Sciences University of Ibadan, Oyo State, Nigeria	SUSTAINABLE SYNTHESIS OF RENEWABLE FURFURAL FROM BIO-DERIVED XYLOSE OVER NIOBIUM PHOSPHATE SOLID CATALYST
Dr. Suresh KUMAR	MMEC, Maharishi Markandeshwar (Deemed to be University), India	ABANDONED DISPOSAL OF ELECTRONIC WASTE: A THREAT FOR HEALTH AND ENVIRONMENT
Houssem Boumnigel Valentim Coelho Oucema Souiai Lurdes Jorge Eugénia Gouveia	Instituto Politécnico de Bragança, Portugal Tunisia Private University Tunisie	EVALUATION OF VIRULENCE AND THE LACCASE PRODUCTION ON CRYPHONECTRIA PARASITICA VIRULENT AND CONVERTED STRAINS BY CHV1 HYPOVIRUS
M Yamuna M Sivasankari	SAS, VIT, India	GRAPH DECOMPOSITION INTO ARBITRARY TREES
Adamu, A Ologe, O	Federal University Birnin Kebbi, Nigeria	CONFIGURATION REVERSAL EFFECT ON EARTH RESISTIVITY MEASUREMENT IN SOME PART OF BIRNIN KEBBI NORTHWESTERN NIGERIA

DATE: 29.10.2021
ISTANBUL TIME: 13^{00}-15^{30}
HALL-1, SESSION-2

HEAD OF SESSION: Asst. Prof. Ahmet DİNÇ		
Asst. Prof. Ahmet DİNÇ	Igdır University	EXAMINATION OF SPORTS SCIENCE STUDENTS' OPINIONS ON SMART PHONE ADDICTION (IĞDIR PROVİNCE EXAMPLE)
Res. Assisst. Merve GEZEN BÖLÜKBAŞ Prof. Dr. Şerife VATANSEVER	Bursa Uludağ University	EXERCISE PRACTICES IN CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDER: AN EXERGAMING REVIEW
Res. Assisst. Merve GEZEN BÖLÜKBAŞ Prof. Dr. Şerife VATANSEVER	Bursa Uludağ University	EFFECT OF PROBIOTIC INTAKE ON GUT MICROBIOTA AND PHYSICAL PERFORMANCE IN ATHLETIC PERFORMANCE
Asst. Prof. Ahmet DİNÇ	Igdır University	OPINIONS OF SPORTS SCIENCES STUDENTS ON CAREER CONCERNS
Asst. Prof. Eda AĞAŞCIOĞLU	Lokman Hekim University	THE EFFECTS OF ANTIOXIDANT INTAKE DURING EXERCISE
Asst. Prof. Ramazan SANLAV	Igdır University	AN EXAMINATION OF THE STATUS AND CONSTANT ANXIETY LEVELS OF WOMEN ENGAGED IN RECREATIONAL SWIMMING SPORTS
Ilya NİKOLAEVİCH MEDVEDEV	Russian State Social University, Moscow, Russia	OPTIMIZATION OF HUMAN FUNCTIONAL STATUS AS A RESULT OF INCREASING PHYSICAL ACTIVITY
Dr. Yasin KARAKUŞ	Osmaniye Korkut Ata University	THE ART OF QUOTATION IN OUR CLASSICAL POETRY: THE EXAMPLE OF “KUN FE YEKUN”
Svetlana YURİEVNA ZAVALİSHİNA	Russian State Social University, Moscow, Russia	FUNCTIONAL CHANGES IN THE BODY AS A RESULT OF YOGA EXERCISES
Felice Di Domenico	University of Salerno, Italy	MUSCLE FATIGUE MONITORING TOOLS AND TECHNIQUES IN SPORTS TRAINING

DATE: 29.10.2021

ISTANBUL TIME: 13^{00}-15^{30}
HALL-2, SESSION-2

HEAD OF SESSION: Mariya MARUSHCHAK		
Olesea Musteata	State University of Medicine and Pharmacy "N. Testemitanu"	OZONE THERAPY EFFICIENCY IN TREATMENT OF HYPERTROPHIC GINGIVITIS
Sofiia Khudaieva Nataliia Schushliapina	Kharkiv National University of Radio Electronics Kharkiv National Medical University	OPPORTUNITIES FOR REHABILITATION OF OLFACTORY FUNCTION AFTER COVID-19
Volodymyr Musiienko Mariya Marushchak	I. Horbachevsky Ternopil National Medical University, Ukraine	LABORATORY PECULIARITIES IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND HYPOTHYROIDISM
Iryna Vivsiana Mariya Marushchak	I. Horbachevsky Ternopil National Medical University, Ukraine	COMORBID OVERWEIGHT/OBESITY INCREASE THE PROGRESSION OF DYSLIPIDAEMIA IN TYPE 2 DIABETIC PATIENTS
Brinza Dumitru Portnoi Elena Fulga Veaceslav	Institute of Oncology N. Testemitanu State University of Medicine and Pharmacy, Republic of Moldova	CO-EXPRESSION OF HORMONAL TYPE (ER; PR), GRADE AND NUCLEAR ATYPIA NON-DIABETICALLY BREAST CANCER
AKHIL A S	Malankara catholic college, Affiliated to Manonmaniam Sundaranar University, South India	SOLID STATE FERMENTATION OF PHYTASE FROM PENICILLIUM SP AND ITS PLANT GROWTH PROMOTION STUDIES
Alessio Zanza Marco Seracchiani Rodolfo Reda Dario Di Nardo Gianluca Gambarini Luca Testarelli	La Sapienza University of Rome, Faculty of Medicine and Dentistry	THE INFLUENCE OF THE CRYSTALLOGRAPHIC PHASE ON THE TORSIONAL RESISTANCE OF NITI ROTARY INSTRUMENTS DURING DIFFERENT BENDING CONDITION
Vasile Musteata	State University of Medicine and Pharmacy "N. Testemitanu" Institute of Oncology, Republic of Moldova	MANAGEMENT OF RELAPSED MULTIPLE MYELOMA
Khrystyna Novak-Mazepa Mariya Marushchak	I. Horbachevsky Ternopil National Medical University, Ukraine	ASSESSMENT OF THE LEVEL OF DAYTIME SLEEPINESS IN PATIENTS WITH ARTERIAL HYPERTENSION
Antonina Tsipkalo Mariya Marushchak	I. Horbachevsky Ternopil National Medical University,	PREVALENCE OF INSOMNIA AMONG NIGHT-SHIFT NURSING WORKERS

	Ukraine	

DATE: 30.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-1, SESSION-1

HEAD OF SESSION: G.P. Ashwinkumar		
G.P. Ashwinkumar P. Nanda	Vijayanagara Sri Krishnadevaraya University, Ballari, India	MAGNETOHYDRODYNAMIC FLOW OF CASSON HYBRID NANOLIQUID ABOVE A SLENDERING SURFACE WITH SLIP EFFECTS
Tetiana Yarmolenko	Zhytomyr Ivan Franko State University, Ukraine	USING BYOD TECHNOLOGY
G. P. Ashwinkumar B. Ranjana	Vijayanagara Sri Krishnadevaraya University, Ballari, India	INFLUENCE OF VISCOUS DISSIPATION AND THERMAL RADIATION ON LIQUID THIN FILM FLOW OF DISSIPATIVE MAGNETIC-NANOFLUIDS OVER A STRETCHING SHEET
G.P. Ashwinkumar P. Nanda	Vijayanagara Sri Krishnadevaraya University, Ballari, India	IMPACT OF THERMOPHORESIS AND BROWNIAN MOTION ON MHD FLOW OF CASSON NANOFLUID PAST A STRETCHING SHEET WITH CONVECTIVE BOUNDARY CONDITIONS
Baba Ahmed Abderrazzak Boudahri Fethi Tabti Affaf	Ahmed Zabana University, Relizane, Algeria University of Tlemcen, Algeria	EVALUATION OF CHROMIUM CONTAMINATION ON AGRICULTURAL SOIL AND ON DURUM WHEAT
Stanislava Stateva	Institute of Plant Genetic Resources, „ Konstantin Malkov” Sadovo, Plovdiv, Bulgaria	APLICATION OF BIOTECHNOLOGICAL METHODS IN THE CONSERVATION OF PLANT GENETIC RESOURCES

DATE: 30.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-2, SESSION-1

HEAD OF SESSION: Ananda MAJUMDAR		
Ananda MAJUMDAR	The University of Alberta	NEOCOLONIALISM AND THE SOVIET SOCIALIST BLOC IN THE '60S
Dr. SALAMI Amadou	Université d'Abomey-Calavi (UAC) Bénin	SURVEYING THE IMPACT OF COVID-19 ON LEARNERS' GROUPING IN TEACHING WRITING SKILL IN BENINESE EFL INTERMEDIATE CLASSES
Associate Professor Abbas Ali Zarei	Imam Khomeini International University, Qazvin, Iran	IS WRITING IN A SECOND LANGUAGE A JOY OR A BOGEY? THE ROLE OF PERSONAL TRAITS
Didier KOMBIENI Nassourou IMOROU Amadou SALAMI	University of Parakou (UP), Benin University of Abomey-Calavi (UAC), Benin	LEXICO-GRAMMATICAL ANALYSIS OF THREE EXCERPTS SELECTED FROM TONI MORRISON'S PARADISE: FOCUS ON EXPERIENTIAL MEANING
Mehrdad Parsa Khanghah	University of Bari (Aldo Moro), Italy	THE UNCANNY OTHERNESS: THE UNCONSCIOUS FREUD AND KRİSTEVA
K.C.Victor R.R. Saravana Kumar G.A Robert Gixson	Marthandam Affiliated to Manonmaniam Sundaranar University Sadakadulla Appa college, Thirunelveli, South İndia	UTILIZATON OF DIGITAL MODE OF EDUCATION DURING COVID 19 PANDEMIC
Ananda MAJUMDAR	The University of Alberta	THE CONCEPT OF KARMA (ACTION) IN RELIGIOUS CONTEXT
Associate Professor Nadia MAFTOUNİ	University of Tehran	SEMIOTICS OF IRANIAN PHILOSOPHY: AVICENNA VIS-À-VIS SUHRAVARDI

DATE: 30.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-3, SESSION-1

HEAD OF SESSION: **Dr. Mohammad Jafar CHAMANKAR**		
Nuruddeen Muhammad Koko	Usmanu Danfodiyo University, Sokoto, Nigeria Universiti Sains Malaysia	THE IMPLICATIONS OF SECTIONS 7 AND 162 ON LOCAL GOVERNMENT FINANCE IN NIGERIA
Ly Dai Hung	Vietnam National University, Hanoi Vietnam Institute of Economics, Hanoi	FAST AND SUSTAINABLE DEVELOPMENT AT INTERNATIONAL INTEGRATION: EVIDENCE FROM VIETNAM ECONOMY
Dr. Mohammad Jafar CHAMANKAR Ali AGHAYARI	Urmia University Islamic Iran / Tabriz	ENERGY; THE REASON FOR THE STRONG RELATIONSHIP BETWEEN RUSSIA AND TURKEY
Mabel Duhaylungsod Sol Ylycyl Morandarte	Zamboanga Del Norte National High School, Philippines	TRAILBLAZERS: THE ALTERATION OF FREELANCING IN THE NEW NORMAL
Gwaison Panan Danladi Solomon Olubunmi, Ph.D Akinromade Alabi O.Wakilat	Nigeria Police Academy, Wudil-Kano, Nigeria Nigeria Defence Academy	THE IMPACT OF INFLATION ON GOVERNMENT SPENDING'S IN NIGERIA ECONOMY (1981-2019)
Nikita Dobhal	Uttarakhand Technical University, Dehradun, Uttarakhand, India	COMPARATIVE ADVERTISING AND TRADEMARK INFRINGEMENT
Bako, Yusuf A. Taiwo, Akeem A. Mohammed, Samuel R. Olopade Oluwaseun J.	The Federal Polytechnic Ilaro, Ogun State Nigeria	SKILLS ACQUISITION AND ENTREPRENEURSHIP DEVELOPMENT IN NIGERIA
Chems Eddine BOUKHEDIMI	University of Tizi Ouzou, Algeria	THE MEASURE OF THE CORRELATION BETWEEN CO_2 EMISSION AND DEATH FROM OUTDOOR AIR POLLUTION
Abel Segun ADESANYA Damisola Omolara ADEWUMI	Lagos State Polytechnic, Ikorodu, Lagos, Nigeria	THE STRATEGIC ROLE OF MICRO FINANCE INSTITUTIONS ON THE DEVELOPMENT OF MICRO-SMALL-MEDIUM ENTERPRISES
Assistant Professor K.R.Padma Reader K.R.Don Associate Professor	SriPadmavatiMahilaVisvaVidyalayam (Women's) University, Tirupati, AP. Sree Balaji Dental College and Hospital, Bharath Institute of Higher	GLOBAL MIGRATION DURING CORONA PANDEMIC AND ITS SOCIAL OUTCOMES

P.Josthna Associate Professor B.Kishori	Education and Research (BIHER) Bharath University, İndia	
Anuruddika Jayathilaka MD Pushpakumari	University of Sri Jayewardenepura, Sri Lanka	"MAKE-UPPING" THE SUPPRESSION": A QUALITATIVE INQUIRY IN THE MODELLING INDUSTRY IN SRI LANKA
Afrasyab Khan	UET Peshawar, Industrial Engineering, Peshawar, Paksitan	BARRIER TO IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT IN MANUFACTURING INDUSTRY OF PESHAWAR

DATE: 30.10.2021
ISTANBUL TIME: 10^{00}-12^{30}
HALL-4, SESSION-1

HEAD OF SESSION: **Prof. Dr. Abdullah E. AKAY**		
Baharuddin Sitti Nuraeni Ira Taskirawati Hasanuddin Eko Indiarto Nugroho	Hasanuddin University, İndonesia	ENVIRONMENTAL ADAPTATION OF THE STRAIT PS01 SILKWORM LINE IN THE COASTAL AREA OF MAKASSAR IN THE TROPICS
Suat KAYMAK	General Directorate of Agricultural Research and Policies, Ankara	DETECTION AND DISCRIMINATION OF BOTRYOSPHAERIA SPP. WITH HIGH RESOLUTION MELTING ANAYLSIS
Lawal W.S Harron-Abdukadri, H.T Atanda, A.O Omotunde, I.A Abubakry, A. A	Kwara State Polytechnic, Ilorin, Nigeria	COMBINED METHOD OF DETOXIFICATION OF DELONIX REGIA CAUCAS FOR USE AS POULTRY FEED INGREDIENTS
Dr. Olubunmi T. OLORUNPOMI	Nigeria Police Academy	EQUILIBRIUM RELATIONSHIP OF TOTAL EMPLOYMENT IN THE AGRICULTURE SECTOR
Prof. Dr. Abdullah E. AKAY Assist. Prof. Dr. Ebru BİLİCİ	Bursa Technical University	EVALUATING THE LOCATIONS OF THE FIRE HELICOPTER PLATFORMS IN THE REGION OF BURSA
Prof. Dr. Abdullah E. AKAY İnanç TAŞ	Bursa Technical University	ASSESSMENT OF PHYSICAL RISK FACTORS DURING MECHANIZED FOREST HARVESTING OPERATIONS
Prof. Dr. Eray TULUKCU	Selcuk University, Cumra Vocational School	SESAME CULTIVATION IN SEMI ARID CONDITIONS AKOREN EXAMPLE
Dr. Folasade Oluremi AMINU	Yaba College of Technology, , Nigeria	EFFECT OF FUELWOOD UTILIZATION ON THE HEALTH OF FARMING HOUSEHOLDS IN EKITI STATE, NIGERIA
Salih K. Alwan Alsharifi Shathar. A. Imran Alaamer Hussein R. Nayyef	University of Al-Qasim Green, Iraq University of Al- Furat Alwsat Technical, Iraq University of Southern Technical	REQUIREMENTS OF RICE MECHANICAL HUSKING
Prof. Dr. Eray TULUKCU	Selcuk University, Cumra Vocational School	SIYEZ WHEAT FARMING IN KONYA/AKOREN CONDITIONS

DATE: 30.10.2021
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HALL-5, SESSION-1

HEAD OF SESSION: **Prof. Adil GEYBULLA**		
Asst. Prof. Nesrullah OKAN Lec. Yusuf Taha OKAN	Fırat University Harran University	A QUALITATIVE STUDY ON EXAMINING METAPHORICAL PERCEPTIONS OF WEARING MASKS IN THE COVID-19 PROCESS AND DETERMINING THE PSYCHOLOGICAL EFFECTS OF WEARING MASKS
Asst. Prof. Yasemin KARAASLAN Specialist Umut KARAASLAN Assoc. Prof. Dr. Şeyda TOPRAK ÇELENAY	Beykent University Gaziosmanpaşa Training and Research Hospital Ankara Yıldırım Beyazıt University	THE RELATIONSHIP BETWEEN BLADDER-BOWEL DYSFUNCTION AND SLEEP, PSYCHOLOGICAL STATUS AND QUALITY OF LIFE IN CHILDREN WITH NOCTURNAL ENURESIS
Prof. Adil GEYBULLA Nigar GEYBULLA	Azerbaijan Medical University	CASE-REPORT: DETECTION OF ADVANCED PANCREAS CANCER AFTER SUFFERING FROM COVID-19
Specialist Nuran GÜNAY	University of Health Sciences, Umraniye Training and Research Hospital	HEART RATE TURBULENCE AND HEART RATE VARIABILITY IN PATIENTS WITH FAMILY MEDITERRANEAN FEVER
Necati ÜÇLER İnan GEZGİN	Adıyaman University	IMPACT OF NSAID USE AFTER LUMBAR SURGERY: META-ANALYSIS
Specialist Nuran GÜNAY	University of Health Sciences, Umraniye Training and Research Hospital	EVALUATION OF CARDIAC FUNCTIONS IN FAMILY MEDITERRANEAN FEVER BY ECHOCARDIOGRAPHY
Assoc. Prof. Dr Bülent KOCA Dr. Ali İhsan SAĞLAM	Tokat Gaziosmanpaşa University	OUR POSITIVITY RATES IN REEXCISION MATERIAL IN PATIENTS WHO UNDERWENT BREAST-CONSERVING SURGERY AND HAD SURGICAL MARGINS POSITIVE INTRAOPERATIVE
Res. Assisst. Dr. Oğuzhan METE Lec. Elif Sena DÜŞGÜN Assoc. Prof. Dr. Şeyda TOPRAK ÇELENAY	Ankara Yıldırım Beyazıt University Fenerbahçe University	COMPARISON OF ANXIETY AND CORONAPHOBIA LEVELS IN ADULTS WITH AND WITHOUT COVID-19 VACCINATION
Necati ÜÇLER İbrahim Orhan BİLEK	Adıyaman University	POSTOPERATIVE FOLLOW-UP IN PATIENTS WHO UNDERWENT LUMBOSACRAL PEDICLE SCREWS

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HALL-1, SESSION-2

HEAD OF SESSION: **Prof. Dr. Ramil ALIYEV**		
Prof. Dr. Ramil ALIYEV	Independent researcher	DEGENERATIVE TIME IN EPOS STRUCTURE
Cosmin Gabriel Bolea	Universidad Europea de Canarias, Spain	THE CHALLENGES OF THE FINANCIAL EDUCATION AND LITERACY: THE CASE OF SPAIN
Assoc. Prof. Dr. Bahattin DEMİRTAŞ	Ankara Hacı Bayram Veli University	TURKISH-ITALIAN RELATIONS IN THE DEMOCRAT PARTY PERIOD AND THE PRESIDENT CELAL BAYAR'S 1959 TRAVEL TO ITALY WITHIN THIS FRAMEWORK
Rena Muhtar kızı IBRAGIMOVA	Baku State University	WOMAN IN THE SOCIAL FIELD OF TRADITIONAL CAUCASIAN SOCIETY
Assoc. Prof. Dr. Bahattin DEMİRTAŞ	Ankara Hacı Bayram Veli University	THE JOURNEY OF ADNAN MENDERES TO LONDON TO ATTEND THE CORONATION OF QUEEN ELIZABETH II AND THE DIPLOMATIC CONTACTS THAT TOOK PLACE THERE
Assoc. Prof. Dr. Erkan EFİLTİ Assiya MURADOVA	Kyrgyzstan-Turkey Manas University	INVESTIGATION OF MARRIAGE SATISFACTION OF MESKHETIAN TURKIC MARRIED INDIVIDUALS LIVING IN KYRGYZSTAN
Aynur ORUCOVA	Azerbaycan Milli İlimler Akademisi	HISTORY OF THE MEDIEVAL CITIES OF AZERBAIJAN (ACCORDING TO THE ITALIAN TRAVEL BOOKS OF THE 15TH AND 16TH CENTURIES)
Dr. Hasan DEMİR	İndependent researcher	A LEADERSHIP-BASED CRITIC OF LIBERAL DEMOCRACY: CARL SCHMITT

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HALL-2, SESSION-2

HEAD OF SESSION: **Prof. Dr. Muhittin ELİAÇIK**		
Tamilla VAHABOVA	PhD in Pedagogy, ASPU	THE ROLE OF SOCIAL ENVIRONMENT IN THE EDUCATION IN AZERBAIJAN INTELLECTUALS' WORKS (THE END OF THE 19TH CENTURY – THE BEGINNING OF THE 20TH CENTURY)
Dr. Kadir ERBİL	Hacı Bektaş Veli University	DIFFERENCES IN SOME PRACTICES BETWEEN THE GREAT SELJUK STATE AND THE ABBASID STATE IN THE CONTEXT OF INSTITUTIONS
Prof. Dr. Muhittin ELİAÇIK	Kırıkkale University	FATWAS ON THE SHADOW PLAY IN THE OTTOMAN LIFE
Prof. Dr. Muhittin ELİAÇIK	Kırıkkale University	A PHONETIC DISCUSSION FATWA ABOUT COFFEE IN THE OTTOMAN
Lec. Derya ŞEVLİ	Van Yüzüncü Yıl University	AN EXAMINATION OF THE "KANLI SON OF KANLI BODY SON KAN TURALI" FROM DEDE KORKUT STORIES IN TERMS OF FOLK SCIENCE ELEMENTS
B. Nur ERGELEN	Ankara Yıldırım Beyazıt University	FICTION AND REALITY FROM THE PERSPECTIVE OF LITERARY SOCIOLOGY
Nazlı Abbasova	Silahlı Kuvvetler Akademisi, Baku, Azerbaycan	THE DETERMINATION OF THE DUTY "DEFENCE OF MOTHERLAND" IN THE CONSTITUTIONS OF AZERBAIJAN AND TURKEY

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HALL-3, SESSION-2

HEAD OF SESSION: **Dr. Ahmad Fauzi**		
Mrs Boukary Saratou Chaibou Elhadji Oumarou,M.C.	Laboratoire d'Etudes Littéraires (LABEL), Abdou Moumouni Dioffo University	HAWAN KAHO OR BULLHORNS'MOUNTİNG AS A THEATRİCAL PERFORMANCE İN HAUSA ORAL LİTERATURE
Rehana KANWAL	National College of Business Administration and Economics, Lahore, Pakistan	KHAWAJA GHULAM FARID'S TRANSCENDENT LOVE FOR HUMANITY AND ITS IMPERATIVE NEED IN THE CONTEMPORARY WORLD
Mila MARDIANA Hendri Hermawan ADİNUGRAHA	IAIN Pekalongan, Faculty of Islamic Economics and Business	ANALYSIS OF CATFISH TRADE ZAKAT IN GEBANG VILLAGE, PEKALONGAN CITY
Jimmy, AKOH	University of Abuja, Nigeria	ONYOMKPOR MASQUERADE: A PANACEA TO COMMUNITY JUSTICE AND PEACE
Alzana RAHMA Hendri Hermawan ADİNUGRAHA	IAIN Pekalongan, Faculty of Islamic Economics and Business	ISLAMIC MARKET MECHANISM: PRICE SETTING THEORY AND THE ROLE OF GOVERNMENT
Dr. Ahmad Fauzi, M.S.I Lintang Dwi Sekarlangit Rodotul Jannah	Islamic Religious High School Walisembilan Semarang	COMPARISON OF ISLAMIC EDUCATION SYSTEMS INDONESIA AND IRAN
Fitri MUKARROMAH Hendri Hermawan ADİNUGRAHA	IAIN Pekalongan, Faculty of Islamic Economics and Business	REVITALIZATION OF RELIGIOUS CULTURAL TOURISM DESTINATION DEVELOPMENT
Aytaj E Rahimova Dr.Sci. (Arts)	Baku Music Academy named after Uzeyir Hajibeyli, Azerbaijan	THE ROLE OF MODE ORGANISATION IN AZERBAIJANI FOLK MUSIC
Olusegun, ABODUNRIN	University of Abuja, Nigeria	SCENOGRAPHY AS A MEDIUM FOR PROMOTION AND SUSTAINABILITY OF CULTURE: AN APPRAISAL OF ODODO'S HARD CHOICE IN PERFORMANCE

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HALL-4, SESSION-2

HEAD OF SESSION: **Dr. Ghanshyam BARMAN**		
Dr. Ghanshyam BARMAN	Uka Tarsadia University, Bardoli, Gujarat, India	SEPARATION TECHNIQUES: A SUSTAINABLE APPROACH
Ashısh DHAMANDA	Gurukula Kangri (Deemed to be University) Haridwar, UK, India	TECHNIQUES FOR ELECTRICITY GENERATION CONTROL OF FREQUENCY AND POWER
Debbaghi Slimane Dahmane Mouloud Zahaf Samir Benkhettab Mohamed	LDDI, Algeria University of Djilali Bounaama-Khamis Meliana Mostaganem University, Algeria	INSTABILITY ANALYSIS OF CLAMPED-PINNED PIPES CONVEYING FLUID UNDER THERMAL LOAD
Samir Zahaf Amar Chemmami Mouloud Dahmane Azzeddine Belaziz Slimane Debbaghi Abdelkader Mestar	National Polytechnic School of Oran, Algeria University of Djilali Bounaama-Khamis Meliana, Ain Defla-Algeria Mechanical Research Center Constantine (CRM) LDDI, UAD-Adrar Oran Mohamed Boudiaf University of Science and Technology	THE EFFECT OF THREE-DISC ARTHROPLASTY REPLACEMENT ON THE VON MISES STRESS AND STRAIN DISTRIBUTION IN THE SPINE: ANALYZED BY THE FINITE ELEMENT METHOD
Mourad Benadouda	University of Sidi Bel Abbes, Algeria	STUDY OF THE DIFFUSION OF CHLORINE IONS IN CONCRETE
Mourad Benadouda Hassen Ait Atmane Abdelouahed Tounsi Samy .R. Mahmoud	University of Sidi Bel Abbes, Algeria Hassiba Benbouali University of Chlef, Algeria King Abdulaziz University, Saudi Arabia	STUDY OF THE MECHANICAL BEHAVIOR OF THICK STRUCTURES TAKING INTO ACCOUNT THE EFFECT OF THE MICROSTRUCTURE (POROSITE) IN A FUNCTIONALLY GRADUATED MATERIAL
Bouri Ismaïl Zahaf Samir	University of Mostaganem University of Khamis Meliana, Algeria	SIMULATION AND REALIZATION OF THE DIFFERENT MACHINING CYCLES ON A CNC MILLING MACHINE: USE OF R PARAMETERS
Susan Hayeri Yazdi Associate Professor Lobat Taghavi	Islamic Azad University, Iran	SELECTIVE CATALYST REDUCTION FOR NOX REMOVAL FROM EXHAUST OF ELECTRICAL POWER-PLANTS

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HALL-5, SESSION-2

HEAD OF SESSION: Assoc. Prof. Dr. İlker SUGÖZÜ		
Nabi BABAYEV Şahla AHMAD Tamilla ZEYNALOVA	University of Architecture and Civil Engineering	SYNTHESIS OF A SUPER-PLASTIFICATOR BASED ON POLYPHENOL AND THEIR RESEARCH AS PLASTIFYING ADDITIVES IN CONCRETE MIXES
Asst. Prof. Arslan KAPTAN Assoc. Prof. Dr. Fuat KARTAL	Sivas Cumhuriyet University Kastamonu University	THE EFFECT OF ANNEALING PROCESS APPLIED TO PLA PARTS MANUFACTURED BY FUSED DEPOSITION MODELING ON MECHANICAL PROPERTIES
Asst. Prof. Hatice Aylin KARAHAN TOPRAKCİ Mukaddes Sevval CETİN Asst. Prof. Ozan TOPRAKCİ	Yalova University	FABRICATION OF CARBON BLACK AND VAPOR GROWN CARBON NANOFIBER FILLED NANOCOMPOSITES AND INVESTIGATION OF THEIR SENSING PROPERTIES AS A FUNCTION OF FILLER ASPECT RATIO AND TEST SPEED
Mukaddes Sevval CETİN Asst. Prof. Hatice Aylin KARAHAN TOPRAKCİ	Yalova University	INVESTIGATION OF SYNERGISTIC EFFECTS OF HYBRID FILLERS ON SENSING PROPERTIES OF FLEXIBLE NANOCOMPOSITE STRAIN SENSORS
Assoc. Prof. Dr. İlker SUGÖZÜ Assoc. Prof. Dr. Banu SUGÖZÜ	Mersin University	EFFECT OF VEHICLE BRAKE PRESSURE ON WEAR RATE
Assoc. Prof. Dr. İlker SUGÖZÜ Assoc. Prof. Dr. Banu SUGÖZÜ	Mersin University	THE ROLE OF BRAKE PAD PRESSURE IN THE FRICTION COEFFICIENT
Mert SAPAZ Asst. Prof. Fuat KARA Dr. Onur ÖZBEK	Düzce University	EXPERIMENTAL INVESTIGATION OF THE EFFECT OF HARD TURNING OF CW511L BRASS ALLOY ON SURFACE ROUGHNESS AND TOOL WEAR
Asst. Prof. Sertan AYTAÇ	Kırşehir Ahi Evran University	SYNTHESIS OF BENZYLYDENE-BENZENAMINE DERIVATIVE COMPOUNDS BY MICROWAVE METHOD
Asst. Prof. Elif Ayşe ERDOĞAN ELIUZ Erdal YABALAK	Mersin University	THE FATTY ACID SCANNING IN COMMERCIAL BITTER GOURD AND MARIGOLD OILS AND ANTIBACTERIAL ACTIVITY
Prof. Dr. Abdulkadir Cüneyt AYDIN Erkan TUNÇ	Atatürk University	INTERACTIVE DIAGRAMS OF FIBER REINFORCED CONCRETE SECTIONS

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HALL-1, SESSION-3

HEAD OF SESSION: Asst. Prof. Fadıl KUYUCUOĞLU		
Asst. Prof. Fadıl KUYUCUOĞLU	Manisa Celal Bayar University	ANALYSIS OF LAPLACE EQUATION SOLUTION USING RANDOM WALK METHOD
Burak DİLEKÇİ Asst. Prof. Halil İbrahim DEMİR	Sakarya University	A STUDY ON PROJECT MANAGEMENT AND TIME COST ANALYSIS OF A CONSTRUCTION PROJECT WITH CPM/PERT TECHNIQUE
Asst. Prof. Halil İbrahim DEMİR İrem DİNÇ	Offenburg University of Applied Sciences Sakarya University	RESOLVING PRIORITY ERROR BY ANALYSIS OF FAILURE MODES AND EFFECTS ANALYSIS WITH HYBRID DEMATEL AND TOPSIS METHODS IN AN AUTOMOTIVE FACTORY
Asst. Prof. Fadıl KUYUCUOĞLU	Manisa Celal Bayar University	SCATTERING OF TE POLARIZED ELECTROMAGNETIC WAVE FROM TWO DIMENSIONAL STRIP GEOMETRY USING MONTE CARLO INTEGRATION METHOD
Asaad OLABİ Sayiter YILDIZ	Cumhuriyet University	ADVANCED OXIDATION PROCESSES: BASICS AND APPLICATIONS IN URBAN AND INDUSTRIAL WASTEWATER TREATMENT
Asaad OLABİ Sayiter YILDIZ	Cumhuriyet University	SEWAGE SLUDGE DISINTEGRATION USING ULTRASONIC TECHNOLOGY
Res. Assisst. Çiğdem CENGİZ Assoc. Prof. Dr. Mehmet Sait CENGİZ	Bitlis Eren University	THE RELATIONSHIP BETWEEN SHADOW AND VISIONAL COMFORT IN INDOOR AREAS
Res. Assisst. Çiğdem CENGİZ Assoc. Prof. Dr. Mehmet Sait CENGİZ	Bitlis Eren University	USING SYMMETRIC AND ASYMMETRIC LENS IN URBAN LIGHTING

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HALL-2, SESSION-3

HEAD OF SESSION: Assoc. Prof. Dr. Melike KURTARAN ÇELİK		
Asst. Prof. Berk ESEN	Sabancı University	RISE OF ILLIBERAL DEMOCRACY: THE CASE OF HUNGARY IN COMPARATIVE PERSPECTIVE
Fatma GÜNDÜZ	Sinop University Boyabat Voc. School Dokuz Eylül University	GENDER PERSPECTIVE AND WOMEN IN INTEGRATED DISASTER ADMINISTRATION
Prof. Dr. ALİ ASKER Şeyma Nur GÜNER Merve GÜNER	Karabük University	THE RECOVERY AND PROCESS OF THE SOCIALIST ECONOMIC SYSTEM IN AZERBAIJANI (1920-1940)
Hilal PAKSOY Prof. Dr. Mehmet ALAGÖZ	Selçuk University	AN ASSESSMENT ON THE CALCULATION METHODS OF POVERTY, EXTERNAL DEBT AND INDUSTRIAL PRODUCTION INDEX OF SELECTED COUNTRIES
Assoc. Prof. Dr. Melike KURTARAN ÇELİK Prof. Dr. Ahmet KURTARAN Lec. Fegan MUTLU	Trabzon University Karadeniz Technical University	TOURISM ART RELATIONSHIP-GRAPHITE STREET ART
Assoc. Prof. Dr.Vildan ATEŞ Veysel ŞİMŞEK	Ankara Yıldırım Beyazıt University	EVALUATION OF THE E-GOVERNMENT SERVICES OF A PUBLIC INSTITUTION IN THE LIGHT OF THE OPINIONS OF EMPLOYEES
Asst. Prof. Emre CENGİZ	Gümüşhane University	CLİMATE CHANGE NEGOTİATİONS AND TURKEY
Res. Assisst. Barış Ergül Prof. Dr. Arzu Altın Yavuz	Eskişehir Osmangazi University	STATISTICAL EXAMINATION OF WASTE FOOD
Res. Assisst. Barış Ergül Prof. Dr. Arzu Altın Yavuz	Eskişehir Osmangazi University	MODELLING OF WATER FOOTPRINT WITH GROWTH CURVES
Assoc. Prof. Dr. Melike KURTARAN ÇELİK Prof. Dr. Ahmet KURTARAN Lec. Fegan MUTLU	Trabzon University Karadeniz Technical University	SILVER TRAVELLERS – SUPPORTING SMEs TO REACH AND ATTRACT ELDER TRAVELLERS BY INNOVATIVE STRUCTURAL AND EDUCATIONAL METHODS

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HALL-3, SESSION-3

HEAD OF SESSION: Asst. Prof. Adem GÖK		
Lec. Sevda DEMİRÖZ YILDIRIM	Amasya University Dokuz Eylül University	DISABLED INDIVIDUALS IN INTEGRATED DISASTER ADMINISTRATION
Dilek Özge ZİNCİR ERÇİN Doğan ERÇİN	Kocaeli State Hospital	EVALUATION OF THE KNOWLEDGE AND ATTITUDES OF PATIENTS WHO APPLY TO PHYSICAL MEDICINE AND REHABILITATION CLINIC ABOUT GETAT APPLICATIONS
Dilek Özge ZİNCİR ERÇİN Doğan ERÇİN	Kocaeli State Hospital,	CAN OZONE BE A TREATMENT OPTION IN CALCANEUS OSTEOMYELITIS?
Asst. Prof. Adem GÖK Assoc. Prof. Dr. Mehmet DALLI Prof. Dr. Çoruh Türksel Dülgergil	University of Firat, Dental Faculty Serbest Diş Hekimi Serbest Diş Hekimi	COMPARISON OF WATER ABSORPTION AND SOLUBILITY OF DIFFERENT COMPOSITE RESINS
Dr. Ramazan YILDIZ	Labor and Social Security Specialist	AN EVALUATION ON MANDATORY GENERAL HEALTH INSURANCE IN ITS TENTH YEAR IN THE LIGHT OF SGK DATA
Serkan USGU Tuğba GÖNEN	Hasan Kalyoncu University	THE RELATIONSHIP BETWEEN PHYSICAL FITNESS PARAMETERS AND SEASONAL PERFORMANCE OF PROFESSIONAL BASKETBALL PLAYERS
Dr. Kave Koorehpaz	Urmia University, Iran	EFFECT OF UTERINE OZONE THERAPY ON OXIDATIVE STRESS PARAMETERS IN MARES
Merve Sakkal Prof. Dr. Tekin Karsılgil	Gaziantep University	AN INVESTIGATION OF VARCELLA ZOSTER VIRUS SEROPREVOLANCATION IN OUR REGION
Doğan ERÇİN Dilek Özge ZİNCİR ERÇİN Onur ÖZEL	Kocaeli State Hospital,	A RARE CASE; KOHLER NAVI DISEASE
Doğan ERÇİN Dilek Özge ZİNCİR ERÇİN	Kocaeli State Hospital,	PNEUMOPERITONEUM CAUSED BY FATAL Abdominal PAIN IN AN ELDERLY PATIENT

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HALL-4, SESSION-3

HEAD OF SESSION: **Dr. Zeliha DOĞAN**		
Ujjwal Mollah	Raja N. L. Khan Women's College (Autonomous), Under Vidyasagar University, Medinipur, West Bengal, India	ASSESSMENT OF NUTRITIONAL STATUS OF TRIBAL PRESCHOOL (1-5) CHILDREN OF RANIBANDH BLOCK, BANKURA, WEST BENGAL, INDIA
Cansu COŞGUN Muharrem Said COŞGUN Öznur BÜYÜKTURAN	Erzincan Binali Yıldırım University Kırşehir Ahi Evran University	EVALUATION OF SCAPULOTHORACIC DYSFUNCTION IN PATIENTS WITH IMPLANTABLE CARDIAC ELECTRONIC DEVICE
Leyla Nesrin ACAR Seray HAZER	SBÜ Ankara Keçiören Göğüs Hastalıkları ve Göğüs Cerrahisi Eğitim ve Araştırma Hastanesi, Göğüs Cerrahisi Kliniği, Ankara	THE INCIDENTALLY BENIGN LUNG DISEASES WHICH WERE RECOGNIZED DURING COVID-19 EXAMINATIONS
Res. Assisst. Çiğdem KARAKAYALI AY Asst. Prof. Zeliha ÖZŞAHİN Sinem GÜVEN SANTUR	Inönü University	THEORETICAL FRAMEWORK OF THE CONCEPT OF ART IN MIDWIFERY
Res. Assisst. Çiğdem KARAKAYALI AY Asst. Prof. Zeliha ÖZŞAHİN Sinem GÜVEN SANTUR	Inönü University	THE PLACE OF EVIDENCE-BASED PRACTICES IN MIDWIFERY EDUCATION
Dr. Zeliha DOĞAN Prof. Dr. Ş.Ümit ZEYBEK Asst. Prof. Murat DIRAMALI	Altınbaş University İstanbul University Abant İzzet University	INVESTIGATION OF FTO(RS9939609) GENE IN TERMS OF BMI, AGE, GLUCOSE AND HBA1 C PARAMETERS IN DIABETIC OBESE AND NON-DIABETIC OBESE PATIENTS
UIASE BIN FAROOQ ADARSH KUMAR URFEYA MIRZA	College of Veterinary and Animal Sciences India Faculty of Veterinary Science and Animal Husbandry, India	SONOGRAPHIC EVALUATION OF COPROSTATIC IMPACTION WITH SAND AND INGESTA IN DRAFT EQUIDS
Assoc. Prof. Dr. Fatma ÇOLAKOĞLU	Karamanoğlu Mehmetbey University	THE ENDOMETRIAL RECEPTIVITY IN EMBRYO IMPLANTATION
Süreyya Özdemir Başaran Özge Kaplan Fırat Şahin Fikri Erdemci Fırat Aşır Engin Deveci	Dicle University	IMMUNOHISTOCHEMICAL EVALUATION OF VIMENTIN EXPRESSION IN THE UMBILICAL CORDS OF COVID-19 PREGNANT WOMEN

Özge Kaplan Fırat Şahin Süreyya Özdemir Başaran Serdar Kaplan Işılay Sezen Ermiş Fırat Aşır Engin Deveci	Dicle University Dağkağı State Hospital	EVALUATION OF ADAMTS-13 EXPRESSION OF UTERINE TISSUE AFTER EXPOSURE TO THE FUNGICIDE - MANCOZEB IN WISTAR ALBINO RATS
Fırat Şahin Süreyya Özdemir Başaran Özge Kaplan İrfan Kılıç Fırat Aşır Ebru Gökalp Özkorkmaz Gamze Erdodoğan Engin Deveci	Dicle University Mardin Artuklu University	EVALUATION OF KI-67 EXPRESSION IN THE OVARY AFTER EXPOSURE TO FUNGICIDE-MANCOZEB IN WISTAR ALBINO RATS
Yüksel ÖĞÜNÇ KEÇECİ Zerrin SELLER	Anadolu University, Eskişehir, Turkey	EFFECT OF DIFFERENT METABOLIC CONDITIONS ON LACTIC ACID PRODUCTION OF A549 LUNG CANCER CELLS

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HALL-5, SESSION-3

HEAD OF SESSION: **Dra. Tatiana Marisel PIZARRO**		
Ass. Prof Rabi S D	Nigeria Police Academy, Wudil, Kano, Nigeria	FIRST REPORT OF DIFFERENT FURCOCERCUS CERCARIAE WITH OTHER PARASITIC INFECTIONS IN FRESHWATER SNAILS OF JAKARA DAM, KANO STATE, NIGERIA
Assist. Prof. Reena.T Suchithra.G Alby Chandran	Malankara Catholic College,Affliated to Manonmaniam Sundaranar University, South India	STUDY ON ANTICYANOTOXICITY DEGRADATION USING PSUDOMONAS SPECIES
NIRANJANA.S	Malankara catholic College, Manonmaniam sundarnar University	ISOLATION OF OLEAGINOUS BACTERIA FROM DIFFERENT OIL CONTAMINATED SOIL
Dr. Rabi S. DUWA Dr. Olubunmi T. OLORUNPOMI	Nigeria Police Academy, Faculty of Science	SIGNIFICANT DIFFERENCE (HSD) TEST OF MEAN SCORES FOR MOSQUITOES' GENERA
K. Varuna M. Senthil Pandian A. Robert Xavier S. Senthil Kumar J. Martin Sam Gnanaraj	National College (Autonomous), Tiruchirappalli- 620001, Tamilnadu, India SSN Research Centre, SSN College of Engineering, Kalavakkam-603 110, Tamilnadu, India National College (Autonomous), Tiruchirappalli- 620001, Tamilnadu, India	NONLINEAR OPTICAL BEHAVIOR OF ZNO NANOPARTICLES UNDER CONTINUOUS WAVE LASER EXCITATION
M Yamuna Krishnamoorthy Venkatesan M Sivasankari	SAS, VIT, India Arbaminch University, Ethopia	EMAIL ENCRYPTION USING DOMINATING SET
Ushe Makambe Kgomotso Oarabile Setoutwe	Botho University Botswana Open University	AN EVALUATION OF SERVICE QUALITY AND ITS ROLE IN CUSTOMER SATISFACTION: THE CASE OF A SAVINGS BANK IN BOTSWANA
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THE IMPACT OF COVID-19 ON INDIAN MSMES AND THE OPPORTUNITIES OFFERED BY E-COMMERCE

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ABSTRACT

Micro Small and Medium Enterprises forms a crucial part of a nation's economy. The MSMEs have been recognized as the engine of economic growth and for promoting equitable development in all over the world. The contribution of MSMEs to the growth of the Indian economy is enormous. The MSMEs sector generate 29 percent of India's GDP and 43 percent of India's exports through 63 million industries employing 40 percent of the country's workforce (Ministry of Micro, Small and Medium Enterprises' annual report for 2018-19). Today, the industry produces a diverse spectrum of items, ranging from simple consumer goods to highly precise, complex finished goods. It has established itself as a significant provider of mass-market items as well as a manufacturer of electronic and electrical equipment, as well as medicines and pharmaceuticals.

The Covid-19 pandemic hit the world economy like a tonne of bricks. There isn't a country or industry that hasn't been affected by this terrible illness. The Covid-19 has harmed India's MSME sector as well. The government of India has enforced a lockdown to prevent the virus from spreading on a large scale, which has had a significant impact on the MSME sector. MSMEs have been fighting for survival, particularly since the Covid-19 outbreak in 2020. It has brought a lot of uncertainty, difficulties, and problems for MSMEs to develop their businesses and get the money and resources they need to operate their operations (Business Standard, May 26, 2021). The country's lockdown sparked fear and put tiny enterprises in jeopardy. Since these businesses don't have enough cash on hand to weather the storm, resulting in massive job losses. Output had fallen from an average of 75 percent of capacity to barely 13 percent during the peak of the countrywide shutdown in May 2020. Firms kept just 44% of their employees on average, and 69 percent reported being unable to subsist for more than three months. The consequences on manufacturing businesses have been more debilitating than others, and distress measurements were more severe for smaller firms by employment size (Rathore and Khanna, 2020).

The Covid-19 has hampered performance of the business, particularly among MSMEs, necessitating a shift in strategy to preserve productivity. Companies must successfully execute suitable business procedures and strategies in order to remain productive and competitive during these times. According to the WHO, e-commerce can help businesses survive the Covid-19 pandemic by increasing commercial transactions. MSMEs faced a variety of issues during the pandemic, including labour shortages, cash flow issues, and decreased demand, all of which, if not addressed, would result in the firm ceasing to exist. As a consequence, MSMEs require a survival plan, specifically employing online media or e-commerce. For Micro Small and Medium Enterprises, leveraging the e commerce is a low-hanging fruit that may help them grow quicker and expand at a lower cost. It may also help them to obtain a higher profit margin by reducing the costs associated with traditional intermediation.

This paper aims to highlight the impact of COVID-19 on the MSME sector in India. The paper carryout the conceptual research based on the secondary data and all the information collected from previous studies conducted in this area. According to preliminary assessments, the industry has been hit by severe cash shortages, firm closures, and large-scale job losses in all sorts of enterprises, regardless of size. Further, the paper highlights the opportunities presented by E-commerce to help Indian MSMEs to sustain their businesses and prosper during the global pandemic. E-commerce bids numerous benefits to both consumers and sellers over traditional business. It offers more options, lower pricing, fewer financial requirements, and a greater market reach. Technology has acted as an equalizer and facilitator. Due to the social distance restrictions and lockdowns, it has seen extraordinary development under Covid-19. MSME will have greater chances as the dynamics of the company move toward e-commerce. The study looks into all of these issues and proposes a course of action.

Key Words: MSME, COVID-19, Pandemic, Lockdown, Employment, E-Commerce, Revival, Opportunities.

İNTERNET KULLANIMI VE YOLSUZLUK

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ÖZET

Bu çalışma internet kullanımının yolsuzluk üzerindeki etkisini ampirik olarak analiz etmeyi amaçlamaktadır. Çalışma 52 gelişmiş ve gelişmekte olan ülkeyi ve 2012 – 2019 dönemini kapsamaktadır. Analizde bağımlı değişken olarak yolsuzluk endeksi kullanılmıştır. Bağımsız değişken olarak internet kullanıcılarının nüfus yüzdesi, politik istikrar ve şiddetsizlik, ifade özgürlüğü ve hesap verilebilirlik ile kişi başına düşen milli gelir değişkenleri kullanılmıştır. Regresyon analizi ile tahmin edilen çalışmadan elde edilen bulgular; internet kullanımının yolsuzluğu azaltma üzerindeki etkisinin istatistiksel olarak anlamlı ve pozitif olduğunu göstermekte dolayısıyla internet kullanımının yolsuzluğu azalttığı yönündeki hipotezi desteklemektedir.

Anahtar Kelimeler: Yolsuzluk, İnternet Kullanımı, Regresyon Analizi

INTERNET DIFFUSION AND GOVERNMENT CORRUPTION

ABSTRACT

This study aims to empirically analyze the effect of internet use on corruption. The study covers 52 developed and developing countries and the period 2012 – 2019. The corruption index was used as the dependent variable in the analysis. Population percentage of internet users, political stability and absence of violence, voice and accountability, and per capita income are used as independent variables. The results of the study obtained by employing regression analysis show that internet use on reducing corruption is statistically significant and positive, thus supporting the hypothesis that internet use reduces corruption.

Key Words: Corruption, Internet Usage, Resression Analyses.

1. GİRİŞ

İnternet kullanımının yaygınlaşması ve kapsamlı hale gelmesi hem gelişmiş hem de gelişmekte olan ülkelerin ekonomik, politik ve sosyal koşulları üzerinde kaçınılmaz ve dolaylı bir etki yaratmaktadır. İnternetin yaygın kullanımı; yasaların daha iyi uygulanması, yetkilerin azaltılması, bilgi şeffaflığının artırılması gibi alanlara olumlu katkı yaratmakta ve daha etkin bir hükümet varlığına ışık tutmaktadır. Ayrıca internet kullanımının yaygınlaşması, bilgi şeffaflığında etkin bir rol oynamakta ve bilgi, daha düşük maliyetle daha hızlı aktarılmaktadır Bu bağlamda, yaygın internet kullanımı devlet yolsuzluğunu azaltan hafifletici bir faktör olarak da ele alınmaktadır. Ülkedeki internet kullanımının yaygınlaşması ile birlikte ülke vatandaşlarının, ülkenin siyasi süreçlerini inceleyerek ülke yönetimine katılabilmeleri, daha şeffaf bir yönetim süreci ile yönetilmeleri dolayısıyla hükümet yolsuzluğunun azalması söz konusudur.

İnternet kullanımındaki bu artış, şeffaflık ve artan yanıt verme konusunda yeni bir yaklaşım oluşturmakta bu konudaki çalışmaların sayısını artırmaktadır. Bu çalışmada da internet kullanımının yolsuzluk üzerindeki etkisi ampirik olarak araştırılmaktadır. Bu amaçla, internet kullanımı ve yolsuzluk arasındaki teorik ilişki ele alınmakta ve literatürde yer alan çalışmalara değinilmektedir. Çalışma veri seti ve yöntem ile devam etmekte elde edilen bulguların değerlendirilmesi ile sonlandırılmaktadır.

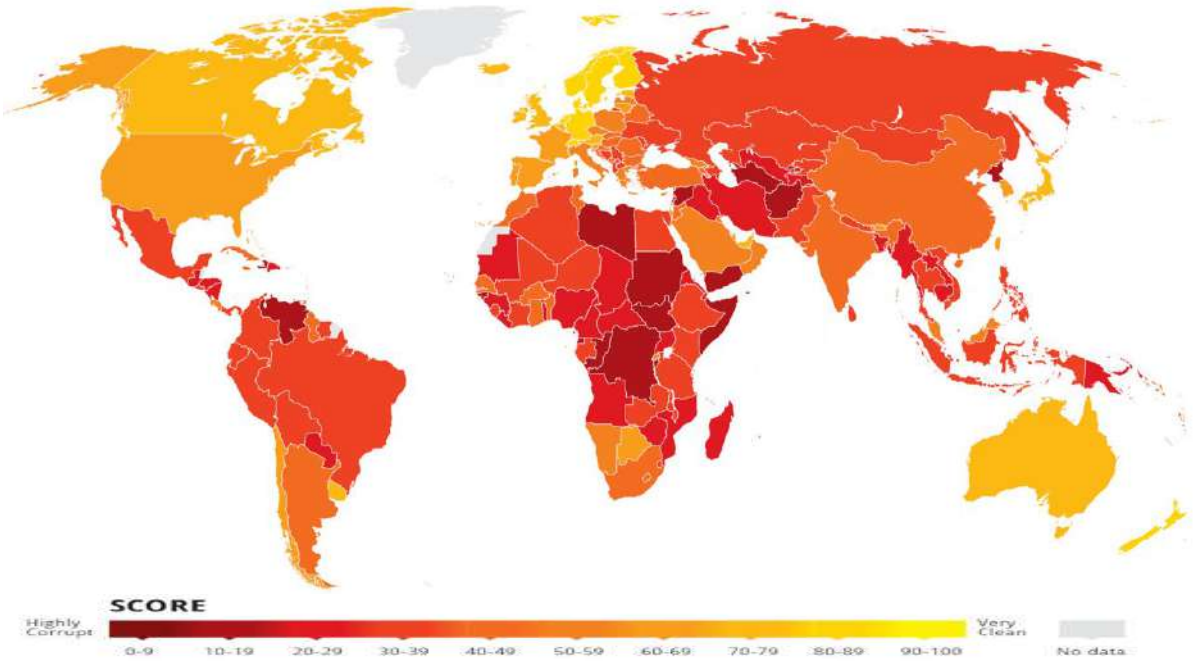
2. İnternet ve Yolsuzluk

2.1. Teorik Kavramsal Çerçeve

Yolsuzluk; kamu gücünün özel menfaatler için kötüye kullanılması olarak tanımlanmaktadır. Sadece ırksal, etnik ve dini gruplarla ilişkili olmayan yolsuzluk kavramı, ülkeden ülkeye hatta ülkenin bir bölgesinden başka bir bölgesine büyük farklılıklar göstermektedir (Transparency International). Yolsuzluk kavramı, ekonomik ve ahlaki boyutu olan ve kurumsal yapıyı yıpratıcı bir sorun olarak karşımıza çıkmaktadır. Yolsuzluğun; kısa vadede işleri çözdüğü, kolaylaştırdığı ve hızlandırdığı algısı söz konusu olsa da sadece ilgili kişilere fayda sağladığı, uzun vadede ise ülkelerin ekonomik kalkınması, piyasa verimliliği, kamu harcamalarının kalitesi, verimliliği ve etkinliği üzerinde zararlı etkiler bıraktığı görülmektedir (Murillo, 2010: 3).

Yolsuzluk; tarih boyunca karşımıza çıkan bir olgu olmakla birlikte son dönemlerde yaşanan bazı değişimler nedeniyle yolsuzluğa karşı duyarlılık artmaktadır. Toplumlardaki demokratikleşme olgusu, sivil toplum etkinliğinin artması ve artan internet kullanımı yolsuzluk olaylarını görünür kılmaktadır. IMF, Dünya Bankası, BM, Uluslararası Şeffaflık Örgütü (TI) gibi kuruluşlar yolsuzluk konusunda farkındalık çalışmaları yapmakta dolayısıyla yolsuzluk eylemlerinin görünürlüğünü artırmaktadır (Pustu, 2017: 4).

Uluslararası Şeffaflik Örgütü (TI) tarafından 1995'den bu yana her yıl düzenli olarak "yolsuzluk algısı endeksi" ölçülüp rapor halinde yayınlanmaktadır. Endeks kamusal fonların ne kadarının illegal olarak bireyin zimmetine geçirildiğini, kamu memurlarının ve politikacılarının ne ölçüde rüşvet kabul ettiğini, kamusal satın alımlarda meşru olmayan ödemelerin ne derece kabul edildiği ve buna benzer suçların ne ölçüde gerçekleştiğine dair oranları içermektedir (Andvig vd., 2000). Yolsuzluk algısı endeksinde ülkeler 0 ile 100 arasında puan almakta; ülke puanının 0 değerine doğru yaklaşması yolsuzluğun arttığını, 100 değerine doğru yaklaşması ise yolsuzluğun azaldığını göstermektedir (Transparency International, 2020). Şekil 1'de en son yayınlanan 2020 yolsuzluk algısı endeksi raporuna göre yolsuzluğun en yoğun olduğu ve en az olduğu ülkeler gösterilmektedir.



Şekil 1: Yolsuzluk Endeksi

Kaynak: Transparency International, 18.10.2021

Yolsuzlukla mücadelede en önemli unsurlardan biri kamuoyunun bilgilendirilmesinin sağlanmasıdır. Bu noktada artan internet kullanımı ile yolsuzluğun yerleştiği kamu kurumlarının ve kamu görevlilerinin tespit ve teşhir edilmesi, yolsuzluğun nedenlerinin ortaya konulması, yolsuzluk eylemlerinin belirlenmesi, çözüm önerilerinin tespit edilmesi ve yolsuzluğa karşı çeşitli yaptırımlar uygulamaya konulması gibi yollarla yolsuzlukla doğrudan ya da dolaylı olarak mücadele edilebilir (Tataroğlu, 2006: 306).

Son yıllarda yolsuzluk ile mücadelede, artan internet kullanımının önemine değinilmektedir. Bu bağlamda, ülkelerde internet kullanımının yaygınlaşması ile de vatandaş katılımı, şeffaflık ve hesap verilebilirlik gibi kavramların arttığı dolayısıyla artan internet kullanımının yolsuzluğun azaltılmasına katkı sağladığı görülmektedir. Dolayısıyla artan internet kullanımının yolsuzluğu azaltıcı yöndeki etkisi ön plana çıkmakta ve yapılan çalışmalar da bu alana yoğunlaşmaktadır.

2.2. Literatür Taraması

İnternet kullanımı ve yolsuzluk arasındaki ilişkiyi araştıran çalışmaların sayısı son yıllarda artmaktadır. Aşağıda internet kullanımı ve yolsuzluk arasındaki ilişkiler ülkeler ve yıllar itibariyle ele alınmakta, çalışmadan elde edilen bilgiler sunulmaktadır.

Murillo (2010), çalışmasında 170 ülkenin verilerini ele almış ve internet kullanımının yolsuzluk üzerindeki etkisini ölçmeyi amaçlamıştır. Bu bağlamda ekonomik, siyasi ve teknolojik faktörler olarak sınıflandırdığı değişkenlerin yolsuzluk üzerindeki etkisini En Küçük Kareler yöntemi ile tahmin etmiştir. Çalışmadan elde edilen sonuç, internet kullanımının yolsuzluk algısını azaltmada olumlu bir etkiye sahip olduğunu göstermektedir. Öte yandan ele alınan ülkelerde bürokrasi, iyi yönetişim ve basın özgürlüğü gibi siyasi faktörlerin yolsuzluk üzerindeki etkisinin; gelir, ticaret gibi ekonomik faktörlerden daha büyük bir etki yarattığı görülmektedir.

Lio vd. (2011), internet kullanımı ve yolsuzluk arasındaki ilişkiyi 70 ülke için 1998- 2005 yıllarını kapsayan dönemde panel veri analizi kullanarak araştırmışlardır. Granger nedensellik analizi ile elde edilen bulgular; internet kullanımı ve yolsuzluk arasında çift yönlü nedenselliğin olduğunu, internet kullanımının yolsuzluğu azalttığını göstermektedir.

Goel vd. (2012), 150 ülkeyi kapsayan çalışmalarında internetin yolsuzluk üzerindeki etkisini araştırmışlardır. Çalışma en küçük kareler yöntemi ile tahmin edilmiştir. Çalışmadan elde edilen sonuçlar; internet ile yolsuzluk arasında negatif yönlü bir ilişki olduğu, internetin bilgiye erişimi ve bilginin yayılma hızını arttırarak yolsuzluğu azalttığı yönündedir.

Kock ve Gaskins (2013), 2006 – 2010 dönemi Latin Amerika ve Sahra Altı Afrika ülkelerinde internet kullanımının yolsuzluk üzerindeki etkisini incelemişlerdir. Yol Analizi ile tahmin edilen çalışmada, internet kullanımındaki artışın hesap verilebilirlik değişkeni aracılığıyla yolsuzluğu azalttığı sonucuna ulaşılmıştır.

Elbahnasawy (2014), internet kullanımı ve e-Devlet uygulamasının yolsuzluk üzerindeki etkisini 160 ülkeyi kapsayan 1995- 2009 dönemi için ele almıştır. Granger nedensellik analizi ile tahmin edilen çalışmadan elde edilen sonuçlar; e-devletten- telekomünikasyon altyapısı ve çevrimiçi hizmetlerin kapsamı ve kalitesi aracılığıyla – yolsuzluğa tek yönlü güçlü bir nedensellik, internet kullanımı ve yolsuzluk arasında ise çift yönlü nedensellik olduğunu göstermektedir.

Sameti vd. (2014), 2002-2009 dönemi 28 gelişmekte olan ülkeden elde edilen verilerin kullanıldığı çalışmada internet kullanımının finansal yolsuzluğun kontrolü üzerindeki etkilerini belirlemeyi amaçlamışlardır. GMM modeli kullanılarak tahmin edilen çalışmadan elde edilen bulgular; internet ve yolsuzluk arasında iki yönlü bir nedensellik ilişkisinin olduğu yönündedir.

Acaravcı vd. (2016), çalışmasında gelir gruplarına göre ayrılan 80 ülkeyi 1990- 2011 dönemi için dışa açıklık, gelir, internet kullanımı, yönetim kalitesi ve yolsuzluk arasındaki ilişkileri tahmin etmeyi amaçlamışlardır. Dinamik panel veri yöntemleri ile tahmin edilen çalışmada yolsuzluk ve internet kullanımı, yolsuzluk ve yönetim kalitesi, yolsuzluk ve gelir, yolsuzluk ve dışa açıklık değişkenleri arasında çift yönlü bir nedensellik ilişkileri bulunmuş; çalışmaya konu olan ülkelerde internet kullanımı, yönetim kalitesi göstergeleri, dışa açıklık ve gelirde meydana gelecek gelişmelerin yolsuzluğu azaltıcı yönde etkisi olduğu sonucuna ulaşılmıştır.

Sorak (2016), 114 ülkenin verilerini ele aldığı çalışmasında internet kullanımının yolsuzluk üzerindeki etkisini incelemiştir. En Küçük Kareler yöntemi ile tahmin edilen çalışmada; artan internet kullanımının daha düşük yolsuzluk seviyeleriyle ilişkili olduğu hipotezini doğrular niteliktedir. Öte yandan yüksek düzeyde çevrimiçi sansürün olduğu toplumlarda artan internet kullanımının daha yüksek düzeyde yolsuzlukla ilişkili olduğu sonucuna ulaşılmıştır.

Starke vd. (2016), ele aldıkları çalışmada 2003, 2008 ve 2013 yıllarına ait 157 ülkeden elde edilen veriler ile internet kullanımı, e- devlet ve medya özgürlüğünün yolsuzluk üzerindeki etkisini incelemişlerdir. Çalışmadan elde edilen bulgular; internet kullanımı, medya özgürlüğü ve e – devlet sunumunun ülke düzeyinde yolsuzluğu önemli ölçüde azalttığını göstermiştir.

Hunady (2019), çalışmasında 2013 yılında tüm AB üye ülkelerinden toplam 27.752 katılımcıdan oluşan Eurobarometer 79.1 anketinden elde edilen verileri kullanarak internet kullanımının yolsuzluk bilinci üzerindeki potansiyel etkisi araştırılmıştır. Probit model ve İki Aşamalı En Küçük Kareler Yöntemi ile tahmin edilen çalışmada; internet kullanımının yoğunluğunun, ankete katılanların yolsuzluğu nereye bildirecekleri konusundaki bilgilerini etkileyen önemli bir faktör olduğu, ayrıca interneti sıklıkla kullananların yolsuzluk deneyimlerini bildirme olasılıklarının daha yüksek olduğu sonucuna ulaşılmıştır.

Nascimento vd. (2019), internetin kullanımı, hesap verilebilirlik ve yolsuzluk arasındaki ilişkiyi 2000 – 2014 dönemi ve 117 ülke için incelemişlerdir. Yol Analizi kullanılarak tahmin edilen çalışmadan elde edilen sonuçlar; internet kullanımının doğrudan ve hesap verebilirlik aracı değişkeni yoluyla dolaylı olarak yolsuzluk üzerinde azaltıcı etki yarattığı yönündedir.

Çetin (2020) çalışmasında internet kullanımının yolsuzluk üzerinde azaltıcı bir etkiye sahip olup olmadığını 164 ülke için 2012- 2018 dönemi için ele almaktadır. GMM analizi ile tahmin edilen çalışmadan elde edilen sonuçlar, internet kullanımının yolsuzluğu azalttığı yönündeki hipotezi destekler niteliktedir.

Literatürde yer alan çok sayıda çalışmaların ortaya koyduğu gibi internet kullanımının ele alınan ülkelerde yolsuzluğun azaltılmasında olumlu bir etkisi olduğu görülmektedir.

3. Veri Seti ve Yöntem

3.1. Veri Seti

Çalışma 52 gelişmiş ve gelişmekte olan ülkeyi ve 2012 – 2019 dönemini kapsamaktadır. Analizde bağımlı değişken olarak yolsuzluk endeksi kullanılmıştır. Bağımsız değişken olarak internet kullanıcılarının nüfus yüzdesi, politik istikrar ve şiddetsizlik, ifade özgürlüğü ve hesap verilebilirlik ve kişi başına düşen milli gelir değişkenleri kullanılmıştır.

Yolsuzluk Algısı Endeksi (Corruption Perceptions Index: CPI); değişkeni Uluslararası Şeffaflık Örgütü (Transparency International) tarafından 1995 yılından bu yana her yıl ülkelerdeki yolsuzluk algısını belirlemekte ve ülkelere 100 (temiz) ile 0 (yüksek derecede yolsuz) arasında bir puan verilmektedir.

İnternet Kullanıcılarının Nüfus Yüzdesi; International Telecommunication Union (ITU) tarafından internet kullanıcılarının (son 3 ay içinde interneti bilgisayar, cep telefonu, kişisel dijital asistan, oyun makinesi, dijital TV vb. aracılığıyla kullananlar) nüfusa oranıdır.

Politik İstikrar Ve Şiddetsizlik; Dünya Bankası veritabanından elde edilen değişken, Dünya Bankası yönetişim göstergeleri arasında yer almaktadır. Söz konusu değişken ülkelerdeki politik istikrar ve şiddetsizlik eğilimini belirlemekte ve ülkeler 0 (en düşük) ile 100 (en yüksek) arasında sıralanmaktadır.

İfade Özgürlüğü Ve Hesap Verilebilirlik; Dünya Bankası veritabanından elde edilen değişken, Dünya Bankası yönetişim göstergeleri arasında yer almaktadır. Söz konusu değişken ülkelerdeki ifade özgürlüğü ve hesap verilebilirlik eğilimini belirlemekte ve ülkeler 0 (en düşük) ile 100 (en yüksek) arasında sıralanmaktadır.

Kişi Başına Düşen Milli Gelir; Kişi başına düşen reel GSYH (2010 yılı sabit fiyatlar, $) Dünya Bankası veritabanından elde edilmiştir.

3.2. Yöntem

Bu çalışmada değişkenler arası ilişkilerin test edilmesinde regresyon analizinden yararlanılmıştır. Regresyon analizi, bağımlı değişkenin bir veya birden fazla bağımsız değişken ile arasındaki ilişkinin matematiksel bir eşitlik ile açıklanması olarak tanımlanmaktadır (Büyüköztürk, 2020: 91). Başka bir ifadeyle regresyon analizi; üzerinde durulan değişkenlerden birinin bağımlı (y), diğerinin (x) bağımsız olması durumunda y'nin x 'in bir fonksiyonu olarak ifade edilmesidir.

Bu çalışmada çoklu regresyon analizi kullanılacaktır. Çoklu regresyon analizi, bir bağımlı değişkene etki edecek çok sayıda bağımsız değişkeni analize dahil ederek çoklu regresyon modelinin uygulanmasıdır. Çok fazla sayıda değişken bir araya gelerek bir diğer değişkeni etkileyebilmektedir. Bu değişkenler aynı zamanda kendi aralarında da birbirlerini

etkileyebilmektedir. Bu sebeple, bu tür birden fazla değişkenin kullanılması gereken durumlarda "çoklu regresyon analizi (multiple regression analysis)" nin uygulanması daha doğrudur. Xi'ler bağımsız değişkenleri ve Y de bağımlı değişkeni göstermek üzere, en genel çoklu regresyon denklemi aşağıdaki gibi gösterilir.

$$Y=b_1 + b_2 X_2 + b_3 X_3 +...+ b_k X_k + u$$

4. Bulgular

Tablo 1'de değişkenlere ilişkin tanımlayıcı istatistikler verilmektedir. Analiz döneminde (2012- 2019) ülkelerin yolsuzluk endeksleri %57 düzeyindedir. Ülkelerin internet kullanımının ortalaması %70 düzeyinde gerçekleşmiştir. Politik istikrar ve şiddetsizlik değişkeninin ortalaması %57, ifade özgürlüğü ve hesap verilebilirlik endeksinin ortalaması %67, kişi başına düşen milli gelir ise %32 düzeyindedir.

Tablo 1: Tanımlayıcı İstatistikler

Değişken	Gözlem	Ortalama	Standart Sapma	Minimum	Maksimum
CPI	52	57,60577	19,53159	26,125	89,625
NET	52	69,91673	20,81565	8,903	96,370
PS	52	57,84879	27,95779	2,022	97,206
VA	52	67,48069	27,09570	6,284	100
GDP PC	52	32,932	37,5749	1,3	234,2

Tablo 2: Korelasyon Matrisi

	Ortalama	Standart Sapma	CPI	NET	PS	VA	GDP PC
CPI	57,60577	19,53115	1,000				
NET	69,91673	20,81565	0,826**	1,00			
PS	57,84879	27,95779	0,819**	0,783**	1,00		
VA	67,48069	27,09570	0,819**	0,707**	0,758**	1,00	
GDP PC	32,32	37,5749	0,366**	0,128	0,257	0,293*	1,00

Not: ** p<0,01; *p<0.05 düzeyinde anlamlılığı ifade etmektedir.

Tablo 2'de verilen Pearson korelasyon analizine göre; internet kullanımı (ort = 69,91; ss = 20,81) ile yolsuzluk (ort = 57,60; ss = 19,53) arasında güçlü düzeyde ve pozitif yönde (r = 0,826; p < 0,001), politik istikrar ve şiddetsizlik (ort = 57,84; ss = 27,95) ile yolsuzluk arasında güçlü düzeyde ve pozitif yönde (r = 0,819; p < 0,001), ifade özgürlüğü ve hesap verilebilirlik (ort = 67,48; ss = 27,09) ile yolsuzluk arasında güçlü düzeyde ve pozitif yönlü (r = 0,819; p < 0,001), kişi başına düşen milli gelir (ort = 32,32; ss = 37,57) ile yolsuzluk arasında orta düzeyde ve pozitif yönde (r = 0,366; p < 0,001) ilişki olduğu görülmektedir.
Tablo 3'de bağımsız değişken olarak internet kullanımı (X_1), politik istikrar ve şiddetsizlik (X_2), ifade özgürlüğü ve hesap verilebilirlik (X_3) ve kişi başına düşen milli gelir (X_4) değişkenlerinin bağımlı değişken olan yolsuzluk (Y) ile aralarındaki korelasyonun 0,914 determinasyon katsayısının ise R^2 = 836 olduğu görülmektedir. Korelasyon katsayısı R = 0,914 bağımsız değişkenler olan internet kullanımı (X_1), politik istikrar ve şiddetsizlik (X_2), ifade özgürlüğü ve hesap verilebilirlik (X_3) ve kişi başına düşen milli gelir (X_4) değişkenleri ile yolsuzluk (Y) arasında yüksek düzeyde pozitif yönde bir ilişki olduğunu göstermektedir. Determinasyon katsayısı R^2 = 0.836 ise bağımsız değişkenlerdeki değişimin bağımlı değişkendeki artışın %83'ünü açıkladığı göstermektedir.

Tablo 3: Model Özeti

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,914	0,836	0,822	8,238662

Tablo 4: Varyans Analiz Tablosu

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	16265,486	4	4066,371	59,909	0,000
Residual	3190,151	47	67,876		
Total	19455,637	51			

Çoklu regresyon analizlerinin anlamlılığı varyans analizi (ANOVA) ile test edilmektedir (Aydın, 2014). Tablo 4'de ANOVA tablosu özeti yukarıdaki gibi verilmiştir. Varyans analizi ile değişkenlerin ortalamaları arasında fark olup olmadığı ile ilgili hipotez test edilmeye çalışılacaktır.

$$H_0 = \beta_1 = \beta_2 = \ldots = \beta_k = 0 \quad (1)$$

$$H_1 = \beta_j \neq 0 \quad (2)$$

F = 59,909 ve Sig. = 0,00 değerine göre H_0 sıfır hipotezi red edilir. Bu durumda % 95 güven aralığında H_1 hipotezi kabul edilmekte ve internet kullanımı, politik istikrar ve şiddetsizlik, ifade özgürlüğü ve hesap verilebilirlik ve kişi başına düşen milli gelir değişkenleri ile yolsuzluk arasında bir ilişkinin olduğu görülmektedir.

Tablo 5'de regresyon modelinin ampirik sonuçlarına bakıldığında bağımsız değişkenlerin bağımlı değişken üzerindeki etkisinin pozitif yönde ve istatistiki olarak anlamlı olduğu görülmektedir. İnternet kullanımının yolsuzluk üzerinde pozitif yönde ve istatistiksel olarak anlamlı olduğunu, internet kullanımındaki 1 birimlik artışın yolsuzluğun azalmasında % 3,6 etki yaratmaktadır. Politik istikrar ve şiddetsizlik değişkenindeki bir birimlik artış ise yolsuzluğun azalmasında % 1,4; ifade özgürlüğü ve hesap verilebilirlik değişkenindeki bir birimlik artış ise yolsuzluğun azalmasında % 2,2 etkilidir. Kişi başına düşen milli gelir düzeyinde meydana gelen bir birimlik artışın ise yolsuzluğun azalmasında yaklaşık olarak % 1 düzeyinde etkili olduğu görülmektedir.

Tablo 5: Regresyon Analizi Tahmin Sonuçları

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model	**B**	**Std Error**	**Beta**		
Sabit	3,606	4,294		0,840	0,405
NET	0,389	0,094	0,414	4,122	0,000**
PS	0,148	0,076	0,213	1,962	0,056*
VA	0,228	0,069	0,316	3,287	0,002*
GDP PC	0,086	0,033	0,166	2,643	0,011*

Not: **p < 0,001 ve * p < 0.05 düzeyinde anlamlı olduğunu göstermektedir.

5. Sonuç ve Değerlendirme

Yolsuzluk, gelişmiş ve gelişmekte olan ülkelerde karşılaşılan, ekonomik ve sosyolojik boyutu olan çok yönlü bir sorun olarak karşımıza çıkmaktadır. Nitekim yolsuzluk; eşitlik ve adalet ilkelerinin önünde büyük bir engel olmakta dolayısıyla devlete olan güveni sarsmakta, ekonomik rekabeti olumsuz yönde etkilemekte, verimsiz yatırımlara yol açmakta, yabancı sermayenin gelmesini engellemekte, kalkınmayı geciktirmekte ve bunların sonucu olarak; yoksulluğu ve geniş halk kitleleri arasındaki eşitsizliği artırmaktadır.

Gelişen teknoloji ile birlikte internet kullanımının yaygınlaşması, yolsuzluk ile mücadelede önemli bir araç olarak karşımıza çıkmaktadır. Artan internet kullanımı hızlı, hesap verilebilir ve şeffaf bir zemin hazırlayarak yolsuzlukla mücadelede etkin bir yol sağlamaktadır. Bu noktadan hareketle çalışmada 52 gelişmiş ve gelişmekte olan ülkede artan internet kullanımının yolsuzluk üzerindeki etkisi araştırılmıştır. 2012- 2019 dönemini kapsayan çalışma regresyon yöntemi ile tahmin edilmiştir. Çalışmadan elde edilen bulgular; artan internet kullanımının yolsuzluğu azaltma üzerindeki etkisinin istatistiksel olarak anlamlı ve pozitif olduğu yönündedir. Elde edilen bulgular literatürde yer alan çalışmaları da destekler niteliktedir. Modelde yer alan diğer değişkenlerden politik istikrar ve şiddetsizlik değişkenindeki bir birimlik artışın yolsuzluğun azalmasında %1,4; ifade özgürlüğü ve hesap verilebilirlik değişkenindeki bir birimlik artışın ise yolsuzluğun azalmasında %2,2 etkili olduğu görülmektedir. Kişi başına düşen milli gelir düzeyinde meydana gelen bir birimlik artışın ise yolsuzluğun azalmasında yaklaşık olarak %1 düzeyinde etkili olduğu görülmektedir. Elde edilen veriler ışığında birtakım önerilere ulaşmak mümkündür. Artan internet kullanımının yolsuzlukla mücadelede önemli bir araç olduğunu ve yolsuzlukla mücadele etme noktasında caydırıcı bir etki yaratabileceği görülmektedir.

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METHODS AND TECHNOLOGIES OF SOCIAL PREVENTION

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ABSTRACT

Modern situation in post pandemic world exacerbated manifestations of deviant behavior.

Social workers stated increasing of alcohol and drug addiction, aggression and delinquent behavior among young people.

This situation needs effective methods of social prevention of negative phenomena such as: drug habit, alcoholism.

Author of article analyses methods of social work concerning prevention of negative phenomena among groups of risks.

Key words: delinquent behavior, addictions, deviancy, prevention, trainings.

The main aim of my article is to analyze methods of prevention in practice of social work.

Actual tasks of my article are: to study social potential, to make scientific analysis of advantages and limitations of methods of prevention in social work.

Scientific aspects of social prevention: sociological analysis.

Social and psychological training is a brilliant method of facilitation and promotion of useful knowledge about negative effects of drug and alcohol addiction.

An author of article analyses with students outstanding examples of social advertising. There is wonderful tool of prevention of dissemination of HIV –infection and addictions.

The main actual directions of social and psychological trainings are:

1). STOP-bullying.

2). Training of healthy lifestyle.

3). Training of assertive behavior.

4). Training “Safety route” (Ukrainian project concerning prevention of spreading of HIV-infection.

5). Training of non-violence communication.

6). Training of development of emotional intellect.

7). Training “Effective project management”.

My students – future social workers learns every stage of organization of social trainings in the sphere of prevention of deviant behavior.

Trainings of prevention of emotional and professional burnout are very useful and popular nowadays.

Medical workers, social workers, teachers need psychological support.

These trainings include psychological diagnostic methods, professional advices concerning self-protection, brainstorming concerning methods of overcoming of stress and depression, methods of progressive relaxation.

Our students organized these trainings in the centers of social services for elder people.

So, training is a very effective method of education in acquisition of practical skills.

Quests for children and adolescents are very popular in our country.

Prevention quest is a very interesting combination of education, prevention and entertainment.

Quests consist of 4-5 stations such as Health, Human Rights, Sport, Creativity, and Safeness of life. Children have possibility to participate in games, intellectual debates and sport competitions. I invited volunteers, medical workers, teachers, representatives of NGO on these events.

Social lecturer hall and cinema club are very popular among my students. We read social oriented books.

Organizing of discussion after cinema club is very interesting and useful.

Analyzing and discussion concerning social advertising are very popular among young people.

This year I began to involve my students into simulation social games concerning prevention of discrimination and stigmatization of vulnerable groups.

An author of article carried out simulation social game “City Waterless”.

This game was devoted to solving of social problem of lack of water in depressive city. Children of this city don’t attend school and young people had desire and intentions to leave their city. This city has no opportunities for personal growth and development.

Forum –theatre or the Theatre of Oppressed is very powerful tool to attract attention of society to actual social problems of discrimination and stigmatization of vulnerable groups.

An author of article participated in different types of this method and now I studied philosophy of this method.

I watched forum –theatre concerning social problems of internal displaced persons, women who suffered from domestic violence and young people who had problems with law and policy.

At present time I am participant of School of Theatre of oppressed. It is very effective methodic that allow making visible discriminated groups of our society.

At the first step of this method social performance must be present to spectators.

Facilitator (Joker) discuss with the audience their emotions and feelings.

Every guest of Forum-theatre has possibility to be actor of this social performance. You can change with places and roles with actors and you can propose your own way of the decision of problem.

This method is very sensitive and it’s very important to invite at performance experts and specialists in social work or pedagogic sphere.

Also you can invite lawyers or policemen, representatives of local authorities.

“Living Library” – is very effective method in prevention of deviant behavior and discrimination.

This social method has a lot of varieties. I am participant of program “Active citizens” that organized by British Council.

The main goal of this method is to represent alternatives and examples of productive life with high level of social responsibility and to introduce people who overcame difficult situations.

Every participant of “living library” has opportunity to read one book during 30 minutes.

Also this method allows inviting vulnerable groups of population like heroes and “living books”.

In our country this method is very popular in social work with internal displaced persons.

Also our team invited famous representatives of NGO on the meetings with young people.

So, I would like to make a conclusion that methods of social prevention allow to social workers to decline level of social tension and disintegration in communities.

ÇALIŞANLARIN ÖRGÜTSEL İLETİŞİM ve LİDERİN YASAL GÜCÜ ALGILARI ÜZERİNE BİR ARAŞTIRMA

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ÖZET

İletişim, lider ve çalışanlar ile birlikte organizasyonın oluşturulmasında önemli bir bileşendir. Örgütsel iletişim ise liderler ve kişiler arasındaki uygun etkileşimi sağlayan bir iletişim aracıdır. Liderin konumundan kaynaklı bir güç kaynağı olan yasal güç, çalışanların liderleri ile iyi bir örgütsel iletişim kurmasında etkilidir. Araştırma kapsamında çalışanların örgütsel iletişim ve liderin yasal gücü algıları İstanbul'da ikamet eden 451 özel sektör çalışanının anket formunda yer alan ifadelere verdikleri cevaplar analiz edilerek incelenmiştir. Gerçekleştirilen analizler çalışanların örgütsel iletişim algılarının çocuk sahipliği, yaş ve mesleki tecrübe; liderin yasal gücü algılarının ise cinsiyet, medeni durum, çocuk sahipliği ve yaşa göre farklılık gösterdiğini ortaya koymaktadır.

Anahtar Kelimeler: Örgütsel iletişim algısı, liderin yasal gücü algısı, demografik özellikler.

A RESEARCH ON PERCEPTIONS OF ORGANIZATIONAL COMMUNICATION AND LEGITIMATE POWER OF THE LEADER

ABSTRACT

Communication is an important component in building the organization with the leader and employees. Organizational communication is a communication tool that provides appropriate interaction between leaders and individuals. Legal power, which is a source of power stemming from the position of the leader, is effective in establishing a good organizational communication with the leaders of the employees.Within the scope of the research, the perceptions of the employees' organizational communication and legitimate power of the leader were examined by analyzing the answers given by 451 private sector employees residing in Istanbul to the statements in the questionnaire. The analyzes carried out showed that the organizational communication perceptions of the employees differ according to child ownership, age and professional experience;while the perceptions of the leader's legal power differ according to gender, marital status, child ownership and age.

Keywords: Perception of organizational communication, perception of legitimate power,demographic features.

GİRİŞ

İletişim, dünyadaki tüm canlıların düzenini ve işleyişini sağlayan en büyük faktördür. İletişimin doğuşu yıllar öncesine dayanmaktadır ve çok eski bir tarihe sahiptir. 2000 yıllarında ise iletişimin başlaması ile birlikte aile iletişimi, sağlık iletişimi, sözlü gelenekler, örgütsel ve kişiler arası iletişim gibi farklı gruplara ayrılmıştır (Wood, 2014).

İletişim örgütsel/kurumsal anlamda, insan davranışlarını etkileyebilmek için hazırlanan mesajlar, bu mesajları iletmek için kullanılan kanallar ve mesajı algılayabilen alıcılar olarak tanımlanabilir. Örgütsel iletişim ise liderler ve kişiler arasındaki uygun etkileşimi sağlayan bir iletişim aracıdır (Durgun, 2006). Örgütsel iletişimde, hem örgüt/kurum içi birimler arası etkileşimi ve iletişimi sağlama, hem de örgütün/kurumun dış çevresi ile olan etkileşimini ve ilişkisini koordine eden önemli bir süreçtir (Demirtaş, 2010). Rogers and Rogers (1976), örgütteki/kurumdaki kişilerin davranışlarının iletişim sayesinde çok daha iyi bir şekilde anlaşılabileceğini tespit etmişlerdir (akt. Baker, 2002).

Liderlik en basit tanımıyla, hedeflere ulaşmak için başkalarını etkileme yeteneği olarak tanımlanabilir. Liderin en iyi bilinen güç kaynakları ise yasal (meşru) güç, zorlayıcı güç, uzmanlık gücü, ödüllendirme gücü ve karizmatik güçtür (French vd., 1959; Raven, 1993). Liderin güç kaynaklarından; yasal güç, bir kişinin, diğerinin kendisi için davranış kalıpları belirleyebilme hakkı olduğunu düşünmesi; zorlayıcı güç, bir kişinin ceza uygulama tehdidinin olması; ödüllendirme gücü, bir kişinin diğerinin kendisinin ödüllendirebilmesi yönünde algısının olması; uzmanlık gücü, kişinin diğer kişinin özel bir uzmanlığa sahip olduğunu düşünmesi; karizmatik güç, kişilerden birinin kendi davranışlarını başka bir kişinin davranışlarını örnek alması olarak tanımlanabilir. (Yukl vd., 2002).

Günümüzde yasal ve zorlayıcı güç kaynaklarından daha çok uzmanlık, ödüllendirme ve karizmatik güç kaynaklarının çalışanlar üzerinde olumlu bir etkisinin olduğuna yönelik çalışmalar vardır (Rahim vd., 1993; Johnson vd., 2001; Bakan vd., 2010; Rus vd., 2010; Altınkurt vd., 2012; Çalışkur, 2015). Bu çalışmaların da işaret ettiği gibi, artık günümüzde liderlerin astlarına/çalışanlara rehber olmak, gelişmesine katkı sağlamak ve etkileyebilmek için kendi eğitim, bilgi, beceri, donanım gibi kişisel güç kaynaklarına sahip olmaları gerekmektedir. Tüm bunlarda gösteriyor ki liderlerin yasal ve zorlayıcı güçten daha ziyade kişisel otoritesinin olması çalışanlar/astlar üzerinde daha etkilidir.

Çalışmada çalışanların liderin yasal gücü ile örgütsel iletişim algılarının hangi seviyede oldukları ve çalışanların çeşitli demografik özelliklerine göre algılarında farklılaşma olup olmadığı özel sektör çalışanları kapsamında incelenmiştir. Çalışmanın ikinci ve üçüncü bölümünde örgütsel iletişim ve liderin yasal gücü kavramaları açıklanmıştır. Dördüncü bölümde verilerin analizi yapılmış son bölümde ise analiz sonuçları ve önerilere yer verilmiştir.

ÖRGÜTSEL İLETİŞİM

İletişimin en basit tanımı, bilginin dönüştürülmesi ve iki veya daha fazla kişi arasındaki anlayışın ilerlemesidir. Sadece konuşmak değil, dinlemek ve yazmak da birer iletişim aracıdır (Bedeian, 1986). İletişim, temel olarak iki veya daha fazla kişi arasında bilgi alışverişi olarak tanımlanır, ancak önemli olan karşıt kişi veya kişilerin birbirini anlaması gerektiğidir. Temel olarak iletişim; bireyin iletilen mesaja istenen karşılığı vermesini ve diğer kişiler ile iyi ilişkiler kurmasını sağlamak olarak tanımlanır (Singband vd., 1989).

Örgütün veya organizasyonun tanımlanması örgütsel iletişimin daha iyi anlaşılması için yararlı olacaktır. Örgüt, birden fazla bireyin bir amacı gerçekleştirmek için üzerinde düşünce birliğine vardığı, daha önce belirlenmiş rollere göre bir araya gelerek, hiyerarşik bir yapıda olan insan topluluğu olarak tanımlanır. Örgütsel iletişim ise, iletişimin bir alt dalıdır ve örgütsel düzeyde kişilerin, grupların ve diğer örgütlerin iletişim sürecini kapsar (Dökmen, 2006).

Organizasyon içinde haber ve emirlerin yayılmasını sağlayan örgütsel iletişim, bireyler arasındaki bağlantıyı kurmak dışında, karşılıklı düşünce ve duyguların yayılmasını da sağlar. Organizasyonun oluşturduğu çok yönlü iyi bir iletişim çalışanların motivasyonunu da arttırır. Organizasyonda etkin iletişim yönetimin iyi şekilde planlanması, yönlendirme ve kontrol açısından önemli bir yere sahiptir (Tutar, 2003).

İçinde bilginin hareket ettiği örgütsel iletişimde, bilgi resmi olan ya da olmayan yapılarda akar ve aşağıdan yukarıya, yukarıdan aşağıya ve yatay olarak hareket eder (Schermerhorn vd., 2000). Örgütsel iletişim ile ilgili kavramlar, tanımlar ve açıklamalara bakıldığında aşağıdaki sonuçlara elde edilebilir (Atak, 2005).

- Örgütteki uyumu sağlayan bir süreçtir
- Bireylerin bir araya gelmesini sağlayan bir güçtür.
- Ortak bir amaç için bir araya gelen bireylerin uyumunu ve işbirliğini sağlayan bir iletişim sürecidir.
- Örgütteki yönetimin belirlediği bir işleyiş olmasının yanında, örgüt içindeki bireylerin psikolojik ve sosyal ihtiyaçları sonucu ortaya çıkmış ve programlanmamış iletişim paylaşımlarının olduğu bir iletişim aracıdır.

Literatürdeki çalışmalara bakıldığında (Tutar, 2009; Bakan vd., 2004; İzgören, 2001) örgütsel iletişimin önemi ve sağladığı yararlar aşağıdaki şekilde belirtilmiştir.

- Liderlerin emirlerini ilgili çalışana ve birimlere iletir.
- Lidere, karar alma sürecinde ihtiyaç duyduğu bilgiyi sağlar.
- Liderler tarafından alınan kararların çalışanlar tarafından algılanmasını sağlanmış olur.
- Çalışanların organizasyona karşı bağlılıklarını arttırarak, verimliliğin artmasını sağlamış olur.
- Örgütsel bağlılık, örgütsel performans ve motivasyon gibi çalışanların davranışlarını olumlu bir şekilde etkiler.
- Organizasyonda oluşan çatışmayı ve baskıları azaltır.
- Organizasyonda yapılan stratejik planlarının uygulanmasını olanak sağlar, verimliliği ve karlılığı artırır.
- Çalışanların çalışma ve paylaşma isteklerini artırır.

LİDERİN YASAL GÜCÜ

Güç; liderin astlarının davranışlarını ve tutumlarını değiştirebilme ve etkileyebilme yeteneğidir (French vd., 1959). Güç üzerine yapılan çalışmaların birçoğu, gücün temelini (French & Raven, 1959), gücün yapısal ve konumsal belirleyicilerini (Pfeffer, 1981) ve/veya gücü elde etmede etkili olan kişisel becerileri (Mintzberg, 1983) incelerken, çok az çalışma, liderin gücü ile çalışanların etkileşimini aynı anda incelemiştir.

Güç ile ilişkili öncü çalışmalarında French ve Raven (1959), bireylerin birbirileri ile olan ilişkiler açısından beş güç kaynağı tanımı yapmışlardır. Bu güç kaynakları; zorlayıcılık, yasal, ödül, uzmanlık ve karizmatik güçleridir. Yasal güç, bireyin organizasyondaki otoritesini, yetkisini ve mevkisini kullanmasını sağlayan konumdan kaynaklı güç; zorlayıcılık gücü, liderin pozisyonundan kaynaklı olarak çalışanlarına gerektiğinde ceza uygulayabildiği güç; ödül gücü, liderin konumundan dolayı çalışanlarını ödüllendirebildiği güç; uzmanlık gücü, liderin belirli alanlarda becerili ve bilgili olduğu güç; karizmatik güç ise, kişisel becerilerinden dolayı çalışanları tarafından saygı duyulan ve sevilen biri olabildiği güç olarak tanımlanabilir.

Chelladurai (1984), liderin otoriter davranışının yasal ve zorlayıcı güç ile, demokratik davranışın uzmanlık gücü ile, sosyal desteğin karizmatik güç ile, olumlu bir geri bildirim vermenin ise, ödül gücü ile benzer olduğunu tespit etmiştir. Çalışanlara itaat ettirmenin; ödül ve zorlayıcılık güçleri ile, sosyal destek vermenin, karizmatik güç ile, içselleştirmenin uzmanlık ve yasal güçleri ile; konum/pozisyondan kaynaklı güç; ödül, yasal ve zorlayıcılık güçleriyle, kişisel beceri ile elde edilen güç; uzmanlık gücü ile ilişkilendirilebilir (Kelman, 1958; Yukl vd., 1991; Slack,1997).

Akyüz vd. (2015)'ne göre, kamu çalışanlarının örgütsel iş tatmini üzerinde yasal gücünün olumlu etkisi vardır ve Alper ve Çolak (2021)'a göre ise özel sektör çalışanları üzerinde liderin yasal gücü örgütsel performansı pozitif etkiler.

METODOLOJİ

Bu çalışmada çalışanların liderin yasal gücü ile örgütsel iletişim algılarının hangi seviyede oldukları ve çalışanların çeşitli demografik özelliklerine göre algılarında farklılaşma olup olmadığı incelenmiştir. Bu amaçla İstanbul'daki 451 özel sektör çalışanının katılımıyla oluşturulan örneklemle bir araştırma yapılmıştır. Araştırma için belirlenen hipotezler aşağıda belirtilmiştir.

$H_{1,1}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların cinsiyetine göre farklılık göstermektedir.

$H_{1,2}$: Çalışanların algıladığı kurum içi örgütsel iletişim çalışanların cinsiyetine göre farklılık göstermektedir.

$H_{1,3}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların medeni durumuna göre farklılık göstermektedir.

$H_{1,4}$: Çalışanların algıladığı kurum içi örgütsel iletişim çalışanların medeni durumuna göre farklılık göstermektedir.

$H_{1,5}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların çocuk sahipliği durumuna göre farklılık göstermektedir.

$H_{1,6}$: Çalışanların algıladığı kurum içi örgütsel iletişim çocuk sahipliği durumuna göre farklılık göstermektedir.

$H_{1,7}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların çalışma pozisyonuna göre farklılık göstermektedir.

$H_{1,8}$: Çalışanların algıladığı kurum içi örgütsel iletişim çalışanların çalışma pozisyonuna göre farklılık göstermektedir.

$H_{1,9}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların yaşına göre farklılık göstermektedir.

$H_{1,10}$: Çalışanların algıladığı kurum içi örgütsel iletişim çalışanların yaşına göre farklılık göstermektedir.

$H_{1,11}$: Çalışanların algıladığı liderin yasal gücü kullanımı çalışanların mesleki tecrübesine göre farklılık göstermektedir.

$H_{1,12}$: Çalışanların algıladığı kurum içi örgütsel iletişim çalışanların mesleki tecrübesine göre farklılık göstermektedir.

Anket Formunun Oluşturulması

Anket formundaki ölçeklerden "Liderin Algılanan Yasal Gücü" ifadeleri Çalık ve Koşar (2011) tarafından geliştirilmiştir. Bahse konu çalışmadaki "Liderin Güç Tipi" ölçeğinin dört boyutu (Kişilik gücü, ödül gücü, zorlayıcı güç, yasal güç) ve 33 maddesi bulunmaktadır. Bu çalışmaya yönelik olarak bahse konu boyutlardan yalnızca "Yasal Güç" boyutunu ölçen 7 adet madde kullanılmıştır. Çalışmada yer verilen bir diğer ölçek olan "Örgütsel İletişim" ölçeği ise Gürgen (1997) tarafından geliştirilmiş, Ekinci (2006) ve Çiftçi (2019) tarafından ise ölçeğin kısa formu oluşturulmuştur. Bu çalışmada ölçeğin kısa formu yer almaktadır. "Örgütsel İletişim" ölçeğinin

kısa formu tek boyutludur ve 9 madde bulunmaktadır. Ölçeklerde bulunan ifadeler 5'li Likert tipinde ve eşit aralıklıdır.

Veri Toplama

Öncelikle 50 çalışandan elde edilen verilerle bir pilot çalışma gerçekleştirilmiştir. Toplanan veriler geçerlilik ve güvenilirlik sınamasına tabi tutulmuş ve sonuçlar ışığında formdaki bazı maddelerde küçük revizeler gerçekleştirilmiştir. Anket formunun son hali İstanbul'daki 451 özel sektör çalışanı tarafından doldurulmuştur.

Formlarda eksik/kayıp verilerin bulunup bulunmadığı gözle ve SPSS v.22 istatistik programında yer alan frekans analizi vasıtasıyla kontrol edilmiştir. Araştırma değişkenlerinin normal dağılıma sahip olup olmadıkları basıklık ile çarpıklık değerleri üzerinden test edilmiştir. Basıklık ile çarpıklık değerleri -1 ile +1 arasında olduğundan değişkenlerin normal dağılıma sahip olduğu belirlenmiş ve araştırmada parametrik testler olan bağımsız örneklem t-testi ile tek yönlü ANOVA testleri tercih edilmiştir.

Örneklem

Araştırmaya katılan özel sektör çalışanlarının %67.4'ü erkek, % 32.6'sı bayan; %54.3'ü evli, %45.7'si bekardır. %52.9'u 22-40 yaş arasıdır (X Jenerasyonu); %48.6'sı 3001-6000 TL arası aylık gelir sahibidir. %46.7'si 1-5 yıl arası şu anda bulunduğu kurumda çalışmaktadır ve %33.1'i 11-20 yıl arası mesleki tecrübeye sahiptir. Çalışanların %58.9'u yöneticilik yapmayan normal çalışan konumundadır ve %50.6'sının çocuğu bulunmaktadır. Örneklem grubunun demografik özellikler Tablo 1'de belirtilmiştir.

Tablo 1: Örneklem Grubunun Demografik Özellikleri

	f	%		f	%
Medeni Hal			**Cinsiyet**		
Evli	245	%54.3	Bay	304	%67.4
Bekar	206	%45.7	Bayan	147	%32.6
Yaş			**Aylık Gelir**		
$X \leq 21$ yaş (Z Jenerasyonu)	77	%17.1	3000 TL ve altı	151	%33.5
$22 \leq X \leq 40$ yaş (Y Jenerasyonu)	239	%52.9	3001-6000 TL	219	%48.6
$41 \leq X \leq 58$ yaş (X Jenerasyonu)	109	%24.2	6001-9000 TL	30	%6.6
$59 \leq X$ (Baby Boomer'lar)	26	%5.8	9001 TL ve üzeri	51	%11.3
Mesleki Tecrübe			**Şu Anda Bulunduğu Kurumda Çalışma Süresi**		
< 1 yıl	25	%5.5	< 1 yıl	27	%6.1
1-5 yıl	131	%29.1	1-5 yıl	211	%46.7
6-10 yıl	58	%12.8	6-10 yıl	73	%16.2
11-20 yıl	149	%33.1	11-20 yıl	91	%20.2
20 yıldan çok	88	%19.5	20 yıldan çok	49	%10.8
Çocuğu Var Mı?			**Çalışılan Pozisyon**		
Var	228	%50.6	Çalışan	266	%58.9
Yok	223	%49.4	Yönetici	185	%41.1
N=549					

Geçerlilik

Araştırmanın geçerliliğinin test edilmesi için çalışmada yer verilen ölçekler doğrulayıcı faktör analizine (DFA) tabi tutulmuştur. Doğrulayıcı faktör analizi sonucunda her bir ölçek maddesi için elde edilen standardize regresyon katsayılarının aldıkları değerler Tablo 2'de belirtilmiştir. DFA sonuçları, ölçek maddeleri için hesaplanan standardize regresyon katsayıları değerlerinin 0.7'den büyük olduğunu ve ölçek maddelerinin ait oldukları faktörlere yüklendiklerini göstermektedir.

Tablo 2: DFA Sonucunda Her Bir Ölçek Maddesi İçin Elde Edilen Standardize Regresyon Katsayılarının Aldıkları Değerler

Ölçekler	Standardize Regresyon Katsayıları
Liderin Algılanan Yasal Gücü	
1. Yöneticim, birlikte çalıştığı ekip üyelerine karşı daima mesafelidir.	0.745
2. Yöneticim, ekip üyeleriyle olan ilişkilerinde resmi bir tutum takınır.	0.736
3. Yöneticim, ekip üyelerinin iş ortamındaki tüm eylemlerinin kontrolünü elinde bulundurur.	0.857
4. Yöneticim, diğer yöneticileri işyerindeki yetkisiyle etkiler.	0.778
5. Yöneticim, işe geç gelen ekip üyelerine o gün içerisinde sert bir tutum takınır.	0.769
6. Ekip üyeleri bir konuda hata yaptıklarında, yöneticim uyarı, kınama gibi yollara başvurur.	0.717
7. Yöneticim, kurum içinde disiplini sağlamak için katı ve sert bir tutum sergiler.	0.819
Örgütsel İletişim	
1. Önerilerimi ya da sorunlarımı iletmek üzere gerektiğinde bir üst amire/kişiye kolaylıkla ulaşabilirim.	0.717
2. Kurumumuzdaki yöneticilerimiz/amirlerimiz daha başarılı olmamız için bize destek verir.	0.894
3. İşimizi en iyi şekilde yapma konusundaki çabalarımız yöneticimiz/amirimiz tarafından takdirle karşılanır.	0.900
4. Kurumumuz yönetiminin, eğitim ve mesleki gelişimimizle ilgilendiğine inanıyorum.	0.747
5. Yöneticilerimizin/amirlerimizin çalışanların sorunlarını yakından izlediklerine ve bu sorunları çözmek için yeterince çaba harcadıklarına inanıyorum.	0.745
6. Kurumumuzda yönetim tarafından kişilerin yanlış hareketlerine karşı gereken tepkinin gösterildiğini düşünüyorum.	0.774
7. Kurumumuzda çalışanlara adil davranıldığını düşünüyorum.	0.764
8. Kurumumuzda işimizi yapmamız için gerekli bilgilere/verilere kolaylıkla ulaşabilirim.	0.855
9. Kurum içi iletişimden memnunum.	0.848

Not: Doğrulayıcı faktör analizinde "Maximum likelihood" yöntemi kullanılmıştır.

DFA uyum indeksi değerleri Tablo 3'te belirtilmiştir. Buna göre hesaplanan CMIN/SD, GFI, NNFI, NFI ve RMSEA uyum indeksi değerleri kabul aralığındadır. AGFI ile CFI için hesaplanan uyum indeksi değerleri ise kabul aralığının çok az altındadır. Literatürde Choi vd. (2013), Chang ve Chen (2009)' in çalışmalarında olduğu gibi AGFI ve CFI değerlerinin kabul aralığının biraz altında olan çalışmalar bulunmaktadır. Bu nedenle AGFI ile CFI değerlerinin çok az altında olmasının bir problem oluşturmayacağı düşünülerek analizdeki diğer aşamalara geçilmiştir.

Tablo 3: DFA'ya İlişkin Uyum İndeksleri

Uyum İndeksi	Hesaplanan Değer	Kabul Kriteri
En Az Tutarsızlık (CMIN/SD)	4.787	Kabul < 5 , ideal < 2
Uyum İyiliği İndeks (GFI)	0.905	Kabul >.90 , ideal >.95
Düzeltilmiş Uyum İndeks (AGFI)	0.844	Kabul >.85 , ideal >.89
Karşılaştırmalı Uyum İndeks (CFI)	0.943	Kabul >.95 , ideal >.97
Normalleştirilmemiş Uyum İndeks (NNFI)	0.953	Kabul >.95 , ideal >.97
Normalleştirilmiş Uyum İndeks (NFI)	0.929	Kabul >.90 , ideal >.95
Yaklaşık Hatalar Ortalama Karekök (RMSEA)	0.092	Kabul <.10 , ideal <.05

Ölçeklerin geçerliliği için üç kriter dikkate alınmıştır. Dikkate alınan bu kriterler; ayrışma, yakınsak ve içerik geçerliliğidir. Araştırmada yer verilen liderin yasal gücü ile örgütsel iletişim ölçeği bilimsel yayınlarda önceden yayımlanmış ölçeklerdir. Bu sayede bahse konu iki ölçek için de içerik geçerliliği kriteri sağlanmaktadır (Hair vd., 2010).

Doğrulayıcı faktör analizi sonuçları, ölçek maddelerinin ait oldukları faktörlere yüklendiklerini ve aynı faktör altına yüklenen maddeler arasında korelasyon olduğunu göstermektedir. Bu sayede bahse konu iki ölçek için de yakınsak geçerliliği kriteri sağlanmaktadır (Anderson ve Gerbing, 1988).

Doğrulayıcı faktör analizi sonuçları faktörlerin birbirinden bariz şekilde ayrıştığını göstermektedir. Bu sayede bahse konu her iki ölçeğin de ayrışma geçerliliği kriteri sağlanmaktadır (Hair vd., 2010).

Güvenilirlik

Güvenilirlik için ölçeklerin Cronbach's alfa katsayıları belirlenmiştir. Craonbach's alfa katsayıları Tablo 4'te belirtilmiştir. Bahse konu her iki ölçek için hesaplanan Chronbach's alfa katsayıları 0.7'den yukarıdadır. Bu sayede ölçeklerin güvenilirliği sağlanmaktadır (Nunnally ve Bernstein, 1994).

Tablo 4: Liderin Yasal Gücü ile Örgütsel İletişim Ölçeklerinin Cronbach's Alfa Katsayıları

Ölçekler	Cronbach's Alfa Katsayıları
Liderin Yasal Gücü	0.857
Örgütsel İletişim	0.906

Bağımsız Örneklem t-Testleri ve Tek Yönlü ANOVA/Welch Testleri İle Araştırma Hipotezlerinin Sınanması

Araştırma hipotezlerinin sınanması bağımsız örneklem t-testleri ve tek yönlü ANOVA testleri ile gerçekleştirilmiştir. Bağımsız değişkenlerin iki kategoriye ayrıldığı cinsiyet, medeni durum, çocuk sahipliği ve çalışma pozisyonu değişkenleri ile gerçekleştirilen fark testlerinde bağımsız örneklem t-testi; iki kategoriden fazla olan yaş ve toplam mesleki tecrübe değişkenleri ile gerçekleştirilen testlerde ise tek yönlü ANOVA/Welch testleri kullanılmıştır. Bağımsız örneklem t-testlerinde Levene istatistiği ile varyansların eşit olup olmadığı kontrol edilmiş ve

ilgili satırdaki olasılık değeri dikkate alınmıştır. Tek yönlü ANOVA/Welch testleri öncesinde varyansların homojenlikleri kontrol edilmiş; varyanslar homojen ise ANOVA testi, homojen değil ise Welch testi sonuçları dikkate alınmıştır. ANOVA/Welch testleri sonucunda gruplar arası farklılık tespit edilmesi durumunda, bahse konu farklılığın hangi gruplardan kaynaklandığının belirlenmesi amacıyla ANOVA testi için Scheffe post hoc testi; Welch testi için Games-Howell post hoc testi kullanılmıştır.

Bağımsız örneklem t-testleri sonuçları Tablo 5'te belirtilmiştir. Çalışanların cinsiyetine, medeni durumuna ve çocuk sahipliği durumuna göre liderin yasal gücü algı düzeylerinde farklılık görülürken ($p < 0.05$) ($H_{1,1}$, $H_{1,3}$ ve $H_{1,5}$ kabul); çalışma pozisyonuna göre farklılık görülmemektedir ($p > 0.05$) ($H_{1,7}$ ret). Liderin yasal gücü algıları ortalaması erkek çalışanlarda ($\bar{X} = 3.28 \pm 1.01$) bayanlarınkinden ($\bar{X} = 2.80 \pm 0.83$), evli çalışanlarda ($\bar{X} = 3.23 \pm 0.94$) bekar çalışanlarınkinden ($\bar{X} = 2.99 \pm 1.02$), çocuk sahibi çalışanlarda ($\bar{X} = 3.25 \pm 0.95$) çocuğu olmayan çalışanlarınkinden ($\bar{X} = 3.00 \pm 0.99$) daha yüksektir.

Çalışanların çocuk sahipliği durumuna göre örgütsel iletişim algı düzeylerinde farklılık görülürken ($p < 0.05$) ($H_{1,6}$ kabul); cinsiyetine, medeni durumuna ve çalışma pozisyonuna göre farklılık görülmemektedir ($p > 0.05$) ($H_{1,2}$, $H_{1,4}$ ve $H_{1,8}$ ret). Örgütsel iletişim algıları ortalaması çocuk sahibi çalışanlarda ($\bar{X} = 4.05 \pm 0.93$) çocuğu olmayan çalışanlarınkinden ($\bar{X} = 3.85 \pm 0.98$) daha yüksektir.

Tablo 5: Bağımsız Örneklem t-testleri Sonuçları

Bağımlı Değişkenler	**Cinsiyet**	**Frekans (f)**	**Ortalama**	**Standart Sapma**	**Levene İstatistiği**	**p**
Liderin Yasal Gücü	Bay	304	3.28	1.01	0.002	**0.000***
	Bayan	147	2.80	0.83		
Örgütsel İletişim	Bay	304	4.01	0.97	0.277	0.095
	Bayan	147	3.85	0.93		
	Medeni Durum	**Frekans (f)**	**Ortalama**	**Standart Sapma**	**Levene İstatistiği**	**p**
Liderin Yasal Gücü	Evli	245	3.23	0.94	0.952	**0.011***
	Bekar	206	2.99	1.02		
Örgütsel İletişim	Evli	245	4.02	0.90	0.052	0.124
	Bekar	206	3.88	1.02		
	Çocuk Sahip.	**Frekans (f)**	**Ortalama**	**Standart Sapma**	**Levene İstatistiği**	**p**
Liderin Yasal Gücü	Var	228	3.25	0.95	0.390	**0.008***
	Yok	223	3.00	0.99		
Örgütsel İletişim	Var	228	4.05	0.93	0.304	**0.028***
	Yok	223	3.85	0.98		
	Çalışma Poz.	**Frekans (f)**	**Ortalama**	**Standart Sapma**	**Levene İstatistiği**	**p**
Liderin Yasal Gücü	Çalışan	266	3.09	1.04	0.090	0.329
	Yönetici	185	3.18	0.89		
Örgütsel İletişim	Çalışan	266	3.90	0.95	0.564	0.169
	Yönetici	185	4.03	0.97		

Not: **** p<0.01, *p<0.05**

Tek yönlü ANOVA/Welch testleri sonuçları Tablo 6'da belirtilmiştir. Çalışanların yaşlarına göre liderin yasal gücü algı düzeylerinde farklılık görülürken ($p < 0.05$) ($H_{1,9}$ kabul); mesleki tecrübelerine göre farklılık görülmemektedir ($p > 0.05$) ($H_{1,11}$ ret). Liderin yasal gücü algıları ortalaması X jenerasyonu ($\bar{X} = 3.25 \pm 0.80$) ve Y jenerasyonu çalışanlarında ($\bar{X} = 3.21 \pm 1.03$); Z jenerasyonu ($\bar{X} = 2.87 \pm 0.97$) ve "Baby boomers" jenerasyonu çalışanlarınkinden ($\bar{X} = 2.90 \pm 0.44$) daha yüksektir.

Çalışanların hem yaşlarına hem de mesleki tecrübelerine göre örgütsel iletişim algı düzeylerinde farklılık görülmektedir ($p < 0.05$) ($H_{1,10}$ ve $H_{1,12}$ kabul). Örgütsel iletişim algıları ortalaması Y jenerasyonu çalışanlarında ($\bar{X} = 4.04 \pm 1.01$); X jenerasyonu ($\bar{X} = 3.85 \pm 0.75$), Z jenerasyonu ($\bar{X} = 3.82 \pm 0.97$) ve "Baby boomers" jenerasyonu ($\bar{X} = 3.80 \pm 1.01$) çalışanlarınkinden daha yüksek iken 1-5 yıl arası mesleki tecrübeye sahip çalışanlarda ($\bar{X} = 3.73 \pm 0.98$); 1 yıldan daha az ($\bar{X} = 4.07 \pm 0.55$), 6-10 yıl ($\bar{X} = 4.07 \pm 0.81$), 11-20 yıl ($\bar{X} = 4.03 \pm 0.96$) ve 20 yıldan fazla ($\bar{X} = 4.06 \pm 1.06$) mesleki tecrübeye sahip çalışanlarınkinden daha düşüktür.

Tablo 6: Tek Yönlü ANOVA/Welch Testleri Sonuçları

Bağımlı Değişkenler	Test Tipi	Yaş	Frekans (f)	Ortalama	Standart Sapma	Levene İstatistiği	p
Liderin Yasal Gücü	Welch	X Jenerasyonu	77	3.25	0.80	0.022	**0.008****
		Y Jenerasyonu	239	3.21	1.03		
		Z Jenerasyonu	109	2.87	0.97		
		Baby Boomers	26	2.90	0.44		
Örgütsel İletişim	ANOVA	X Jenerasyonu	77	3.85	0.75	0.113	**0.001****
		Y Jenerasyonu	239	4.04	1.01		
		Z Jenerasyonu	109	3.82	0.97		
		Baby Boomers	26	3.80	1.01		
		Mesleki Tecrübe	**Frekans (f)**	**Ortalama**	**Standart Sapma**	**Levene İstatistiği**	**p**
Liderin Yasal Gücü	Welch	< 1 yıl	25	2.97	0.95	0.022	0.123
		1-5 yıl	131	2.96	0.97		
		6-10 yıl	58	3.02	0.81		
		11-20 yıl	149	3.06	1.06		
		20 yıldan çok	88	3.01	0.93		

Bağımlı Değişkenler	Test Tipi	Yaş	Frekans (f)	Ortalama	Standart Sapma	Levene İstatistiği	p
Örgütsel İletişim	ANOVA	< 1 yıl	25	4.07	0.55	0.153	**0.035***
		1-5 yıl	131	3.73	0.98		
		6-10 yıl	58	4.07	0.81		
		11-20 yıl	149	4.03	0.96		
		20 yıldan çok	88	4.06	1.06		

SONUÇ, TARTIŞMA ve ÖNERİLER

Örgütsel iletişim, çalışma hayatı içerisinde çalışanların iş tatminine ve örgütsel performansına etki eden ve birbirleri ile olan ilişkilerinde olumlu ya da olumsuz sonuçlar doğuracak kavram olarak incelenmektedir. Organizasyon faaliyetleri içerisinde örgütsel iletişim, hedef ve amaçların başarıya ulaşması açısından bir kültür olarak ele alınması gereken bir olgudur. Olumlu yöndeki örgütsel iletişim sayesinde çalışanların iş tatmini artarak, performansları da olumlu yönde olmaktadır. Olumlu örgütsel iletişimin yanında liderin kullandığı güç kaynağı da çalışanların performansını ve iş tatminin olumlu ya da olumsuz yönde etkilemektedir. Özellikle liderin konumundan ve pozisyonundan kaynaklı kullandığı güç çalışanlar üzerinde oldukça etkilidir. Bu etki olumlu ya da olumsuz anlamda olabilmektedir.

Bu çalışmada çalışanların liderin yasal gücü ile örgütsel iletişim algılarının hangi seviyede oldukları ve çalışanların çeşitli demografik özelliklerine göre algılarında farklılaşma olup olmadığı incelenmiştir. Tek yönlü ANOVA/Welch testleri ile bağımsız örneklem t-testlerinde yer alan grupların ifadelere verdikleri yanıtların ortalamaları incelendiğinde;

- Liderin yasal gücü algıları ortalamalarının 2.60-3.39 aralığında,
- Örgütsel iletişim algıları ortalamalarının ise 3.40-4.19 aralığında

değer aldığı görülmektedir. Gökçe (2004)'nin çalışmasında yer alan değerlendirme tablolarında yer alan aralıklara göre çalışanların liderin yasal gücünü kullanma algıları "Bazen", örgütsel iletişim algıları ise "İyi" seviyesindedir.

Araştırma kapsamında yapılan tek yönlü ANOVA/Welch testleri ile bağımsız örneklem t-testleri sonucunda;

- Liderin yasal gücü algıları ortalamasının erkek çalışanlarda, bayanlarınkinden;
- Evli çalışanlarda, bekar çalışanlarınkinden; çocuk sahibi çalışanlarda, çocuğu olmayan çalışanlarınkinden;
- X jenerasyonu ve Y jenerasyonu çalışanlarında, Z jenerasyonu ve "Baby boomers" jenerasyonu çalışanlarınkinden daha yüksek olduğu;
- Örgütsel iletişim algıları ortalamasının çocuk sahibi çalışanlarda, çocuğu olmayan çalışanlarınkinden;
- Y jenerasyonu çalışanlarında; X jenerasyonu, Z jenerasyonu ve "Baby boomers" jenerasyonu çalışanlarınkinden daha yüksek;
- 1-5 yıl arası mesleki tecrübeye sahip çalışanlarda; 1 yıldan daha az, 6-10 yıl, 11-20 yıl ve 20 yıldan fazla mesleki tecrübeye sahip çalışanlarınkinden daha düşük olduğu

tespit edilmiştir.

Kısıtlar ve Öneriler

Kısıtlar:

Araştırmanın sadece İstanbul'daki özel sektör çalışanları ile gerçekleştirilmiş olması nedeniyle Türkiye'deki tüm özel sektör çalışanları için genellenemez ve bu durum çalışma için bir sınırlılık teşkil etmektedir.

Öneriler

Gelecek çalışmalarda Türkiye'nin tüm illerindeki özel sektör çalışanları ile benzer bir çalışma gerçekleştirilmesinin faydalı olacağı değerlendirilmektedir.

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DİĞERGAMLIK ÖRNEĞİ OLARAK TÜRK TOPLUMUNDA GÖNÜLLÜLÜK VE SOSYAL SERMAYE AĞLARI

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ÖZET

Gönüllülük kavramı, ILO tarafından "ücret almadan yapılan ve zorunlu olmayan çalışma; kişinin ister bir organizasyon aracılığıyla isterse doğrudan, kendi hane halkı dışındakiler için ücret almaksızın faaliyet göstermek üzere ayırdığı zaman" şeklinde tanımlanmaktadır.

UNDP 2011 Gönüllük Raporu'nda gönüllü faaliyetler için dört temel kriter belirlenmiştir: Bunlardan birincisi, faaliyetlerin, yasanın, bir sözleşmenin veya akademik bir gerekliliğin dayattığı bir yükümlülük olarak değil, kişinin kendi özgür iradesi çerçevesinde gerçekleştirilmesi, ikincisi ise finansal bir ödül/gelir için yapılmamasıdır. İkinci kriter, kamu yararının gözetilmesi yani bir davaya hizmet etmesidir. Dördüncü kriter ise örgütlenmiş bir çerçevede yürütülmesidir.

Sosyal sermaye ağları kavramı ise toplumsal ilişkileri ve dernek üyeliklerini kapsayan, bir işbirliğine ihtiyaç olduğu yerde insanları yönlendiren güven, karşılıklı anlayış ve müşterek değerler gibi olgulara dayanan toplumsal kaynaklar şeklinde tanımlanmaktadır.

Türk toplumunda diğergamlık temel değerlerden biri olup tarih boyunca milletimizin ayırdedici vasıflarından biri olmuştur. Yunus Emre, bu anlayışı "Ben gelmedim davi için/Benim için sevi için/Dostun evi gönüllerdir/Gönüller yapmaya geldim" dizeleriyle 13. Yüzyılda ölümsüzleştirmiştir. Diğergâmlık ifadesinin karşılığı "altruism" Fransızca'da Auguste Comte tarafından 1830'da türetilmiştir. İngilizce'ye 1853'te geçmiştir. Gönüllülük, (voluntarism) sosyolojiye 1900'lü yıllarda Talcott Parsons'la birlikte girmiştir.

Bu çalışmada gönüllük kavramı tanımlanarak, Türk toplumundaki uygulamaları tarihsel bağlamda ele alınacaktır. Bu tarihsel birikimden hareketle toplumda "güven" anlayışını geliştirmek ve sosyal sermaye ağlarını güçlendirmek için geliştirilebilecek uygulamalar üzerinde durulacaktır. Ülkemizde mevcut gönüllülük uygulamaları da gönüllülük kriterleri açısından analiz edilecektir.

Anahtar Kelimeler: Gönüllülük, Sosyal Sermaye Ağları, Toplumsal Güven, Diğergâmlık

VOLUNTEERING AND SOCIAL CAPITAL NETWORKS IN TURKISH SOCIETY AS AN EXAMPLE OF ALTURISM

ABSTRACT

The concept of volunteering is defined by the ILO as "unpaid and non-compulsory work; It is defined as the time that a person allocates to operate without charge, whether through an organization or directly, for those outside his or her household".

In the UNDP 2011 Volunteering Report, four basic criteria have been identified for voluntary activities: The first is that the activities are carried out within the framework of one's own free

will, not as an obligation imposed by the law, a contract or an academic requirement, and the second is that they are not carried out for a financial reward/income. The second criterion is the observance of the public interest, that is, it serves a social purpose. The fourth criterion is that it should be carried out in an organized framework.

The concept of social capital networks, on the other hand, is defined as social resources based on facts such as trust, mutual understanding and common values that cover social relations and association memberships and guide people where cooperation is needed.

Alturism (Selflessness) is one of the basic values in Turkish society and it has been one of the distinguishing features of our nation throughout history. Yunus Emre immortalized this understanding in the 13th century with the lines "I did not come for the cause/For love for me/A friend's home is hearts/I came to make hearts". The expression altruism was coined in French by Auguste Comte in 1830. Translated into English It passed in 1853. Voluntarism entered sociology in the 1900s with Talcott Parsons.

In this study, the concept of volunteering will be defined and its applications in Turkish society will be discussed in the historical context. Based on this historical accumulation, the practices that can be developed to develop the understanding of "trust" in the society and to strengthen social capital networks will be emphasized. The existing volunteering practices in our country will also be analyzed in terms of volunteering criteria.

Keywords: Volunteering, Social Capital Networks, Social Trust, Altruism

PANDEMİ VE DİJİTALLEŞMENİN AİLE YAPISINA ETKİLERİ

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ÖZET

Toplumun en küçük çekirdek birimi olarak ailenin sosyalleşmenin sağlanması, ilk eğitimin verilmesi, milli manevi değerlerin, toplumsal kuralların gelecek nesillere aktarılması, neslin devamının sağlanması gibi fonksiyonları bulunmaktadır. Türk ailesinin dayanışma, büyüklere saygı, vatan, millet, din vb. gibi mukaddes değerler üzerinde hassasiyeti vardır. Bunun devamının sağlanması için yapılabilecekler ve kentleşme ve modernleşmeyle değişen aile yapısının güçlü bir şekilde korunması önem taşımaktadır.

Yaklaşık iki yıldır devam eden COVID-19 pandemisi dönemi dijitalleşmeyi artırmış ve aile kurumunu bu yönüyle de etkilemiştir. Psikolojik etkiler olarak stres, hastalık ve bulaşma korkusu, ölüm korkusu, izole olma, yalnızlık gibi psikolojik etkiler söz konusu olmaktadır. Manevi destek hizmetleri ve ailenin kendi içinde güçlü kalmak için yapabilecekleri, ailenin güçlendirilmesi, hastalık ve yakınlarını kaybetme durumunda kriz ve yas sürecinin olumlu duygularla atlatılabilmesi için yapılabilecekler önemlidir. Pandemi döneminin aile içi iletişime etkisi bakımından özellikle bulaşma riski ve stresi altında bulunan aile bireylerinin birbiriyle iletişimi konusunda problemler yaşanabilmektedir.

Bu çalışmada dijitalleşme çerçevesinde sosyal medyanın günümüzde geldiği noktadan hareketle, öncelikle dijitalleşme ve sosyal medyanın aile ve gençler üzerindeki etkisi, küresel sosyal medya akımlarının aile üzerindeki etkileri irdelenecektir. Bu kapsamda, sosyal medyanın olumlu ve olumsuz sonuçları, olumsuz sonuçlarına karşı neler yapılabileceği üzerinde durulacaktır. Yine çalışma kapsamında pandemi nedeniyle aile yapısındaki değişim ihtimalleri, yaşanan sıkıntıların atlatılması, kapanma dönemlerinde evde sürekli bir arada kalan aile bireyleri arasında ebeveyn-çocuk iletişimi, eşler arası iletişim ve ailenin diğer bireyleriyle etkileşim sorunları ele alınacaktır.

Anahtar Kelimeler: Aile içi iletişim, dijitalleşme, pandemi, sosyal medya

THE EFFECTS OF PANDEMIC AND DIGITALIZATION ON FAMILY STRUCTURE

ABSTRACT

As the smallest nuclear unit of the society, the family has functions such as providing socialization, providing primary education, transferring national moral values and social rules to future generations, and ensuring the continuation of the generation. The Turkish family has a consensus on sacred values such as solidarity, respect for elders, homeland, nation and religion. What can be done to ensure the continuation of this and the strong preservation of the family structure, which has changed with urbanization and modernization, are important.

The COVID-19 pandemic period, which has been going on for about two years, has increased digitalization and has affected the family institution in this respect. Psychological effects

include stress, fear of disease and contamination, fear of death, isolation, and loneliness. Spiritual support services and what the family can do to stay strong within themselves, to strengthen the family, to overcome the crisis and mourning process with positive emotions in case of illness and loss of relatives are important. In terms of the effect of the pandemic period on communication within the family, there may be problems in communicating with each other, especially among family members who are under the risk of contamination and stress.

In this study, starting from the point that social media has reached today within the framework of digitalization, first of all, the effects of digitalization and social media on families and young people, and the effects of global social media movements on family structure will be examined. In this context, the positive and negative consequences of social media and what can be done against its negative consequences will be discussed. Again, within the scope of the study, the possibility of change in the family structure due to the pandemic, overcoming the problems experienced, parent-child communication between family members who stay together at home during the closure periods, communication between husband and wife and interaction with other members of the family will be discussed.

Keywords: Family communication, digitalization, pandemic, social media

PANDEMİ DÖNEMİNDE FİNANSAL TUTUM ALGILANAN FAYDA VE GÜVENİLİRLİĞİN ÇEVRİMİÇİ SATIN ALMA NİYETİNE ETKİSİNİN İRDELENMESİ

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ÖZET

Bu çalışma, pandemi döneminin önemli değişimlere neden olduğu dijitalleşen ortamda, bireylerin çevrimiçi satın alma niyetlerini etkileyen unsurları saptamaktır. Bu bağlamda Teknoloji kabul modelinden hareketle, ilk olarak algılanan fayda ve güvenilirliğin çevrimiçi satın alma niyetine doğrudan etkisi değerlendirilmektedir. Ardından finansal tutumun da modele dahil edilerek çoklu regresyon modeli ile birlikte irdelenmiştir. Finansal tutumun çevrimiçi satın alma niyetine doğrudan etkisi önceki çalışmalardan farklı olarak modele eklenmiştir. En nihayetinde bir bütün olarak koronavirüs hastalığına yakalanan ve henüz hiç yakalanmayan katılımcılar ve pandeminin etkisinin genel değerlendirmesi frekans analizine tabi tutulmuştur. Araştırma Marmara bölgesinde gerçekleşmiştir. Araştırmaya katılan denek sayısı 231 olarak saptanmıştır. Araştırmada ilk olarak faktör analizi ile birbiriyle ilişkili değişkenler tek faktör altında toplanmıştır. Her değişkene ait güvenilirlik analizi yapılmıştır. Ardından SPSS paket programı ile çoklu doğrusal regresyon ve korelasyon analizi yapılmıştır. Analiz sonuçlarına göre, Algılanan güvenilirlikteki bir birimlik değişim çevrimiçi satın alma niyetinde %28,9'luk bir değişime neden olmaktadır. Yine algılanan faydada meydana gelen bir birimlik değişim çevrimiçi satın alma niyeti üzerinde %59,5'lik değişim meydana getirmektedir. Öte yandan finansal tutumlarda meydana gelen bir birimlik değişim çevrimiçi satın alma niyetinde %8,8'lik bir değişim meydana getirmiştir. Son olarak çevrimiçi satın almada pandemik etkinin çevrimiçi satın alma niyetindeki değişimlerde %18,4'lük etkiye sahiptir. Bir bütün olarak anlamlı olan modelde algılanan güvenilirlik ve algılanan fayda, finansal tutum ve pandemik etki değişkenleri çevrimiçi satın alma niyetindeki toplam değişimlerin %59,1'ini (R^2=0.591) açıklamaktadır. İstatistiksel olarak anlamlı olan bu modelde yer alan değişkenler birlikte önemli düzeyde çevrimiçi satın alma niyetini arttırmaktadır. Ayrıca değişkenler arasındaki korelasyonel ilişkilere bakıldığında, algılanan güvenilirlik (r=0.555, p<0.05), algılanan fayda (r=0.688 p<0.05), finansal tutum (r=0.191, p<0.05) değişkenleri ile çevrimiçi satın alma davranışı arasında anlamlı ve pozitif yönde bir ilişki saptanmıştır. Korelasyonlar hepsinde anlamlı olsa da önem sırasında göre en yüksek ilişki sıralaması, algılanan faydanın ortanın üzerinde, güvenilirliğin orta düzeyde ve finansa tutumun ise düşük düzeydedir. Çalışmanın diğer önemli noktası ise, katılımcıların %23.4'ü koronavirüs hastalığına yakalanmışken, %76.6'sı yakalanmamıştır. Diğer taraftan pandemi döneminin yaşam tarzına ve hayata etkisinin olup olmadığı sorusuna %7.2'si hiçbir şey değişmediğini, %31.1'i çok az şey değiştiğini, %49.1'i oldukça fazla şey değiştiğini ve %12.6'sı her şeyin değiştiğini ifade etmiştir.

Anahtar Kelimeler: Algılanan fayda, Algılanan güvenilirlik, Finansal tutum, Çevrimiçi satın alma niyeti

EXAMINATION OF THE EFFECT OF FINANCIAL ATTITUDE, PERCEIVED BENEFIT AND RELIABILITY ON ONLINE PURCHASE INTENTION DURING THE PANDEMIC PERIOD

ABSTRACT

This study is to determine the factors that affect the online purchasing intentions of individuals in the digitalized environment where the pandemic period has caused significant changes. In this context, based on the Technology acceptance model, the direct effect of perceived usefulness and reliability on online purchase intention is evaluated first. Then, the financial attitude was also included in the model and examined with the multiple regression model. The direct effect of financial attitude on online purchase intention has been added to the model, unlike previous studies. Finally, the participants who contracted the coronavirus disease as a whole and have not yet contracted and the overall assessment of the impact of the pandemic were subjected to frequency analysis. The research took place in the Marmara region. The number of subjects participating in the study was determined as 231. In the study, firstly, the variables related to each other were gathered under a single factor by factor analysis. Reliability analysis of each variable was performed. Then, multiple linear regression and correlation analysis were performed with the SPSS package program. According to the results of the analysis, one unit change in perceived reliability causes a 28.9% change in online purchase intention. Again, a one-unit change in perceived usefulness creates a 59.5% change in online purchase intention. On the other hand, a one-unit change in financial attitudes led to an 8.8% change in online purchase intention. Finally, the pandemic effect in online purchasing has an effect of 18.4% on the changes in online purchase intention. In the model, which is significant as a whole, the variables of perceived reliability and perceived usefulness, financial attitude and pandemic effect explain 59.1% (R2=0.591) of the total changes in online purchase intention. The variables in this statistically significant model together significantly increase the online purchase intention. In addition, when the correlational relationships between the variables are examined, there is no significant correlation between the variables of perceived reliability ($r=0.555$, $p<0.05$), perceived usefulness ($r=0.688$ $p<0.05$), financial attitude ($r=0.191$, $p<0.05$) and online purchasing behavior. A positive relationship was found. Although the correlations are significant in all of them, the highest ranking in order of importance is above the medium in perceived usefulness, moderate in reliability and low in attitude towards finance. Another important point of the study is that while 23.4% of the participants got the coronavirus disease, 76.6% did not. On the other hand, to the question of whether the pandemic period has an impact on lifestyle and life, 7.2% stated that nothing has changed, 31.1% said very little has changed, 49.1% stated that a lot has changed, and 12.6% stated that everything has changed.

Keywords: Perceived usefulness, Perceived reliability, Financial attitude, Online purchase intention.

Amaç: Bu çalışma temel olarak, Marmara Bölgesinde bireylerin çevrimiçi satın alma niyetini etkileyen unsurları tahmin etmeye dönük bir model önermektedir. Teknoloji kabul modeli ve gerekçeli eylem planı kuramsal yapılarından hareketle, çevrimiçi satın alma niyeti üzerinde, algılanan fayda, algılanan güvenilirlik, finansal tutum ve pandemik etkinin rolleri irdelenmektedir. İlgili kuramların bazı değişkenleri çalışmanın dışında tutulurken güncel gelişmeler doğrultusunda pandemik etki ve finansal tutum gibi farklı değişkenler ilave edilmiştir. Dahası pandemi döneminin etkileri betimsel olarak değerlendirilmektedir. Bilhassa pandemi döneminde çevrimiçi satın almaya ve dijitalleşmeye yönelimin artması, çalışmanın teorik ve pratik çıkarımlarını daha önemli hale getirmektedir.

Yöntem: Araştırma nicel bir desene sahip kesitsel analiz yöntemi ile değerlendirilmiştir. Veriler çevrimiçi anket formu ile sosyal medya ve farklı platformlarda paylaşılarak toplanmıştır. Kolayda örnekleme yöntemiyle seçilen 1000 denekten 250'si geri dönüş yapmıştır. Anket formu iki bölümden oluşmaktadır. Çevrimiçi satın alma niyeti (üç ifade) ve algılanan fayda değişkenleri (üç ifade) Lin (2007) tarafından oluşturulan ölçeklerden Ahmetoğulları (2020)'nın uyarladığı ve geçerliliği ve güvenilirliği test edilen çalışmadan uyarlanmıştır. Algılanan güvenilirlik Luarn ve Lin (2005)'den uyarlanarak iki ifade ile ölçülmüştür. Finansal tutum ölçeği Çera ve diğerleri (2020) tarafından kullanılan iki ifadenin uyarlanması ile elde edilmiştir. Son olarak pandeminin çevrimiçi satın almaya etkisi ile ilgili soru yazar tarafından tek soru ile ölçülmüştür. Demografik sorularla anket nihayete ermiştir.

Çalışmanın evrenini Marmara Bölgesi'nde yaşayan çevrimiçi satın alan bireyler oluşturmaktadır. Gönüllü katılımcılardan oluşan verilerden 231 sağlıklı veri ile analizler yapılmıştır. Çalışmada kullanılan sürekli değişkenler 1 ile 5 aralığından Likert tipi ölçüme tabi tutulmuştur. Pandeminin çevrimiçi satın almaya etkisini ölçmeye dönük soru ise hiç etkilemedi (1), biraz etkiledi (2) çok fazla etkiledi (3) şeklinde ölçülmüştür. Elde edilen veriler SPSS paket programı yardımıyla analiz edilmiştir. Araştırmada kullanılan değişkenlerin güvenilirliğini ölçmek için cronbach a katsayısı kullanılmıştır. Geçerliliği test etmek amacıyla da açımlayıcı faktör analizine tabi tutulmuştur. Tanımlayıcı istatsitikler ve betimsel analizler yapılmıştır. Verilerin normallik varsayımını sağladığından hareketle parametrik testler yapılmıştır. Grupların arasındaki farklılığı değerlendirmek için t-testi yapılmıştır. Diğer taraftan modelin istatistiksel olarak anlamlılığının sınanması ve ilgili bağımsız değişkenlerin bağımlı değişken üzerindeki etkisini görmek adına çoklu regresyon analizi uygulanmıştır.

Bulgular: Analiz sonuçlarına göre katılımcıların algılanan fayda düzeyleri, algılanan güvenilirlikleri, finansal tutumları geliştikçe ve pandemi temelli çevrimiçi satın almadan etkilendikçe çevrimiçi satın alma niyeti olumlu şekilde gelişecektir. Pandeminin etkisinin bilhassa dijitalleşmeye büyük oranda olacağı aşikar bir durumdur. Bu sonuçlar da tekboloji kabul modeli ekseninde çevrimiçi satın alma niyeti üzerinde tahmin edici olarak belirlediği bağımsız değişkenlerin bir bütün olarak eldeki veriler tarafından desteklendiğini göstermektedir. Gerek bireysel gerekse bir bütün olarak kurulan model anlamlı ve önemli etkiye sahiptir. Öte yandan koronavirüse yakalanma oranı katılımcılar arasında düşük seyretmektedir. Görece hastalığa yakalanan katılımcı sayısının az olması ve homojen bir dağılım olmaması nedeniyle çevrimiçi satın alma ve diğer değişkenler açısından ortalamalarda istatistiksel olarak anlamlı bir fark gözlenmemiştir. Bu koronaya hiç yakalanmayanlar ile yakalananların çevrimiçi satın alma niyeti ve diğer bağımsız değişkenler açısından anlamlı bir farklılık olmadığını göstermektedir.

Analiz sonuçlarına göre, algılanan güvenilirlikteki bir birimlik değişim çevrimiçi satın alma niyetinde %28,9'luk bir değişime neden olmaktadır. Yine algılanan faydada meydana gelen bir birimlik değişim çevrimiçi satın alma niyeti üzerinde %59,5'lik değişim meydana getirmektedir. Öte yandan finansal tutumlarda meydana gelen bir birimlik değişim çevrimiçi satın alma niyetinde %8,8'lik bir değişim meydana getirmiştir. Son olarak çevrimiçi satın almada pandemik etkinin çevrimiçi satın alma niyetindeki değişimlerde %18,4'lük etkiye sahiptir. Bir bütün olarak anlamlı olan modelde algılanan güvenilirlik ve algılanan fayda, finansal tutum ve pandemik etki değişkenleri çevrimiçi satın alma niyetindeki toplam değişimlerin %59,1'ini (R^2=0.591) açıklamaktadır. İstatistiksel olarak anlamlı olan bu modelde yer alan değişkenler birlikte önemli düzeyde çevrimiçi satın alma niyetini arttırmaktadır. Ayrıca değişkenler arasındaki korelasyonel ilişkilere bakıldığında, algılanan güvenilirlik (r=0.555, p<0.05), algılanan fayda (r=0.688 p<0.05), finansal tutum (r=0.191, p<0.05) değişkenleri ile çevrimiçi satın alma davranışı arasında anlamlı ve pozitif yönde bir ilişki saptanmıştır. Korelasyonlar hepsinde anlamlı olsa da önem sırasında göre en yüksek ilişki sıralaması,

algılanan faydanın ortanın üzerinde, güvenilirliğin orta düzeyde ve finansa tutumun ise düşük düzeydedir. Çalışmanın diğer önemli noktası ise, katılımcıların %23.4'ü koronavirüs hastalığına yakalanmışken, %76.6'sı yakalanmamıştır. Diğer taraftan pandemi döneminin yaşam tarzına ve hayata etkisinin olup olmadığı sorusuna %7.2'si hiçbir şey değişmediğini, %31.1'i çok az şey değiştiğini, %49.1'i oldukça fazla şey değiştiğini ve %12.6'sı her şeyin değiştiğini ifade etmiştir.

Sonuç ve tartışma: Bu çalışma, Marmara Bölgesi'nde bireylerin çevrimiçi satın alma niyetlerine etki eden unsurları pandeminin gölgesinde tespit etmeyi amaçlamaktadır. Literatürde çok fazla değinilmeyen konulardan biri de pandemik etkinin çevrimiçi satın almada nasıl rol oynadığı ve finansal konularda bilgili, tasarruf yapabilen ve mali durumunu kontrol edebilen bir tavır sergileyen finansal tutumun bu dönemde nasıl şekillendiğidir. Dahası pandemiyle birlikte dijitale olan ilginin güvenlik boşlukları oluşturabileceği ve fayda algısını arka plana atabileceği varsayımı da dikkate değerdir. Bu noktalardan hareketle sağlanan hizmetlerin faydasından vazgeçmeden güvenilirliği düşürmeden finansal tavrı da dikkate alarak pandeminin daha fazla çevrimiçi satın alma niyetini geliştirmesi beklenebilir. Çalışmada ortaya çıkan en önemli sonuçlardan biri, algılanan faydanın algılanan güvenilirliğin, finansal tutumun ve pandemik etkinin çevrimiçi satın alma niyetine ayrı ayrı anlamlı ve pozitif yönde etkisinin olmasıdır. Diğer taraftan bir bütün olarak çevrimiçi satın alma niyetindeki değişimlerin bu değişkenler yaklaşık %50'lik kısmını açıklamaktadır. Dahası koronavirüs hastalığına yakalanan ya da yakalanmayanlara göre çevrimiçi satın alma niyeti değişmemektedir. Bu elde edilen verilerin heterojen olmasından kaynaklı olabilir. Bu sonuçlar pandemi döneminin yaşam tarzına ve hayata etkisinin olup olmadığı sorusuna %7.2'si hiçbir şey değişmediğini, %31.1'i çok az şey değiştiğini, %49.1'i oldukça fazla şey değiştiğini ve %12.6'sı her şeyin değiştiğini ifade etmiştir. Bu sonuçlar, Ahmetoğulları'nın (2020) fayda ve güvenin, Çera ve diğerlerinin (2020) finansal tutumun çevrimiçi satın almaya etkisini doğrulayan çalışmalarıyla tutarlıdır. Öte yandan çalışmanın özgün niteliği pandemik etkinin çevrimiçi satın alma niyetini etkilemesi olmuştur. Algılanan faydanın pandemi döneminde çevrimiçi satın alma tutumu aracılığıyla çevrimiçi satın alma niyetine etkisini doğrulayan Telli ve diğerleri (2021), güvenin de çevrimiçi satın alma niyeti üzerinde etkisi olduğunu doğrulamaktadır.

Aim: This study basically proposes a model for estimating the factors affecting the online purchasing intention of individuals in the Marmara Region. Based on the theoretical structures of technology acceptance model and reasoned action plan, the roles of perceived usefulness, perceived reliability, financial attitude and pandemic effect on online purchase intention are examined. While some variables of related theories were excluded from the study, different variables such as pandemic effect and financial attitude were added in line with current developments. Moreover, the effects of the pandemic period are evaluated descriptively. Especially during the pandemic period, the increasing tendency towards online purchasing and digitalization makes the theoretical and practical implications of the study more important.

Method: The research was evaluated with a cross-sectional analysis method with a quantitative design. The data were collected by sharing the online questionnaire form on social media and different platforms. 250 of 1000 subjects selected by convenience sampling method gave feedback. The questionnaire form consists of two parts. The online purchase intention (three statements) and perceived usefulness variables (three statements) were adapted from the scales created by Lin (2007) from the study adapted by Ahmetoğulları (2020) and tested for validity and reliability. Perceived reliability was measured with two statements, adapted from Luarn and Lin (2005). The financial attitude scale was obtained by adapting two statements used by Çera et al. (2020). Finally, the question about the effect of the pandemic on online purchasing

was measured by the author with a single question. The survey ended with demographic questions.

The population of the study consists of online purchasers living in the Marmara Region. Analyzes were made with 231 healthy data from the data consisting of volunteer participants. Continuous variables used in the study were subjected to a Likert type measurement between 1 and 5. The question to measure the effect of the pandemic on online purchasing was measured as not at all (1), somewhat affected (2), very much (3). The obtained data were analyzed with the help of SPSS package program. Cronbach's a coefficient was used to measure the reliability of the variables used in the study. Exploratory factor analysis was also used to test the validity. Descriptive statistics and descriptive analyzes were made. Parametric tests were carried out based on the assumption of normality of the data. The t-test was performed to evaluate the difference between the groups. On the other hand, multiple regression analysis was applied to test the statistical significance of the model and to see the effect of the related independent variables on the dependent variable.

Findings: According to the results of the analysis, as the perceived benefit levels, perceived reliability, financial attitudes of the participants improve, and as they are affected by the pandemic-based online purchasing, their online purchase intention will develop positively. It is obvious that the effect of the pandemic will be especially on digitalization. These results show that the independent variables determined as predictors of online purchase intention on the axis of the technology acceptance model are supported by the available data as a whole. The model, both individually and as a whole, has a significant and significant impact. On the other hand, the rate of catching coronavirus remains low among the participants. Due to the relatively small number of participants with the disease and the lack of a homogeneous distribution, no statistically significant difference was observed in the averages in terms of online purchasing and other variables. This shows that there is no significant difference between those who have never caught corona and those who are caught in terms of online purchase intention and other independent variables.

According to the results of the analysis, a one-unit change in perceived reliability causes a 28.9% change in online purchase intention. Again, a one-unit change in perceived usefulness creates a 59.5% change in online purchase intention. On the other hand, a one-unit change in financial attitudes led to an 8.8% change in online purchase intention. Finally, the pandemic effect in online purchasing has an effect of 18.4% on the changes in online purchase intention. In the model, which is significant as a whole, the variables of perceived reliability and perceived usefulness, financial attitude and pandemic effect explain 59.1% (R2=0.591) of the total changes in online purchase intention. The variables in this statistically significant model together significantly increase the online purchase intention. In addition, when the correlational relationships between the variables are examined, there is no significant correlation between the variables of perceived reliability ($r=0.555$, $p<0.05$), perceived usefulness ($r=0.688$ $p<0.05$), financial attitude ($r=0.191$, $p<0.05$) and online purchasing behavior. A positive relationship was found. Although the correlations are significant in all of them, the highest ranking in order of importance is above the medium in perceived usefulness, moderate in reliability and low in attitude towards finance. Another important point of the study is that while 23.4% of the participants got the coronavirus disease, 76.6% did not. On the other hand, to the question of whether the pandemic period has an impact on lifestyle and life, 7.2% stated that nothing has changed, 31.1% said very little has changed, 49.1% stated that a lot has changed, and 12.6% stated that everything has changed.

Conclusion and recommendations: This study aims to identify the factors affecting the online purchasing intentions of individuals in the Marmara Region in the shadow of the pandemic. One of the issues that is not mentioned much in the literature is how the pandemic effect plays

a role in online purchasing and how the financial attitude is shaped in this period, which is knowledgeable in financial matters, able to save and control its financial situation. Moreover, the assumption that the interest in digital with the pandemic may create security gaps and throw the perception of benefit into the background is also noteworthy. Based on these points, it can be expected that the pandemic will improve the intention to buy more online, taking into account the financial attitude without sacrificing the benefits of the services provided, without reducing the reliability. One of the most important results of the study is that perceived usefulness, perceived reliability, financial attitude and pandemic effect have a significant and positive effect on online purchase intention separately. On the other hand, these variables explain approximately 50% of the changes in online purchase intention as a whole. Moreover, the intention to buy online does not change according to those who are infected with the coronavirus disease or not. This may be due to the heterogeneity of the obtained data. These results, to the question of whether the pandemic period has an impact on lifestyle and life, 7.2% stated that nothing has changed, 31.1% said that little has changed, 49.1% stated that a lot has changed, and 12.6% stated that everything has changed. These results are consistent with the studies of Ahmetoğulları (2020) confirming the effect of utility and trust, and Çera et al. (2020) the effect of financial attitude on online purchasing. On the other hand, the original feature of the study was that the pandemic effect affected the online purchase intention. Confirming the effect of perceived usefulness on online purchase intention through online purchasing attitude during the pandemic period, Telli et al. (2021), confirms that trust also has an effect on online purchase intention.

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BANKA MÜŞTERİLERİNİN YATIRIM TERCİHLERİNİN FARKLI KRİTERLERE GÖRE DEĞERLENDİRİLMESİ

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ÖZET

Bankacılık pandemi döneminde en çok dijital dönüşümlerden birine maruz kalan bir sektördür. Yeni çalışma formatları müşteriye sunulan hizmetleri de çeşitlendirmiş ve hizmet tarzını önemli ölçüde farklılaştırmıştır. Bu minvalde banka müşterilerinin yatırım araçlarından bilhassa hangilerini tercih ettikleri ve bunların seçiminde rol oynayan etkenlerin tahmin edilmesi bir hayli önem arz etmektedir. Bu çalışma, Kocaeli Bursa ve İstanbul'da yer alan banka müşterilerinden oluşan 282 denekten oluşmaktadır. Araştırmada çapraz tablolarla frekans dağılımları ve ki-kare analizi ile korelasyon analizi uygulanmıştır. Yatırım kararlarında döviz, altın, repo, mevduat, yatırım fonu, hisse senedi, devlet tahvili ve sukuk gibi yatırım araçlarının ne ölçüde kullanıldığı ölçülmüştür. Araştırmada ayrıca kredi kartı kullanım düzeyi, aylık ortalama gelir ve yaş gibi değişkenlere göre yatırım kararlarının nasıl bir ilişki ve dağılım sergilediği saptanmıştır. Araştırma sonuçlarına göre, kredi kartı kullanım düzeyi ile altına, mevduata, yatırım fonuna ve sukuka yatırım yapmak arasında anlamlı ve pozitif yönlü bir ilişki bulunmuştur. Yine yaş ile altına yatırım arasında anlamlı ve negatif yönde bir ilişki saptanmıştır. Gelir düzeyi ile döviz, mevduat ve kredi kartı kullanım düzeyi arasında anlamlı ve pozitif yönde bir ilişki gözlenmiştir. Eğitim düzeyi ile altın, mevduat, yatırım fonu, sukuk ve kredi kartı kullanım düzeyinin anlamlı ve pozitif yönde bir ilişkisi gözlenmektedir. Dahası yatırım fonlarının kendi arasında ve kredi kartı kullanım düzeyleri arasında da anlamlı ilişkiler tespit edilmiştir. Öyle ki, kredi kartı kullanım düzeyi ile altın, mevduat, yatırım fonu ve sukuk arasında anlamlı ve pozitif yönlü bir ilişki gözlenmiştir. Yine, döviz yatırımı ile altın, mevduat, yatırım fonu, hisse senedi ve sukuk arasında anlamlı ve pozitif yönde bir ilişki teyit edilmiştir. Altın ile mevduat, yatırım fonu, hisse senedi ve sukuk arasında anlamlı ve pozitif yönde bir ilişki saptanmıştır. Mevduat ile yatırım fonu, hisse senedi, sukuk ve repo arasında; yatırım fonu ile hisse senedi, devlet tahvili, sukuk ve repo arasında; hisse senedi ile devlet tahvili, sukuk ve repo arasında anlamlı ve pozitif yönde ilişki vardır. Devlet tahvili ile sukuk ve repo arasında; sukuk ile repo arasında anlamlı ve pozitif yönde bir ilişki bulunmuştur. Son olarak, yatırım tercihleri arasında en fazla kullanılanlar sırasıyla altın, mevduat ve döviz yer alırken, en az kullanıma sahip yatırım araçları sırasıyla repo, devlet tahvili ve sukuk olarak saptanmıştır.

Anahtar kelimeler: Yatırım araçları, Bankacılık sektörü, Kredi kartı kullanımı.

EVALUATION OF BANK CUSTOMERS' INVESTMENT PREFERENCES ACCORDING TO DIFFERENT CRITERIA

ABSTRACT

Banking is a sector that is most exposed to one of the digital transformations during the pandemic period. New working formats have also diversified the services offered to the customer and significantly differentiated the style of service. In this context, it is very important to predict which investment instruments bank customers prefer and the factors that play a role in their selection. This study consists of 282 subjects consisting of bank customers located in

Kocaeli, Bursa and Istanbul. In the study, frequency distributions with cross tables and correlation analysis with chi-square analysis were applied. The extent to which investment instruments such as foreign currency, gold, repo, deposits, mutual funds, stocks, government bonds and sukuk are used in investment decisions has been measured. In the study, it was also determined how the investment decisions show a relationship and distribution according to variables such as credit card usage level, monthly average income and age. According to the results of the research, a significant and positive relationship was found between the level of credit card usage and investing in gold, deposits, mutual funds and sukuk. Again, a significant and negative relationship was found between age and investment in gold. A significant and positive relationship was observed between income level and foreign currency, deposit and credit card usage level. It is observed that there is a significant and positive relationship between education level and gold, deposit, mutual fund, sukuk and credit card usage level. Moreover, significant relationships were found between mutual funds and between credit card usage levels. In fact, a significant and positive relationship was observed between the level of credit card usage and gold, deposits, mutual funds and sukuk. Again, a significant and positive relationship was confirmed between foreign exchange investment and gold, deposits, mutual funds, stocks and sukuk. A significant and positive relationship was found between gold and deposits, mutual funds, stocks and sukuk. Between deposit and mutual fund, stock, sukuk and repo; between the mutual fund and stocks, government bonds, sukuk and repo; There is a significant and positive relationship between stocks and government bonds, sukuk and repo. Between government bonds, sukuk and repo; A significant and positive relationship was found between sukuk and repo. Finally, among the investment preferences, the most used ones are gold, deposits and foreign exchange, while the least used investment instruments are repo, goverment bonds and sukuk, respectively.

Keywords: Investment instruments, Banking sector, Credit card usage.

Amaç: Bu çalışma temel olarak, İstanbul Bursa ve Kocaeli illerinde bulunan banka müşterilerinin yatırım araçları tercihlerinin belirlenmesi ve bunların demografik değişkenlere göre irdelenmesi hedeflenmiştir. Yatırım tercihleri olarak ülkemizde en çok kullanılan banka yatırım araçları tercih edilmiştir. Dahası pandemi döneminde kredi kartı kullanım düzeylerinin yatırım tercihleri ile ve demografik değişkenlerle ilişkisi irdelenmektedir. Bilhassa pandemi döneminde doğru yatırım araçlarının tercih edilmesi, rasyonel ve psikolojik etmenlerden yararlanarak ideal tercihlerin yapılmasında yaşın gelir düzeyinin ve eğitim seviyesinin dikkate alınması bir hayli önem arz etmektedir.

Yöntem: Araştırma nicel bir desene sahip kesitsel analiz yöntemi ile değerlendirilmiştir. Veriler çevrimiçi anket formu ile sosyal medya ve farklı platformlarda paylaşılarak toplanmıştır. Kolayda örnekleme yöntemiyle seçilen 1500 denekten 282'si geri dönüş yapmıştır. Anket formu iki bölümden oluşmaktadır. Yatırım araçlarının ölçülmesinde Ateş'in (2007) kullandığı döviz, altın, repo, mevduat, yatırım fonu, hisse senedi, devlet tahvili gibi değişkenler ölçülmüştür. Ek olarak katılım bankalarının da dikkate alınmasıyla sukuk yatırımını da değişkenler içerisine yazar tarafından eklenmiştir. Her bir yatırım aracı için ilgili yatırım aracını ne sıklıkla kullandıkları 6 ölçüm düzeyinde ele alınmıştır (1=Hiç, 2= En az, 3= Az, 4=Normal, 5=çok, 6= En çok). Kredi kartı kullanım düzeyiniz ifadesi yazar tarafından eklenmiş ve 5 düzeyde ölçülmüştür (1=Hiç, 2=Nadiren, 3=Bazen, 4=Sık sık, 5=Her zaman). Son olarak kategorik olarak ölçülen demografik değişkenler gelir, yaş ve eğitim düzeyinden oluşmaktadır.

Çalışmanın evrenini İstanbul, Bursa ve Kocaeli illerinde yaşayan banka müşterileri oluşturmaktadır. Gönüllü katılımcılardan oluşan verilerden 282 sağlıklı veri ile analizler yapılmıştır. Elde edilen veriler SPSS paket programı yardımıyla analiz edilmiştir. Tanımlayıcı

istatistikler ve betimsel analizler yapılmıştır. Verilerin normallik varsayımını sağladığından hareketle parametrik testler yapılmıştır. Yatırım tercihlerinin kendi içerisindeki korelasyonlarının dışında demografik değişkenler ve kredi kartı kullanım düzeyi ile nasıl bir ilişki gösterdiğine dönük korelasyon analizi yapılmıştır.

Bulgular: Analiz sonuçlarına göre katılımcıların yatırım araçlarından döviz kullananlar %80,7, altın kullananlar %86,4, mevduat kullananların %76,4, yatırım fonu kullananlar %62,9, devlet tahvili kullananlar %39,3 ve sukuk kullananlar %53,6'lık bir dağılıma sahiptir. Katılımcıların kredi kartı kullanma oranları oldukça yüksek çıkmıştır (%95,3). Kredi kartı kullanım düzeyi 4.11, döviz kullanımı 3.04, altın kullanımı 3.41, mevduat kullanım 3.13, yatırım fonu 2.33, hisse senedi 2.55, devlet tahvili 1.16, sukuk 1.81, repo 1.13 ortalama puana sahiptir. Sürekli değişkenler arasındaki korelasyonları değerlendirmek için yapılan Pearson korelasyon analizi sonuçlarına göre, kredi kartı kullanım düzeyi ile altına, mevduata, yatırım fonuna ve sukuka yatırım yapmak arasında anlamlı ve pozitif yönlü bir ilişki bulunmuştur. Kategorik değişkenlerle yatırım tercihleri ve kredi kartı kullanım düzeyi ilişkisi için yapılan Spearman korelasyon analizi sonuçlarına göre, yaş ile altına yatırım arasında anlamlı ve negatif yönde bir ilişki saptanmıştır. Gelir düzeyi ile döviz, mevduat ve kredi kartı kullanım düzeyi arasında anlamlı ve pozitif yönde bir ilişki gözlenmiştir. Eğitim düzeyi ile altın, mevduat, yatırım fonu, sukuk ve kredi kartı kullanım düzeyinin anlamlı ve pozitif yönde bir ilişkisi gözlenmektedir.

Sonuç ve tartışma: Bu çalışma, Marmara Bölgesi'nde yer alan üç büyük ilin banka müşterilerinin pandemi dönemindeki yatırım aracı tercihleri ve bu seçimlerin demografik değişkenlerle ilişkisini irdelenmektedir. İktisat teorisine ve literatürüne göre yatırımların temel kaynağı tasarruflardır (Doker vd., 2016). Pandeminin gölgesinde yatırım tercihleri nasıl şekillendiği bir hayli önem teşkil etmektedir. Literatürde çok fazla değinilmeyen konulardan biri de yatırım kararlarında katılım ve geleneksel bankaların yatırım araçlarından hangilerinin tercih edileceği yeteri kadar irdelenmemiştir. Yine yaş aralığına göre yatırım tercihleri, gelir düzeyine göre yatırım araçlarının seçimi ve eğitimin yatırım araçları ile ilişkisi çalışmayı dikkate değer kılmaktadır. Dahası pandemiyle birlikte dijitale olan ilginin artması yatırım kararlarında tercihlerin farklılaşmasına neden olabilir. Ancak yatırımcılar hala güvenli liman olarak bilinen altın yatırımını en çok tercih etmekte, bunu sırasıyla döviz ve mevduat hesabı takip etmektedir. Bu da pandemi sonrası dünya genelinde ve ülkemizde meydana gelen altın ve döviz fiyatlarındaki aşırı yükselme eğilimiyle ilişkili olduğu düşünülmektedir. Çalışmada genel olarak, kredi kartı kullanım düzeyinin artması altına, mevduat hesabına, yatırım fonu ve sukuka yatırımı arttırmaktadır.

Katılımcıların riski yüksek hisse senedi, vadesi uzun devlet tahvili ve faiz içeren repo gibi araçların kredi kartı kullananlarda tercih edilmediği anlaşılmaktadır. Öte yandan yaş ilerledikçe yastık altı dediğimiz tabire istinaden müşterilerin altın hesabına yönelmediğini gözlemledik. Bu da altına dönük yatırım kararlarında yaşın ilerlemesinin hem bankaların yapısına güvensizlik, hem de sanal platformlarda olan ama fiziki olarak bulunmayan altın hesaplarına yönelmedikleri, bunun yerine yastık altı denen metotla tasarruf ettikleri düşünülmektedir. Çalışmanın bu özgün sonucunun dışında, gelir düzeyinin artması yatırım tercihlerinde ve dolayısıyla tasarruf alışkanlıklarında yönelimin daha fazla portföy çeşitlendirmesine dönük olduğu anlaşılmaktadır. Nitekim döviz, mevduat ve kredi kartı kullanımını arttıran bir unsur da gelir olduğu gözlenmiştir. Benzer şekilde eğitim düzeyinin artması, yatırım tercihleri ve tasarruf alışkanlıklarını oldukça fazla çeşitlendirmektedir. Öyle ki, altın, mevduat, yatırım fonu, sukuk ve kredi kartı kullanım düzeyi eğitime göre önemli şekilde artmaktadır. Bilhassa bilginin artması, katılım bankalarında kullanılan bir araç olan sukuka yönelimi daha da arttırmaktadır. Eğitimin artması finansal okuryazarlığı da tetikleyeceği için ilgili tasarruf kararları ve uygun araçların seçimi için önemli bir parametre haline gelecektir. Bu sonuçlar Ateş'in (2007), Öncü ve Özevin (2017), Dikmen (2021) ve Bertaut ve Starr (2000) çalışmalarıyla benzerlik

göstermektedir. Ayrıca Tatoğlu'nun (2010) eğitim ile yatırım tercihi ilişkisi, kredi kartı kullanımı ve yatırım aracı seçimi ilişkisi ve gelir ile yatırım tercihi ilişkisini onaylayan çalışmasıyla da tutarlıdır.

Çalışmanın önemli sonuçlarından biri de genç yetişkin olarak adlandırılan 35 yaş altı grubun tasarruf alışkanlıkları ve yatırım tercihlerinin diğer yaş gruplarına göre bir hayli düşük olmasıdır. Bunun sebeplerinden biri, göreli olarak işgücü piyasalarına daha yakın zamanda katılıp gelir elde etmeye başlamaları olabileceği gibi, tasarruf etmeye yönelik tutum ve alışkanlar da olabilir. Bu anlamda bir bütün olarak yurt içi tasarrufları artırabilmek için özellikle genç yetişkinlerde tasarruf bilincini artırmaya yönelik politikaların üretilmesi elzemdir. Bununla birlikte yaş arttıkça banka mevduatı, devlet tahvili ve repo gibi daha risksiz sayılabilecek yatırımların payı artarken, hisse senedi, döviz ve altın gibi görece riskli yatırım araçlarının payının azalması da dikkat çeken unsurlardan biridir. Bu sonuçlar Dikmen (2021) tarafından desteklenmektedir.

Aim: In this study, it is aimed to determine the investment instrument preferences of bank customers in Istanbul, Bursa and Kocaeli provinces and to examine them according to demographic variables. According to economic theory and literature, the main source of investments is savings (Doker et al., 2016). As investment preferences, the most used bank investment instruments in our country were preferred. Moreover, the relationship between credit card usage levels and investment preferences and demographic variables during the pandemic period is examined. Especially in the pandemic period, it is very important to consider the age, income level and education level in choosing the right investment tools and making ideal choices by making use of rational and psychological factors.

Method: The research was evaluated with a cross-sectional analysis method with a quantitative design. The data were collected by sharing the online questionnaire form on social media and different platforms. Out of 1500 subjects selected by convenience sampling method, 282 returned. The questionnaire form consists of two parts. Variables such as foreign currency, gold, repo, deposits, mutual funds, stocks, and government bonds used by Ateş (2007) were measured in the measurement of investment instruments. In addition, taking into account the participation banks, the sukuk investment was added to the variables by the author. For each investment instrument, how often they use the relevant investment instrument is discussed at 6 measurement levels (1=Not at all, 2= At least, 3= Rarely, 4=Normal, 5=Most, 6= Most). Your credit card usage level was added by the author and measured at 5 levels (1=Never, 2=Rarely, 3=Sometimes, 4=Often, 5=Always). Finally, demographic variables measured categorically consist of income, age and education level.

The universe of the study consists of bank customers living in the provinces of Istanbul, Bursa and Kocaeli. Analyzes were made with 282 healthy data from the data consisting of volunteer participants. The obtained data were analyzed with the help of SPSS package program. Descriptive statistics and descriptive analyzes were made. Parametric tests were carried out based on the assumption of normality of the data. Apart from the correlations within the investment preferences, a correlation analysis was conducted to show how the demographic variables and the level of credit card usage were related.

Findings: According to the results of the analysis, 80.7% of the participants' investment instruments use foreign exchange, 86.4% use gold, 76.4% use deposits, 62.9% use mutual funds, 39.3% use government bonds and 53.6% use sukuk. It has a wide distribution. Credit card usage rates of the participants were quite high (95.3%). Credit card usage level is 4.11, foreign currency usage is 3.04, gold usage is 3.41, deposit usage is 3.13, mutual fund usage is 2.33, stocks are 2.55, government bonds are 1.16, sukuk is 1.81, repo usage is 1.13. According

to the results of Pearson correlation analysis performed to evaluate the correlations between continuous variables, a significant and positive relationship was found between the level of credit card use and investing in gold, deposits, mutual funds and sukuk. According to the results of the Spearman correlation analysis for the relationship between categorical variables and investment preferences and credit card usage level, a significant and negative relationship was found between age and investment in gold. A significant and positive relationship was observed between income level and foreign currency, deposit and credit card usage level. It is observed that there is a significant and positive relationship between education level and gold, deposit, mutual fund, sukuk and credit card usage level.

Conclusion and recommendations: This study examines the investment instrument preferences of bank customers in three big cities in the Marmara Region during the pandemic period and the relationship between these choices and demographic variables. It is very important how investment preferences are shaped in the shadow of the pandemic. One of the issues that are not mentioned much in the literature is participation in investment decisions and which of the investment instruments of traditional banks should be preferred has not been sufficiently examined. Again, investment preferences according to age range, selection of investment instruments according to income level and the relationship between education and investment instruments make the study noteworthy. Moreover, the increase in interest in digital with the pandemic may cause different preferences in investment decisions. However, investors still prefer gold investment, which is known as a safe haven, followed by foreign exchange and deposit accounts, respectively. This is thought to be related to the excessive increase in gold and foreign exchange prices that occurred worldwide and in our country after the pandemic. In general, the increase in the level of credit card usage increases the investment in gold, deposit accounts, mutual funds and sukuk. It is understood that instruments such as stocks with high risk, long-term government bonds and interest-bearing repos are not preferred by the participants who use credit cards. On the other hand, we observed that as age progresses, customers do not turn to gold accounts based on the term we call under the pillow. It is thought that in gold-oriented investment decisions, the advancement of age does not lead to both the distrust in the structure of the banks and the gold accounts that are on virtual platforms but are not physically present, instead they save with a method called under the pillow. Apart from this original result of the study, it is understood that the tendency in investment preferences and thus savings habits to increase in income level is towards more portfolio diversification. As a matter of fact, it has been observed that income is another factor that increases the use of foreign currency, deposits and credit cards. Similarly, the increase in the level of education greatly diversifies investment preferences and saving habits. In fact, the level of use of gold, deposits, mutual funds, sukuk and credit cards increases significantly compared to education. In particular, the increase in knowledge further increases the tendency to sukuk, which is a tool used in participation banks. As the increase in education will also trigger financial literacy, it will become an important parameter for the relevant savings decisions and the selection of appropriate tools. These results are similar to the studies of Ateş (2007), Öncü and Özevin (2017), Dikmen (2021), and Bertaut and Starr (2000). It is also consistent with Tatoğlu's (2010) study confirming the relationship between education and investment preference, the relationship between credit card use and choice of investment instrument, and the relationship between income and investment preference.

One of the important results of the study is that the savings habits and investment preferences of the group under 35, called young adults, are considerably lower than other age groups. One of the reasons for this may be that they have joined the labor market relatively recently and started to earn income, as well as attitudes and habits towards saving. In this sense, in order to increase domestic savings as a whole, it is essential to develop policies to increase savings

awareness, especially among young adults. However, as the age increases, the share of investments that can be considered less risky such as bank deposits, government bonds and repo increases, while the share of relatively risky investment instruments such as stocks, foreign currency and gold decreases. These results are supported by Dikmen (2021).

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OTANTİK LİDERLİĞİN İŞTEN AYRILMA NİYETİ ÜZERİNDEKİ ETKİSİ: PERAKENDECİLİK SEKTÖRÜNDE BİR ARAŞTIRMA

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ÖZET

Bu araştırmanın amacı, güncel liderlik yaklaşımlardan biri olan otantik liderliğin işten ayrılma niyeti üzerindeki etkisini perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanlarında incelemektir. Otantik liderlik algısının işten ayrılma niyeti üzerindeki etkisini inceleyen çeşitli çalışmalar olmasına karşın, bu araştırmanın örnekleminde (perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanları) bu ilişkiyi araştıran bir çalışmaya rastlanılmamıştır. Bu açıdan mevcut araştırmanın, literatürde yapılmış çalışmalarla karşılaştırılabilir olması ve geçmiş çalışmalardan farklı bir örneklemde nasıl sonuçlar çıktığı bilgisini yansıtması dolayısıyla literatüre katkı sağlayacağı düşünülmektedir. Bu amaç doğrultusunda veriler, perakendecilik sektöründe faaliyet gösteren bir firmanın Marmara bölgesi çalışanlarından 2019 yılının Kasım ayında anket yönteminden yararlanılarak toplanmıştır. Ankette otantik liderlik değişkenini ölçmek için 2008 yılında Walumbwa vd. tarafından geliştirilen 16 soruluk otantik liderlik ölçeği kullanılırken, işten ayrılma niyeti değişkenini ölçmek için 1979 yılında Cammann vd. tarafından geliştirilmiş olan 3 soruluk işten ayrılma niyeti ölçeğinden yararlanılmıştır. Toplam 169 katılımcı sayısına ulaşılmış olup, analizler bu veriler kullanılarak yapılmıştır. Yapılan analizler sonucunda, otantik liderlik ve tüm alt boyutlarının işten ayrılma niyeti ile negatif ilişkili olduğu saptanmıştır. Buna ek olarak araştırma sonuçlarında, otantik liderliğin bütün olarak (boyutlardan bağımsız) işten ayrılma niyeti üzerinde negatif etkisinin olduğu tespit edilmiştir. Ayrıca boyutlar bazında, otantik liderliğin sadece bilginin dengeli ve tarafsız değerlendirilmesi alt boyutunun işten ayrılma niyeti üzerinde negatif etkisinin olduğu bulgulanırken, otantik liderliğin diğer alt boyutlarının işten ayrılma niyeti üzerinde anlamlı etkilerinin olmadığı tespit edilmiştir. Çalışma sonunda örgütler, yöneticiler ve gelecekte gerçekleştirilebilecek olan çalışmalar için önerilerde bulunulmuştur.

Anahtar Kelimeler: Otantik Liderlik, İşten Ayrılma Niyeti, Perakendecilik Sektörü.

THE EFFECT OF AUTHENTIC LEADERSHIP ON TURNOVER INTENTION: A RESEARCH IN THE RETAIL INDUSTRY

ABSTRACT

The aim of this research is to examine the effect of authentic leadership, which is one of the current leadership approaches, on turnover intention in the Marmara region employees of a company in the retail sector. Although there are various studies examining the effect of authentic leadership perception on turnover intention, no study investigating this relationship was found in the sample of this study (Marmara region employees of a company in the retail sector). In this respect, it is thought that the present study will contribute to the literature, as it is comparable to the studies in the literature and reflects the knowledge of how the results were obtained in a different sample from the previous studies. For this purpose, data were collected from the employees of the Marmara region of a company operating in the retail sector by using the survey method in November 2019. To measure the authentic leadership variable in the survey, 16-question authentic leadership scale developed by Walumbwa et al. was used. To measure the turnover intention variable in the survey, 3-question turnover intention scale developed by Cammann et al. was used. A total of 169 participants was reached, and the analyzes were made using these data. As a result of the analysis, authentic leadership and all its sub-dimensions were found to be negatively related to turnover intention. In addition, in the results of the research, it was determined that authentic leadership as a whole (without dimensions) had a negative effect on turnover intention. Also, on the basis of the dimensions, it was found that only the balanced and impartial evaluation of information sub-dimension of authentic leadership had a negative effect on turnover intention. It has been determined that other sub-dimensions of authentic leadership do not have significant effect on turnover intention. At the end of the study, suggestions were made for organizations, managers and future studies.

Keywords: Authentic Leadership, Turnover Intention, Retail Industry.

1. GİRİŞ

Küreselleşen dünyada artan rekabet işletmelerin birçok konuda daha yenilikçi, daha teknolojik ve daha hızlı başarıya ulaşmasını gerekli kılmaktadır. İşletmelerde örgüt performansını arttıran etkenler arasında işten ayrılma oranı, iş tatmini, liderlik türleri gibi birçok etken bulunmaktadır. Bu nedenle bu araştırmada otantik liderlik-işten ayrılma niyeti ilişkisi incelenmektedir. İşletmeler varlıklarını devam ettirebilmek ve diğer şirketlerle rekabet edebilmek, hatta ötesinde üstünlük sağlamak için liderlere ihtiyaç duyarlar (Toz, 2019). Liderler, günümüzün rekabetçi koşullarında çalışanları olumlu yönde etkileyerek onların örgüt ortak amaçlarına yönelik davranışta bulunmalarını sağlarlar.

Otantik liderlik kişinin doğuştan gelen bir özelliği değildir. Otantik liderlik ile ilgili bazı genel özellikler şunlardır; mükemmelliği hedeflerler, hatalar ve yanlışlar karşısında affedici olurlar, çalışana örnek olurlar, ekip çalışmasına önem verirler, kendilerine karşı dürüstlerdir, karar aşamalarında şeffaflardır, vizyon ve misyon sahibi kişilerdir (Işkın, 2015).

Niyet ettiğimiz her davranış, her eylem bir sonuca bağlanmaktadır. Bu nedenle niyet edilen davranışlar, istekler, düşünceler olumlu veya olumsuz bir eylem ile son bulmaktadır (Mılne, 2018). Bu yüzden işten ayrılma niyeti ile işten ayrılma eylemi arasında fark bulunmaktadır. İşten ayrılma niyeti, çalışanların işteki istihdamlarını sonlandırmayı veya devam etmemeyi düşündükleri süreci ifade etmektedir (Alkan, 2019).

Bu araştırmada perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanlarında, otantik liderlik algısının işten ayrılma niyeti üzerindeki etkisi incelenmiştir. Otantik liderlik algısının işten ayrılma niyeti üzerindeki etkisini inceleyen çeşitli çalışmalar olmasına karşın, bu araştırmanın örnekleminde (perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanları) bu ilişkiyi araştıran bir çalışmaya rastlanılmamıştır. Bu açıdan mevcut araştırmanın, literatürde yapılmış çalışmalarla karşılaştırılabilir olması ve geçmiş çalışmalardan farklı bir örneklemde nasıl sonuçlar çıktığı bilgisini yansıtması dolayısıyla literatüre katkı sağlayacağı düşünülmektedir.

2. KAVRAMSAL ÇERÇEVE

2.1. Otantik Liderlik

Otantiklik kelimesi eski Yunancada ‘‘kendine karşı dürüst olmak’’ anlamına gelmektedir. İngilizcede ise gerçek, samimi gibi anlamlarda kullanılmaktadır. Liderlik kavramı olarak düşünüldüğünde ise dürüst, samimi, doğru lider gibi anlamlandırılmaktadır (Özdilek, 2018). Otantik liderler, örgüt içerisindeki konumlarından memnun olan, örgüt üyelerine liderlik etmeyi seven, dürüst, örgüt hedeflerini benimsemiş, kişiliğinden ödün vermeyen kişilerdir (Gulıyev, 2019).

Otantik liderlik; kişinin içsel kanılar, inançlar ve duygulara sahip olup, kendi gerçek benliğini yansıtan bir biçimde davranmasını içeren (düşündüğü-hissettiği şeyi söylemesi ve bu yönde hareket etmesi), niyetleri şeffaf olarak algılanan ve benimsedikleri değer yargıları ile hareketleri arasında tutarlı bir bağ olduğu düşünülen modern liderlik türüdür (Gardner ve Schermerhorn, 2004; Tabak vd., 2012).

Otantik liderlik, öz farkındalık, ilişkilerde şeffaflık, içsel kural, karar almada bilginin dengeli değerlendirilmesi ve pozitif ahlaki perspektif olmak üzere 5 bileşenden oluşmaktadır. Otantik liderliğin konu alındığı araştırmalarda içsel kural ve pozitif ahlaki perspektif boyutları arasında kavramsal benzerliklerden dolayı bu boyutlar içselleştirilmiş ahlak boyutu altında tek bir boyut olarak birleştirilmiştir (Akdemir, 2019).

Otantik liderlik algısı genel olarak literatürde dört alt boyutta incelenmektedir. Bunlar: Öz farkındalık boyutu, bilginin dengeli ve tarafsız değerlendirilmesi boyutu, ilişkilerde şeffaflık boyutu, içselleştirilmiş ahlak boyutu. Öz farkındalık boyutu liderin psikolojik sağlığının belirleyicisidir. Öz farkındalık liderin pozitif ve negatif yönlerini bilmesinin yanında kendi doğasına olan farkındalığı da içermektedir. Öz farkındalığı yüksek liderlerin ahlaki dürüstlüğü fazla ve kendilerine karşı daha dürüst olduğu gözlemlenmiştir (Özdemir, 2017). Bilgiyi dengeli ve tarafsız değerlendirilmesi boyutu, liderin eline geçen her türlü bilgiyi işlerken bu bilgiyi çarpıtmadan olduğu gibi değerlendirip, tarafsız bir şekilde bütün ilişkili verileri analiz edip değerlendirmesi manasına gelmektedir (Walumbwa vd., 2008). Bilgiyi dengeli ve tarafsız değerlendirme boyutunda lider, kişilerin değerleri, inanışları, amaçları ve örgüt içindeki davranışlarıyla ilgili belirsizlikleri, uyumsuzlukları düzeltmeyi amaçlar. Liderler her zaman için takipçileri tarafından izlenmektedir. Bu nedenle liderlerin davranışlarındaki tutarsızlık liderlere karşı güvensizliğe ve sergilenen davranışlarda uyumsuzluğa neden olmaktadır. Bilgiyi dengeli ve tarafsız kullanılması açısından değerlendirildiğinde öz bütünlüğü korumak için liderler örgüt içi davranışlarında tutarlı olmalıdır (Demircioğlu, 2017). Günümüzde ilerleyen bilgi ve iletişim teknolojisi herkesin kolayca bilgiye ulaşabilmesini sağlamaktadır. Bilgiye ulaşmak isteyen herkesin istediği zaman, istediği bilgiye ulaşması ‘‘toplumda şeffaflık’’ duyarlılığını doğurmuştur. Bu doğrultuda takipçiler de liderlerinden sözü edilen şeffaflığı aramaktadır (Işkın, 2015). İlişkilerde şeffaflık boyutu, liderin kendi gerçek benliğini takipçilerinin görmesine yardımcı olması için yüksek düzeyde açık-şeffaf olması, kendini açması ve yakın ilişkilerde kendisine güven duyulmasını ifade etmektedir (Gardner vd, 2005; Tabak vd., 2012). Otantik liderliğin bir alt boyutu olan içselleştirilmiş ahlak anlayışı, liderlerin kendi benliklerini

kaybetmeden, hata yaparım kaygısına kapılmadan değerleriyle, öncelikleriyle ve gereksinimleriyle uyum içinde yaşaması anlamına gelmektedir (Coşar, 2011).

Otantik liderliğin alt boyutlarından olan öz farkındalığı yüksek liderlerin diğer liderlere göre özlerine daha samimi ve ahlaki dürüstlüğü yüksek olduğu görülmüştür. Bilgiyi dengeli değerlendirme açısından otantik liderlik özelliğini taşıyan liderler kendilerinin pozitif ve negatif özelliklerini ve kendi kişiliklerini benimsemiş olduklarından diğer liderlere göre daha tarafsız değerlendirmelerde bulunurlar. Aynı zamanda da verileri daha net yorumladıkları için daha doğru analizler yaparlar (Özdilek, 2018).

2.2. İşten Ayrılma Niyeti

İşten ayrılma niyeti, çalışanların çalışma ortamlarındaki koşullardan dolayı duydukları doyumsuzluğu anlatan bir ifadedir. İşten ayrılma niyeti ile işten ayrılma eylemi sıklıkla birbiriyle karıştırılmaktadır. İşten ayrılma niyeti, işten ayrılma eylemi gerçekleşmeden önce çalışanların istihdamlarını devamı ya da sonlanması durumunu değerlendirdikleri süreçtir (Alkan, 2019).

Çalışanların işten ayrılma niyetini etkileyen faktörler üç kategoride incelenmektedir. Birincil etken çalışanın iş tecrübesidir. İkincil etken çalışma ortamından kaynaklanmaktadır. İşten ayrılma niyetinin üçüncü etkeni ise çalışma ortamından farklı dış etkenlerden kaynaklanan nedenlerdir. Maaş sisteminin adaletli olmaması, işteki yükselme ve terfideki problemler, haksızlıklar, ast-üst ilişkilerdeki olumsuzluklar, çalışma koşullarının çalışan sağlığı ve çalışan güvenliği üzerindeki olumsuz etkileri gibi nedenlerin işten ayrılma niyetini etkilediği bilinmektedir (Yavuzel, 2019).

İşten ayrılma niyetinin işletmeler için olumsuz ve yıkıcı etkiler doğurması, liderler açısından bu konuyu önemli kılmaktadır (Yaman, 2019).

İşten ayrılma niyetinin azaltılması veya tamamen ortadan kaldırılması için dikkat edilmesi gereken bazı faktörler vardır. İşe alımlarında personelin işe alınacağı pozisyona uygunluğunun test edilmesi, örgüt içi adalet ve örgüte güvenin sağlanması, çalışanlar için farklı kariyer olanakları yaratılması, yönetici ve çalışan arasındaki ilişkinin güven ortamını içerisinde olması, işten ayrılma niyetini azaltan veya tamamen ortadan kaldıran faktörlerden birkaçı olduğu söylenebilir (Atalar, 2019).

2.3. Literatür Taraması

Gaziantep, Adıyaman ve Kilis illerinde çalışan 403 hemşire üzerinde yapılan bir araştırmada, otantik liderliğin psikolojik sermaye boyutları ve çalışan performansı ile anlamlı ve pozitif yönde bir ilişkide olduğu tespit edilmiştir. Aynı araştırmada otantik liderliğin işten ayrılma niyeti ile negatif yönde anlamlı bir ilişkide olduğu tespit edilmiştir (Taşlıyan ve Hırlak, 2016).

Kars ilindeki bir çağrı merkezinde yapılan araştırmada 107 kişiden elde edilen veriler ışında otantik liderlik ile duygusal emek ve işten ayrılma niyeti arasındaki ilişki test edilmiştir. Araştırmada, otantik liderlik ile işten ayrılma niyeti arasında negatif yönlü bir ilişki bulunmuştur (Kaygın vd., 2018).

Azanza vd. (2015) tarafından farklı sektörlerde çalışan 623 İspanyol çalışanı üzerinde yapılan çalışmada otantik liderliğin işten ayrılma niyeti üzerinde negatif etkisinin olduğu; işe tutkunluğun otantik liderlik ile işten ayrılma niyeti arasında kısmi aracı etkisinin olduğu tespit edilmiştir. Çalışmada otantik liderlik boyutlar bazında ele alınmamıştır.

Güney Kore'de üretim firmalarında çalışan 375 kişi üzerinde yapılan bir araştırmada, otantik liderliğin duygusal bağlılık aracılığıyla çalışanların işten ayrılma niyetlerini azalttığı

bulgulanmıştır. Ayrıca çalışmada küçük boyutlu işletmelerde otantik liderliğin etkisinin daha kuvvetli olduğu tespit edilmiştir (Oh ve Oh; 2017).

Güney Kore'de gemi inşa (shipbuilding) sektöründe çalışan 176 kişi üzerinde yapılan bir araştırmada, otantik liderliğin işten ayrılma niyeti üzerinde negatif etkisinin olduğu bulunmuştur (Dong ve Yoon, 2019).

ABD'de konaklama sektöründe çalışan 236 kişi üzerinde yapılan bir araştırmada, otantik liderliğin örgütsel bağlılık aracılığıyla çalışanların işten ayrılma niyetini azalttığı bulgulanmıştır (Ausar vd., 2016).

Elektronik sektöründe dünyanın önde gelen firmalarından birinin İstanbul'daki merkez binasında çalışan 287 beyaz yakalı üzerinde yapılan bir araştırmada ise, otantik liderlik ve psikolojik sermaye arasındaki ilişki test edilmiştir. Araştırma sonucunda, otantik liderlik ile psikolojik sermaye arasında pozitif yönlü ilişki olduğu gözlemlenmiştir (Karatürk, 2015).

Benzer konularda Ankara ilindeki otel işletmelerinde çalışan 234 çalışan üzerinde yapılan bir diğer araştırmada, otantik liderliğin ve alt boyutlarının işyeri mutluluğuyla pozitif yönlü bir ilişkisinin olduğu tespit edilmiştir (Akdemir, 2019).

Namibya'da 452 kamu çalışanı üzerinde yapılmış başka bir çalışmada ise, psikolojik sermayenin çalışanların işten ayrılma niyeti üzerinde dolaylı bir etkisi olduğu tespit edilmiştir. Araştırmada, otantik liderliğin dolaylı olarak psikolojik sermaye yoluyla işten ayrılma niyetini etkilemediği saptanmıştır. Otantik liderliğin dolaylı olarak iş doyumu yoluyla işten ayrılma niyetini etkilediği tespit edilmiştir (Amunkete ve Rothmann, 2015).

Otantik liderlik ile ilgili yapılan bir diğer araştırmada ise, otantik liderliğin örgütsel öğrenme üzerindeki etkisi araştırılmıştır. Çalışmanın örneklemi 200 beyaz yakalı personelden oluşmaktadır. Çalışma bankacılık ve sigorta sektöründeki çalışanlara yapılmıştır. Araştırma sonuçları incelendiğinde otantik liderliğin örgütsel öğrenme üzerinde pozitif yönde yüksek derecede etkili olduğu tespit edilmiştir (Sallıtepe, 2017).

Tarsus ilçesindeki bir devlet kurumu çalışanları üzerinde yapılan bir araştırmada otantik liderlik ile örgütsel güvenin ilişkisi araştırılmıştır. Otantik liderlik ve alt boyutları ile örgütsel güven arasında anlamlı, pozitif yönde ve yüzsek düzeyde bir ilişki olduğu saptanmıştır (Korkmaz, 2017).

Bir diğer araştırmada otantik liderlik ile örgütsel vatandaşlık davranışları arasındaki ilişki araştırılmıştır. Araştırmanın örneklemini bir devlet hastanesinde, bir üniversite hastanesinde, bir vakıf hastanesinde ve bir özel hastanede çalışan hemşireler oluşturmaktadır. Yapılan araştırma sonucunda, otantik liderlik ile örgütsel vatandaşlık davranışları arasında pozitif yönde bir ilişki olduğu tespit edilmiştir (Özdilek, 2018).

Niğde ilinde kamu ve özel sektördeki çalışanlar üzerinde yapılan çalışmada, katılımcı liderlik ile iş stresi ve işten ayrılma niyeti arasındaki ilişki incelenmiştir. Katılımcı liderliğin iş stresi ile pozitif yönde, işten ayrılma niyeti ile negatif yönde bir ilişki içinde olduğu çalışmada bulgulanmıştır (Yaman, 2019).

Bursa'da bulunun bir kamu üniversitesinde çalışan kişiler üzerinde yapılan çalışmada ise, güvenlik iklimi ile işten ayrılma niyeti arasında negatif yönde bir ilişki olduğu tespit edilmiştir (Yavuzel, 2019).

Global bir ambalaj firmasında çalışan satış ve satış destek departmanındaki personelleri üzerinde yapılan araştırmanın sonuçlarında, otantik liderliğin alt boyutları olan bilgiyi dengeli değerlendirme ve öz farkındalığın bireysel yaratıcılık üzerinde anlamlı pozitif bir etkisinin olduğu tespit edilmiştir. İlişkilerde şeffaflığın ve içselleştirilmiş ahlak anlayışı alt boyutlarının

ise bireysel yaratıcılık üzerine anlamlı bir etkisinin olmadığı araştırmada bulgulananlar arasındadır (Gül, 2019).

3. ARAŞTIRMA

Çalışmanın bu kısmında, yapılan araştırmanın amacı, araştırmanın yöntemi, araştırmanın evreni ve örneklemi, araştırma modeli ve hipotezleri ve araştırmadaki veri toplama araçları hakkında bilgiler yer almaktadır.

3.1. Araştırmanın Amacı

Ülkemizde liderlik ile ilgili yapılan bilimsel çalışmalar incelendiğinde geleneksel ve modern liderlik tarzlarıyla birçok farklı değişkenin ilişkisi incelenmiştir (Akdemir, 2019). Ancak, otantik liderliğin işten ayrılma niyetiyle arasındaki ilişkiyi inceleyen sınırlı sayıda araştırma bulunmaktadır.

Bu araştırmanın amacı, güncel liderlik yaklaşımlardan biri olan otantik liderliğin işten ayrılma niyeti üzerindeki etkisini perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanlarında incelemektir. Otantik liderlik algısının işten ayrılma niyeti üzerindeki etkisini inceleyen çeşitli çalışmalar olmasında karşın, bu araştırmanın örnekleminde (perakendecilik sektöründeki bir firmanın Marmara bölgesi çalışanları) bu ilişkiyi araştıran bir çalışmaya rastlanılmamıştır. Bu açıdan mevcut araştırmanın, literatürde yapılmış çalışmalarla karşılaştırılabilir olması ve geçmiş çalışmalardan farklı bir örneklemde nasıl sonuçlar çıktığı bilgisini yansıtması dolayısıyla literatüre katkı sağlayacağı düşünülmektedir.

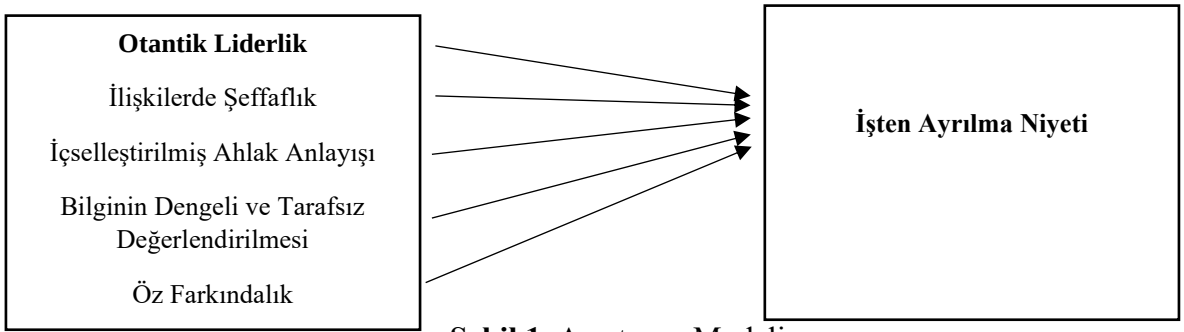
3.2. Araştırmanın Yöntemi

Araştırmada, nicel araştırma yöntemi kullanılmıştır. Bu doğrultuda, araştırmada yer alan değişkenleri ölçen geçerli ve güvenilir ölçeklerle anket tekniği ile veriler toplanmıştır. Toplanan veriler istatistiki bir paket program kullanılarak analiz edilmiştir.

3.3. Araştırmanın Evreni ve Örneklemi

Araştırmanın evrenini, perakendecilik sektöründe faaliyet gösteren bir firmanın Marmara bölgesi çalışanları oluşturmaktadır. İnternet üzerinden yapılan anketlerin sonucunda ise evreni temsilen toplam 169 çalışan araştırmanın örneklemini temsil etmektedir.

3.4. Araştırmanın Modeli ve Hipotezleri



Şekil 1. Araştırma Modeli

Araştırmadaki hipotezler sosyal değişim kuramı ışığında geliştirilmiştir.

H1: Otantik liderlik ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.

H1a: Otantik liderliğin ilişkilerde şeffaflık boyutu ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.

H1b: Otantik liderliğin içselleştirilmiş ahlak anlayışı boyutu ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.

H1c: Otantik liderliğin bilginin dengeli ve tarafsız değerlendirilmesi boyutu ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.

H1d: Otantik liderliğin öz farkındalık boyutu ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.

H2: Otantik liderliğin işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.

H2a: Otantik liderliğin ilişkilerde şeffaflık boyutunun işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.

H2b: Otantik liderliğin içselleştirilmiş ahlak anlayışı boyutunun işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.

H2c: Otantik liderliğin bilginin dengeli ve tarafsız değerlendirilmesi boyutunun işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.

H2d: Otantik liderliğin öz farkındalık boyutunun işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.

3.5. Araştırmadaki Veri Toplama Araçları

Otantik Liderlik Ölçeği

Araştırmada Walumbwa vd.'nin 2008 yılında geliştirdiği otantik liderlik ölçeği kullanılmıştır. Ölçeğin Türkçe soruları için Tabak vd. (2012) tarafından yapılan geçerlilik ve güvenirlik çalışmasından yararlanılmıştır. Ölçek toplamda 16 sorudan oluşmaktadır ve dört alt boyutu bulunmaktadır. Ölçekte, ilişkilerde şeffaflık alt boyutu için beş soru, içselleştirilmiş ahlak anlayışı alt boyutu için dört soru, bilgiyi dengeli değerlendirme alt boyutu için üç soru ve öz farkındalık alt boyutu için dört soru bulunmaktadır.

Otantik liderlik ölçeğinin cevaplarında beşli likert tipi kullanılmıştır. Bir–hiçbir zaman, iki-çok seyrek, 3-ara sıra, 4-sık sık, 5-her zaman şeklinde anlamlandırılmıştır. Ölçeğin dört alt boyutu bulunmaktadır ve ölçekte ters soru bulunmamaktadır.

Otantik liderlik ile ilgili toplanan verilerin güvenilirliğini gözlemlemek için Cronbach's Alpha güvenilirlik analizi yapılmıştır. Güvenilirlik analizi sonucunda Cronbach's Alpha değeri otantik liderlik ölçeğinin geneli için %92 bulunmuştur. Otantik liderlik ölçeğinin alt boyutları için ise Cronbach's Alpha analizi yapıldığında ilişkilerdeki şeffaflık alt boyutu için Cronbach's Alpha değerinin %73, içselleştirilmiş ahlak anlayışı alt boyutu için %69, bilgiyi dengeli ve tarafsız değerlendirme alt boyutu için %76, öz farkındalık alt boyutu için %86 olduğu bulunmuştur.

İşten Ayrılma Niyeti Ölçeği

Araştırmada 1979 yılında Cammann vd. tarafından geliştirilen ölçek kullanılmıştır. Ölçeğin Türkçe soruları için Cinnioğlu (2018) tarafından yapılan çalışmadan yararlanılmıştır.

Ölçek 3 sorudan oluşmaktadır ve sorular içerisinde bir adet ters soru bulunmaktadır. Ölçeğin cevaplarında beşli likert tipi kullanılmıştır. Bir–hiçbir zaman, iki-çok seyrek, 3-ara sıra, 4-sık sık, 5-her zaman şeklinde anlamlandırılmıştır. Ölçeğin alt boyutu bulunmamaktadır.

İşten ayrılma niyeti ölçeğinin güvenilirliğini test etmek için Cronbach's Alpha analizi yapılmıştır. Sonuçlar incelendiğinde işten ayrılma niyeti ölçeğinin Cronbach's Alpha değerinin %87 olduğu tespit edilmiştir.

4. BULGULAR VE DEĞERLENDİRME

Araştırmadaki katılımcı verilerini analiz etmek için bir paket programından yararlanılmıştır. Elde edilen verilerle güvenilirlik analizi, basıklık-çarpıklık, korelasyon ve regresyon analizleri

yapılmıştır. Araştırmada anket sayısı 200'ü geçmediği için faktör analizi yapılmamıştır (Gürbüz ve Şahin, 2017).

Araştırmaya katılan çalışanlar incelendiğinde, 169 katılımcıdan 95'inin (%56,2) erkek, 74'ünün (%43,8) kadın olduğu görülmektedir. Katılımcıların yüzde 38,7'si evli, yüzde 61,5'i ise bekârdır. Araştırmaya katılan çalışanlar arasında 2 kişi ilkokul, 2 kişi ortaokul, 34 kişi lise, 33 kişi önlisans, 85 kişi lisans, 13 kişi yüksek lisans mezunudur. Katılımcılar arasında doktora mezunu bulunmamaktadır. Araştırmaya katılan çalışanlardan %34,9'u çalıştıkları firmada 1 yıldan az süredir çalıştıklarını belirtmişlerdir, çalışanların %43,2'si ise 1-5 yıldır aynı firmada çalıştıklarını belirtmiştir.

Otantik liderlik ve işten ayrılma niyeti ölçekleriyle elde edilen veriler üzerinde çarpıklık ve basıklık değerleri incelenerek normallik analizleri yapılmıştır. Araştırmadaki çarpıklık ve basıklık değerlerine bakıldığında otantik liderlikte çarpıklık değeri-,225, basıklık değeri ise-,478'dir. İşten ayrılma niyetinde basıklık ve çarpıklık değerlerine bakıldığında, çarpıklık değeri ,213, basıklık değeri ise-,664 çıkmıştır. Bu sonuçlardan yola çıkarak ölçeklerin basıklık ve çarpıklık değerlerinin +1.0 ile-1.0 aralığında olduğu gözlemlenmektedir. Hair vd. (2010), çarpıklık ve basıklık değerleri +1.0 ile-1.0 arasında olan verilerin normal dağıldığını ifade etmişlerdir (Hair vd., 2010). Buna göre, verilerin normal dağılıma sahip olduğu söylenebilir.

Otantik liderlik, otantik liderliğin boyutları ve işten ayrılma niyeti arasındaki ilişkileri incelemek için korelasyon analizi yapılmıştır. Korelasyon analizi sonuçları Tablo-1'de gösterilmektedir.

Tablo 1. Değişkenler Arası Korelasyon Analizi

Değişkenler	**1**	**2**	**3**	**4**	**5**	**6**
1.Otantik Liderlik	1					
2.İşten Ayrılma Niyeti	-,566**	1				
3.İlişkilerde Şeffaflık	,875**	-,473**	1			
4.İçselleştirilmiş Ahlak Anlayışı	,837**	-,445**	,627**	1		
5.Bilginin Dengeli ve Tarafsız Değerlendirilmesi	,889**	-,554**	,685**	,669**	1	
6.Öz Farkındalık	,924**	-,531**	,731**	,690**	,819**	1

**p<0,01

Tablo 1 incelendiğinde, otantik liderlik ile işten ayrılma niyeti arasında anlamlı, orta düzeyde ve negatif yönde (r=-,566; p<0,01) bir ilişki vardır. Korelasyon analiz sonuçlarına göre ''H1: Otantik liderlik ile işten ayrılma niyeti arasında anlamlı bir ilişki vardır.'' hipotezi kabul edilmiştir.

Tabloya göre otantik liderliğin alt boyutları ile işten ayrılma niyeti arasındaki ilişki incelendiğinde; otantik liderliğin ilişkilerde şeffaflık boyutu ile işten ayrılma niyeti arasında (r=-,473; p<0,01), otantik liderliğin içselleştirilmiş ahlak anlayışı boyutu ile işten ayrılma niyeti arasında (r=-,445; p<0,01), otantik liderliğin bilginin dengeli ve tarafsız değerlendirilmesi boyutu ile işten ayrılma niyeti arasında (r=-,554; p<0,01), otantik liderliğin öz farkındalık boyutu ile işten ayrılma niyeti arasında (r=-,531; p<0,01) anlamlı ve negatif yönde ilişki olduğu tespit edilmiştir. Otantik liderliğin alt boyutları ile işten ayrılma niyeti arasında yapılan korelasyon analiz sonuçlarına göre araştırmadaki H1a, H1b, H1c, H1d hipotezleri kabul edilmiştir.

Tablo 2. Otantik Liderlik-İşten Ayrılma Niyeti Basit Regresyon Analizi Sonuçları

Model	R^2 Toplamları	Serbestlik Derecesi	Ortalama Kare	F	Anlamlılık
1 Gruplar Arası	35,199	1	35,199	78,729	,000[b]
Grup İçi	74,665	167	,447		
Toplam	109,864	168			

(R=,556[a];R^2=,320)

Model	Standartlaştırılmamış Katsayılar		Standartlaştırılmış Katsayılar	t	Anlamlılık
	B	Std. Hata	Beta		
1 (sabit)	4,415	,136		32,371	,000
İşten Ayrılma Niyeti	-,421	,047	-,566	-8,873	,000

a) Bağımlı değişken: Otantik Liderlik

Bağımsız değişkenin (otantik liderlik) bağımlı değişken (işten ayrılma niyeti) üzerindeki etkisini tespit edebilmek için regresyon analizi yapılmıştır. Regresyon analizinde çıkan R^2 değerine göre otantik liderlik bağımsız değişkeni işten ayrılma niyeti bağımlı değişkeninin %32'sini açıklayabilmektedir. Standartlaştırılmış katsayılarda Beta değerine bakıldığında, otantik liderliğin işten ayrılma niyetini %56,6 oranında negatif yönde etkilediği saptanmıştır. Yapılan bu basit regresyon analizi sonucuna göre ''H2: Otantik liderliğin işten ayrılma niyeti üzerinde anlamlı bir etkisi vardır.'' hipotezi kabul edilmiştir.

Otantik liderliğin alt boyutlarının (ilişkilerde şeffaflık, içselleştirilmiş ahlak, bilginin dengeli ve tarafsız değerlendirilmesi, öz farkındalık) işten ayrılma niyeti üzerindeki etkisini açıklamak için çoklu regresyon analizi yapılmıştır.

Tablo 3. Çoklu Regresyon Analizi Sonuçları

Alt Boyutlar	B	Standart Hata	Beta	t	p
Sabit	4,99	,322		15,519	,000
İlişkilerde şeffaflık	-,144	,130	-,109	-1,114	,267
İçselleştirilmiş ahlak	-,082	,121	-,063	-,678	,499
Bilginin dengeli ve tarafsız değerlendirilmesi	-,335	,124	-,314	-2,695	,008
Öz farkındalık	-,158	,132	-,150	-1,197	,233

R^2= 0,33; Düz. R^2=0,31; F= 20,488, p<0,001

Otantik liderliğin alt boyutlarından ilişkilerde şeffaflığın, içselleştirilmiş ahlakın, bilginin dengeli ve tarafsız değerlendirilmesinin, öz farkındalığın işten ayrılma niyetine ne kadar etki ettiğini belirlemek amacıyla çoklu regresyon analizi yapılmıştır. Boyutlara ait değerler Tablo 3'te gösterilmiştir.

Yapılan çoklu regresyon analizinde kurulan model istatistiksel olarak anlamlıdır (F= 20,488, p<0,001). Düzeltilmiş R2 değeri 0,31'dir. Bu sonuç işten ayrılma niyetinde %31 oranındaki değişimin otantik liderliğin alt boyutları tarafından açıklandığını göstermektedir. Ancak otantik liderliğin tüm alt boyutları çoklu regresyon analizine dahil edildiğinde işten ayrılma niyetini açıklamada sadece bilginin dengeli ve tarafsız değerlendirilmesi boyutunun anlamlı katkısı olduğu tespit edilmiştir. Otantik liderliğin bilginin dengeli ve tarafsız değerlendirilmesi

boyutunda meydana gelecek bir birimlik değişimin işten ayrılma niyetinde %31,4'lük bir değişime neden olacağı söylenebilir. Bu durumda, araştırmadaki H2c hipotezi desteklenirken; H2a, H2b ve H2d hipotezleri desteklenmemiştir.

5. SONUÇ VE ÖNERİLER

Yapılan bu çalışmanın sonucunda otantik liderlik ve otantik liderliğin tüm boyutları ile işten ayrılma niyeti arasında anlamlı ve negatif ilişkiler olduğu bulgulanmıştır. Aynı zamanda otantik liderliğin bütün olarak (boyutlardan bağımsız) işten ayrılma niyeti üzerinde negatif etkisinin olduğu tespit edilmiştir. Ayrıca boyutlar bazında, otantik liderliğin sadece bilginin dengeli ve tarafsız değerlendirilmesi alt boyutunun işten ayrılma niyetini açıklamada anlamlı katkı sağladığı tespit edilirken, otantik liderlik alt boyutlarından ilişkilerde şeffaflığın, içselleştirilmiş ahlakın ve öz farkındalığın işten ayrılma niyetini açıklamada anlamlı katkı sağlamadığı tespit edilmiştir. Otantik liderliğin bilginin dengeli ve tarafsız değerlendirilmesi alt boyutunun işten ayrılma niyetini negatif yönde etkilediği saptanmıştır. Bu sonuçlar doğrultusunda denebilir ki, perakendecilik sektöründe çalışan personellerin otantik liderlik algılarının artması ya da çalıştıkları örgütlerde yöneticilerin otantik liderlik tarzı sergilemesi bu çalışanların işten ayrılma niyetlerini azaltmaktadır. Bununla beraber araştırma sonuçlarından hareketle, liderin tarafsız ve dengeli olması çalışanların önem verdiği bir husus olarak karşımıza çıkmaktadır. Liderler her an takipçileri tarafından izlenebilmektedirler. Bu açıdan liderlerin tutum ve davranışlarının tutarlı, dengeli ve tarafsız olması çalışanların işe karşı tutum ve işe devam etme-etmeme niyetleri üzerinde etkili olabileceği söylenebilir.

Bu araştırmanın literatürdeki diğer araştırmalarla benzerlik ve farklılıklarına bakıldığında çoğunlukla literatürdeki çalışmalarla tutarlılık gösterdiği söylenebilir. Taşlıyan ve Hırlak (2016) tarafından hemşireler üzerinde yapılan araştırmada otantik liderliğin tüm alt boyutları ile işten ayrılma niyeti arasında negatif yönde anlamlı ilişkiler bulunmuştur. Mevcut çalışmada da bu bulguyla aynı sonuç elde edilmiştir. Kars ilindeki enerji sektöründe faaliyette olan bir firmanın çağrı merkezi çalışanları üzerinde yapılan bir diğer araştırmada ise otantik liderlik ile işten ayrılma niyeti arasında negatif yönde anlamlı bir ilişki ve otantik liderliğin (bütün olarak) işten ayrılma niyeti üzerinde negatif etkisinin olduğu tespit edilmiştir. Ayrıca araştırmada otantik liderliğin ilişkilerde şeffaflık boyutu hariç diğer 3 boyutu ile işten ayrılma niyetli arasında negatif yönde anlamlı ilişkiler bulunmuştur (Kaygın vd., 2018). Bu açıdan mevcut araştırmanın Kaygın vd. (2018) tarafından yapılan bu araştırmayla da büyük ölçüde benzerlik gösterdiği söylenebilir. Güler ve Cinnioğlu (2020) tarafından otel çalışanları üzerinde yapılan araştırmada ise, otantik liderliğin işten ayrılma niyetini negatif yönde etkilediği bulgusunun da mevcut araştırmayla tutarlılık gösterdiği ifade edilebilir. Hırlak ve Taşlıyan (2017) tarafından hastane yöneticileri ve hemşireler üzerinde yapılan araştırmada otantik liderliğin sadece ilişkilerde şeffaflık boyutunun işten ayrılma niyeti üzerinde negatif etkisinin olduğu bulgulanmıştır. Mevcut araştırmada ise, otantik liderliğin sadece bilginin dengeli ve tarafsız değerlendirilmesi boyutunun işten ayrılma niyeti üzerinde negatif etkisinin olduğu bulgulanmıştır. Bu yönden iki çalışma arasında farklılık olduğu görülmektedir. Azanza vd. (2015) tarafından İspanya'da çeşitli sektörlerde yapılan çalışmada ve Dong ve Yoon (2019) tarafından Güney Kore'de gemi inşa (shipbuilding) sektöründe yapılan araştırmada, otantik liderliğin işten ayrılma niyeti üzerinde negatif etkisinin olduğu bulgusunun mevcut çalışmayla örtüştüğü ifade edilebilir. Ayrıca, ABD'de konaklama sektöründe yapılan bir araştırmada (Ausar vd., 2016) ve Güney Kore'de üretim firmalarında yapılan bir araştırmada (Oh ve Oh; 2017), otantik liderliğin örgütsel bağlılık aracılığıyla çalışanların işten ayrılma niyetlerini azalttığı bulgulanmıştır. Bu açıdan mevcut araştırmada otantik liderlik-işten ayrılma niyeti arasındaki direkt ilişkinin, bu çalışmalarda örgütsel bağlılık aracılığıyla dolaylı ilişki olarak ele alındığı, bu yönden çalışmalar arasında farklılık olduğu ifade edilebilir.

Perakendecilik sektöründen yola çıkarak küreselleşen dünyada artan rekabet ortamında markaların değerlerini koruması ve bu rekabet ortamında avantaj sağlayabilmesi için personel istikrarı çok önemlidir. Bu araştırmada da görülmektedir ki otantik liderlik çalışanların işten ayrılma niyetlerini azaltmaktadır ve personel istikrarını sağlamada örgüte fayda sağlamaktadır. Çalışanların işten ayrılma niyeti sürecine geçmemesi ve bu sürecin işten ayrılma eylemi ile sonuçlanmaması için örgüt yöneticileri liderlik tarzı olarak otantik liderliği benimseyip, bu liderlik tarzının gerektirdiği şekilde çalışanlarına liderlik etmelilerdir. Otantik liderlik, yöneticinin doğuştan otantik liderlik özelliklerine sahip olmasının gerekmediği, otantik lider sıfatının süreç içerisinde kazanılabileceği bir liderlik tarzıdır. Otantik liderliğin birçok değişken ile olan ilişkisine bakıldığında, bu liderlik türünün işletmelerin rekabet avantajı sağlayabileceği birçok kavramla ilişkili olduğu görülmektedir. Bu açıdan, işletme yöneticileri bu liderlik türünün özelliklerini benimseyip, otantik lider davranışları sergilediklerinde işletme lehine olumlu çıktıların oluşması beklenmektedir.

Bu çalışmada elde edilen sonuçlar doğrultusunda bundan sonra yapılacak olan araştırmalara, otantik liderliğin işten ayrılma niyeti üzerindeki etkisini başka sektörlerde de inceleyerek daha kapsamlı örneklem alanları oluşturmaları tavsiye edilebilir. Bu durum karşılaştırmalar yapılmasına ve iki değişken arasındaki ilişkinin daha iyi yorumlanmasına olanak sağlayabilir. Otantik liderlik değişkeni ve işten ayrılma niyeti değişkenine ek olarak literatürdeki çalışmalarda da çokça tercih edilen aracı/düzenleyici bir üçüncü bir değişken seçilebilir ve bu üç değişken arasındaki ilişki incelenerek konunun kapsamı genişletilebilir, otantik liderliğin işten ayrılma niyeti üzerindeki etkisi hangi değişkenler üzerinden dolaylı etki olarak çıkabileceği araştırılabilir.

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PSİKOLOJİK SAHİPLİĞİN ÖRGÜTE BAĞLILIK ÜZERİNDEKİ ETKİSİ: BANDIRMADAKİ KONAKLAMA İŞLETMELERİNDE BİR ARAŞTIRMA

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ÖZET

Günümüz iş dünyasında çalışanların örgütlerine olan bağlılıklarının arttırılmasında ve geliştirilmesinde psikolojik sahiplik kavramının öne çıktığı söylenebilir. Bununla beraber, özellikle konaklama sektöründe çalışanların örgütlerini psikolojik olarak sahiplenmeleri hem müşteri sadakatinin yükselmesi hem de örgütün verimliliğinin ve performansının artmasında bir hayli önem arz etmektedir. Maalesef bu konuyla ilgili Türkiye'de sınırlı sayıda çalışmalar bulunmaktadır. Ayrıca, konaklama sektöründe çalışanların örgütlerine olan bağlılıklarının arttırılmasında psikolojik sahipliğin rolünü araştıran bir çalışmaya ilgili literatürde rastlanılmamıştır. Literatürdeki bu boşluğu doldurmak adına bu çalışmada, konaklama sektöründeki çalışanların psikolojik sahipliklerinin örgüte bağlılık üzerindeki etkilerinin tespit edilmesi amaçlanmıştır. Bu amaç doğrultusunda veriler, 2019 yılının Kasım ayında kolayda örnekleme yöntemine göre anket tekniğinden yararlanılarak Balıkesir ilinin Bandırma ilçesinde faaliyet gösteren 10 konaklama işletmesinden toplanmıştır. Ankette psikolojik sahiplik değişkenini ölçmek için 2004 yılında Van Dyne ve Pierce tarafından geliştirilen tek boyutlu ve 7 sorulu psikolojik sahiplik ölçeği kullanılırken, örgüte bağlılık değişkenini ölçmek için 1990 yılında Allen ve Meyer tarafından geliştirilmiş olan 3 boyutlu ve 18 sorulu örgüte bağlılık ölçeği kullanılmıştır. Geçerli toplam 121 katılımcı sayısına ulaşılmış olup, analizler bu veriler kullanılarak yapılmıştır. Yapılan analizler sonucunda, psikolojik sahiplik ile örgüte bağlılık arasında, psikolojik sahiplik ile örgüte bağlılığın duygusal bağlılık ve devam bağlılığı alt boyutları arasında anlamlı ve pozitif ilişki bulunurken, örgüte bağlılığın normatif bağlılık boyutu ile psikolojik sahiplik arasında anlamlı bir ilişki bulunmamıştır. Buna ek olarak araştırma sonuçlarında, psikolojik sahipliğin örgüte bağlılık (bütün olarak-boyutlardan bağımsız) üzerinde pozitif yönde etkisinin olduğu tespit edilmiştir. Ayrıca, psikolojik sahipliğin duygusal bağlılığı ve devam bağlılığını pozitif yönde etkilediği, normatif bağlılığı anlamlı düzeyde etkilemediği tespit edilmiştir. Çalışma sonunda örgütler, yöneticiler ve gelecekte gerçekleştirilebilecek olan çalışmalar için önerilerde bulunulmuştur.

Anahtar Kelimeler: Psikolojik Sahiplik, Örgüte Bağlılık, Konaklama Sektörü.

THE EFFECT OF PSYCHOLOGICAL OWNERSHIP ON ORGANIZATION COMMITMENT: A RESEARCH ON ACCOMMODATION ESTABLISHMENTS IN BANDIRMA

ABSTRACT

In today's business world, it can be said that the concept of psychological ownership stands out in increasing and developing the commitment of employees to their organizations. Especially in the accommodation sector employees' psychological ownership of their organizations, is great importance both in increasing customer loyalty and in increasing the efficiency and performance of the organization. Unfortunately, there are limited studies on this subject in Turkey. Also, a study investigating the role of psychological ownership in increasing the commitment of employees in the accommodation sector to their organizations has not been found in the relevant literature. In order to fill this gap in the literature, at this study, it is aimed to determine the effect of the psychological ownership of the employees on their commitment to the organization in the accommodation sector. For this purpose, the data were collected from 10 accommodation businesses operating in Bandırma district of Balıkesir province by using the survey technique according to the convenience sampling method in November 2019. In order to measure the psychological ownership variable in the survey, one-dimensional and 7-question psychological ownership scale developed by Van Dyne and Pierce in 2004 was used. In order to measure the organizational commitment variable in the survey, 3-dimensional and 18-question organizational commitment scale developed by Allen and Meyer in 1990 was used. A valid total number of 121 participants was reached, and analyzes were made using these data. As a result of the analysis, significant and positive relationship was found between psychological ownership and organizational commitment, and between psychological ownership and affective commitment and continuance commitment; no significant relationship was found between the normative commitment dimension of organizational commitment and psychological ownership. In addition, in the results of the research, it was determined that psychological ownership has a positive effect on organizational commitment (without dimensions). Moreover, it was found that psychological ownership positively effects affective commitment and continuance commitment, but it does not significantly effect normative commitment. At the end of the study, suggestions were made for organizations, managers and future studies.

Keywords: Psychological Ownership, Commitment To Organization, Accommodation Sector.

1.GİRİŞ

Yöneticiler çalışanların performanslarını yükseltmek, nitelikli personelleri örgütte tutmak isterler. Bununla beraber, yoğun rekabet ortamlarında örgütlerin varlıklarını sürdürebilmeleri için örgütün hedeflerini benimseyerek içselleştirebilen, yaptığı işin resmi gerekliliklerini yerine getirmekle yetinmeyerek işinin dışında örgüte verimli bir şekilde katkıda bulunan örgüt üyelerine sahip olmak önemlidir (Mert, 2010)

Son yıllarda çalışanların örgütlerine olan bağlılıklarının arttırılmasında psikolojik sahiplik kavramının öne çıktığı söylenebilir. Bununla beraber, özellikle konaklama sektöründe çalışanların örgütlerini psikolojik olarak sahiplenmeleri hem müşteri sadakatinin yükselmesi hem de örgütün verimliliğinin ve performansının artmasında bir hayli önem arz etmektedir. Maalesef bu konuyla ilgili ülkemizde sınırlı sayıda çalışmalar bulunmaktadır. Ayrıca, konaklama sektöründe çalışanların örgütlerine olan bağlılıklarının arttırılmasında psikolojik sahipliğin rolünü araştıran bir çalışmaya ilgili literatürde rastlanılmamıştır. Literatürdeki bu

boşluğu doldurmak adına bu çalışmada, konaklama sektöründeki çalışanların psikolojik sahipliklerinin örgüte bağlılık üzerindeki etkilerinin tespit edilmesi amaçlanmıştır. Çalışma, Balıkesir ilinin Bandırma ilçesinde faaliyette olan 10 konaklama işletmesinde gerçekleştirilmiştir.

2.PSİKOLOJİK SAHİPLİK

Her insanda doğuştan oluşan sahip olma duygusu vardır. Sahip olma zilyetlik hakkının olması durumudur. "Sahiplik; kişinin öz yapısının benlik hissinin bir uzantısı olarak bir objeyi benim veya bizim olarak idrak etmesidir" (Cram ve Paton, 1993; Pierce vd., 2004).

Psikolojik yönden bir duruma alışmak ve o durumu sahiplenme hissi psikolojik sahipliğin özünde yatmaktadır. Kavramsal yönden psikolojik sahiplik, bireylerin sahiplenme duygusu veya kendilerini örgüt amaçlarının bir parçası gibi görme duygularının şekillenmesidir (Pierce vd., 2003). Psikolojik sahiplik sürecinin genel manada 3 aşamada gerçekleştiği söylenebilir (Bekmezci, 2018). Süreçte ilk olarak hedefi kontrol etme yer almaktadır. Hedefi kontrol etme, belirli bir nesnenin kullanımından istifade edip onu kontrol etme anlamına gelmektedir (Bekmezci, 2018; Pierce vd., 2003). Bireyler bir nesneye karşı daha fazla kontrol sergilediklerinde, o nesneye karşı sahiplenme duyguları artmaktadır. (Lee ve Suh, 2015). İkinci olarak hedefi yakından tanımak yer almaktadır. Hedefi yeniden tanımak, bireylerin bir şeyle sık sık karşılaşmaları ve ona aşina olup o şey sanki kendilerininmiş gibi hissetmeleri anlamına gelmektedir (Bekmezci, 2018; Pierce vd., 2003). Üçüncü olarak kendini hedefe adama ise bireyin enerjisini, zamanını, çabasını ve dikkatini o nesneye yönlendirmesi ve odaklanması anlamına gelmektedir (Bekmezci, 2018; Pierce vd., 2003).

Literatür incelendiğinde psikolojik sahipliğin örgütsel bağlılık ve iş tatmini gibi pek çok olumlu sonuçlarının olduğu gözlendiği gibi, değişime karşı direnç, bilgi paylaşımının reddi gibi olumsuz bazı sonuçlarının olduğu da gözlemlenmiştir (Dawkins vd., 2017). Pierce ve Jussila (2011), psikolojik sahiplik sonucunda çalışanın işte artan başarısı, bireyin çalıştığı birimdeki görevlerini tam ve eksiksiz bir şekilde yerine getirmesi gibi olumlu sonuçlar doğurduğunu belirtmişlerdir.

Çetinkaya (2019) literatürde yapılan çalışmalardan yola çıkarak psikolojik sahipliğin olumlu ve olumsuz sonuçlarına ilişkin bir tablo hazırlamıştır. İlgili tablo aşağıda sunulmuştur.

Tablo 1. Psikolojik Sahipliğin Olumlu ve Olumsuz Sonuçları

Psikolojik Sahipliğin Olumlu Sonuçları	Psikolojik Sahipliğin Olumsuz Sonuçları
Sorumluluk almak	Değişime karşı direnç göstermek
Hedefler için risk üstlenmek	Grup normlarına karşı ihlalde bulunmak
Örgütsel vatandaşlık davranışları göstermek	Bölgecilik duygularıyla savunmaya geçmek
Kişisel fedakârlıklar yapmak	Bölgecilik duygularıyla amaçtan sapmak
İş performansını arttırmak	Stres kaynağı olmak
İş tatminini arttırmak	Paylaşmaya direnmek
Örgütsel bağlılık hissetmek	
Ekstra rol davranışı geliştirmek	
Bilgi paylaşımı sağlamak	
Devamlılık sağlamak	

Kaynak: Çetinkaya Z. (2019), Personel güçlendirme ve psikolojik sahipliğin iş sonuçlarına etkisi: Eğitim sektörü üzerine bir çalışma, Yüksek Lisans Tezi, Gebze Teknik Üniversitesi Sosyal Bilimler Enstitüsü.

3.ÖRGÜTE BAĞLILIK

Günümüzde çalışanlara verilen değerin artmasıyla örgüte bağlılıkla ilgili yapılan araştırmalar artmış ve kavramla ilgili birçok tanım yapılmıştır. Kelime anlamında bağlılık adanma, sadakat olarak bilinir. Hall vd. (1970)'lerine göre örgüte bağlılık, örgütün ve kişilerin hedeflerinin zaman içinde bütünleşmesi ve uyumlaşması sürecidir. Başka bir tanımda ise örgütsel bağlılık;

çalışanın örgütle değer birliğini sağlayarak, örgütün bir üyesi olarak kalma ve gönüllü-istekli olarak örgüt adına çaba gösterme isteğinde olmasıdır (Allen ve Meyer, 1990). Meyer ve Allen (1991) açısından örgütsel bağlılık, çalışan ile örgütü arasındaki ilişkiyi karakterize eden ve çalışanın örgütün bir üyesi olarak kalıp kalmama kararında etkisi olabilen psikolojik bir durumdur.

Örgüte bağlılığı Meyer ve Allen (1991) üç boyutlu olarak öne sürmüşlerdir. Literatürde de ekseriyetle örgüte bağlılık bu üç boyutta ele alınmaktadır. Bu boyutlar sırasıyla; duygusal bağlılık, devam bağlılığı ve normatif bağlılıktır.

Duygusal Bağlılık

Duygusal bağlılık, çalışanın kendisini kuvvetli bir şekilde örgütle özdeşleştirmesi, örgütün bir üyesi olmaktan hoşlanması ve gönülden gelerek örgütün bir üyesi olarak kalma isteğinde olmasını ifade etmektedir (Allen ve Meyer, 1990). Duygusal bağlılık tamamen kişinin his ve duygularıyla ilişkili olduğundan örgütsel bağlılık türleri açısından en ön planda olan bağlılık türüdür. Örgütlerine duygusal olarak bağlı olan çalışanlar; yüksek iş performansı, verimlilik, örgütsel vatandaşlık davranışları, işten ayrılmayı düşünmeme, psikolojik olarak iyi olma gibi örgüt lehine birçok tutum ve davranış geliştirebilirler (Meyer vd., 2002).

Devam Bağlılığı

Devam bağlılığı, çalışanın örgütten ayrılması halinde oluşacak maliyet yükünü karşılayamaması gibi daha çok ekonomik nedenlerle örgütün bir üyesi olarak kalma isteğinde olmasını ifade etmektedir (Allen ve Meyer, 1990). Devam bağlılığında çalışanlar duygusal bağlılıktaki gibi kendisini örgüt ve hedefleriyle özdeşleştirmeyip, yalnızca kendi kişisel hedeflerine odaklanmaktadırlar. Kendi kişisel hedefleri doğrultusunda örgütün bir üyesi olarak kalma durumunun kendi lehlerine olacağına karar vererek bu yönde devam bağlılığı gösterirler (Meyer ve Allen, 1991).

Normatif Bağlılık

Normatif bağlılık, çalışanın kendisini sadakat ve ahlaki normlar gereği örgütte kalma yükümlülüğünde hissetmesini ifade etmektedir. Bu bağlılık türü ‘‘minnet bağlılığı’’ olarak da literatürde kullanılmaktadır. Normatif bağlılık, örgütün ya da örgüt yöneticilerinin çalışana zamanında yaptıkları iyilik ve yardımlar dolayısıyla çalışanın bu iyilik ve yardımları geri ödemesi gerektiğini düşünerek kendisini örgüte borçlu hissetmesi dolayısıyla örgütün üyesi olarak kalma isteğinde olma durumunu yansıtmaktadır (Meyer ve Allen, 1991).

Örgütlerine karşı duygusal bağlılığa sahip çalışanlar bunu gönülden istedikleri için, devam bağlılığına sahip çalışanlar daha çok ekonomik nedenlerle örgütün bir üyesi olarak kalma ihtiyacında/zorunluluğunda oldukları için, normatif bağlılığa sahip çalışanlar ise ahlaki olarak bunu yapmaları gerektiğini düşündükleri için örgütsel bağlılık gösterirler (Allen ve Meyer, 1990).

4.LİTERATÜR TARAMASI

Han, Chiang ve Chang (2010) tarafından yapılan çalışmada çalışanların karar verme sürecine katılımlarının, psikolojik sahiplik ve örgüte bağlılık üzerindeki etkisini incelemişlerdir. Çalışma, Tayvan’da yüksek teknoloji ve bilgi yoğun örgütlerde çalışan 260 kişi üzerinde yapılmıştır. Yapılan analizler sonucunda çalışanların karar verme sürecine katılımları ile psikolojik sahiplik arasında pozitif ve anlamlı bir ilişki olduğu ve psikolojik sahiplik düzeyleri yüksek olan kişilerin örgüte olan bağlılıklarının da yüksek olduğu sonuçlarına ulaşılmıştır. Ayrıca çalışmada, psikolojik sahiplik ile bilgi paylaşma davranışı arasındaki ilişkide örgüte bağlılığın aracı rolünün olduğu tespit edilmiştir.

Memmedova ve Ekber (2017)'in Azerbaycan'da bankacılık sektöründe çalışan 100 kişi üzerinde psikolojik sahipliği ölçme yönünde bir çalışma yapmıştır. Araştırma sonuçları, bankacılık sektöründeki çalışanların psikolojik sahiplenme hissinin varlığını ortaya koymuştur. Ayrıca çalışmada psikolojik sahipliğin, örgütlerde çalışan performansını ve işletme verimliliğini etkilediği sonucuna da ulaşılmıştır.

Mayhew vd. (2007) tarafından yapılan araştırmada, psikolojik sahipliğin iş tatmini ve örgütsel bağlılık gibi tutumları yordadığı tespit edilirken; psikolojik sahiplik ile rol ve rol dışı davranışlar arasında anlamlı ilişkiler olmadığı bulunmuştur. Ayrıca araştırmada özerkliğin psikolojik sahipliğin öncüllerinden olduğu bulgulanmıştır.

Erkmen ve Esen (2012) tarafından bilgi teknolojileri sektöründe çalışan 166 kişi üzerinde yapılan çalışmada, yüksek iç kontrol odağına sahip kişilerin (eylemlerin sonuçlarını şans, kader gibi dışsal faktörlere değil kişinin kendi tutum ve davranışlarına bağlaması) psikolojik sahiplik seviyelerinin daha yüksek olacağı ve psikolojik sahipliği yüksek olan kişilerin örgütlerine olan bağlılıklarının artacağı tespit edilmiştir.

2009 yılında Xue tarafından kamu çalışanları üzerinde yapılan tez çalışmasında psikolojik sahipliğin örgütsel bağlılık ve boyutları (duygusal bağlılık, devam bağlılığı, normatif bağlılık) üzerinde pozitif etkisinin olduğu tespit edilmiştir.

Çetinkaya (2019) tarafından Kocaeli'nde 236 eğitim personeli üzerinde yapılan çalışmada, psikolojik sahipliğin örgütsel bağlılık üzerinde pozitif etkisinin olduğu bulunmuştur. Çalışmada psikolojik sahipliğin örgütsel bağlılık boyutları üzerindeki etkisi incelenmemiştir.

Altıntaş (2019) tarafından İstanbul'da hazır giyim sektöründe çalışan 300 kişi üzerinde yapılan araştırmada, psikolojik sahiplenmenin örgütsel bağlılığı pozitif yönde etkilediği sonucuna ulaşılmıştır.

Duran (2019)'ın İstanbul ilinde hizmet sektöründe çalışan 295 kişilik bir grup üzerinde yapmış olduğu tez çalışmasında yüksek performansa dayalı insan kaynakları yönetimi uygulamalarının psikolojik sahipliğin işten ayrılma üzerinde etkilerini araştırmıştır. Araştırmada sonuç olarak, yüksek performansa dayalı insan kaynakları yönetimi uygulamalarında eğitimle beraber teşvik amaçlı primler verilmesinin, psikolojik sahiplik üzerinde anlamlı ve pozitif etkisinin olduğu bulunmuştur. Bunlara ilave olarak araştırmada, psikolojik sahipliğin işten ayrılma niyeti üzerinde negatif ve anlamlı bir etkisi olduğu sonucuna varılmıştır.

Alkaya (2018)'nın tez çalışmasında tüketicilerin dokunma ihtiyaçlarının psikolojik sahiplik üzerindeki etkileri araştırılmıştır. 476 kişinin katıldığı anket çalışmasıyla beraber yapılan analizler sonucunda dokunma ihtiyacının psikolojik sahiplik üzerinde etkisi olmadığı sonucuna varılmıştır.

5.METODOLOJİ

5.1. Araştırmanın Amacı, Hipotezleri ve Araştırma Modeli

Bu araştırmanın temel amacı, Balıkesir ilinin Bandırma ilçesindeki konaklama işletmeleri çalışanlarının psikolojik sahipliklerinin örgüte bağlılıkları üzerindeki etkisini belirlemek ve bununla beraber psikolojik sahipliğin örgüte bağlılığın alt boyutlarına etkisi olup olmadığını tespit etmektir.

Teorik kısımda psikolojik sahiplik ve örgüte bağlılık ile ilgili gerekli açıklamalar yapılmış olup, bu kısımda sosyal mübadele kuramı doğrultusunda geliştirilen hipotezler sunulmuştur.

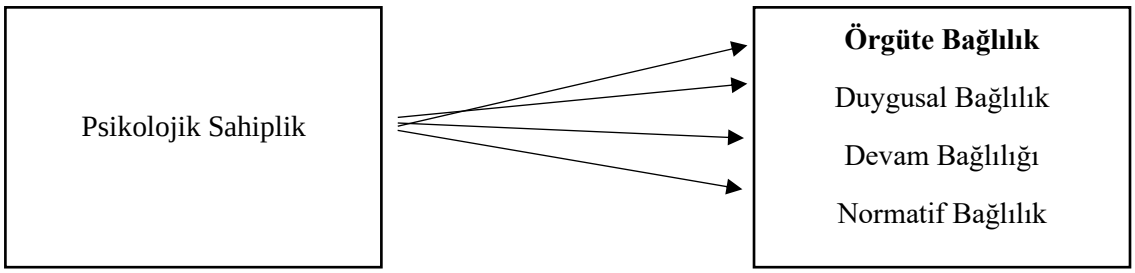
H1.Psikolojik sahiplik ile örgüte bağlılık arasında anlamlı bir ilişki vardır.

H2.Psikolojik sahipliğin örgüte bağlılık üzerinde anlamlı bir etkisi vardır.

H3.Psikolojik sahiplik örgüte bağlılığın alt boyutlarından olan duygusal bağlılığı etkiler.

H4.Psikolojik sahiplik örgüte bağlılığın alt boyutlarından olan devam bağlılığını etkiler.

H5.Psikolojik sahiplik örgüte bağlılığın alt boyutlarından olan normatif bağlılığı etkiler.



Şekil 1. Araştırma Modeli

5.2. Araştırmanın Evreni ve Örneklemi

Araştırmanı evrenini, Balıkesir ilinin Bandırma ilçesinde bulunan 10 konaklama işletmesinin toplam 190 çalışanı oluştururken, bu evrenden ulaşılan 125 konaklama işletmesi çalışanı ise araştırmanın örneklemini teşkil etmektedir. Çalışmada veriler nicel tekniğe dayanarak anket yöntemi ile toplanmıştır. Anketlerin 4'ünde bilgiler eksik olduğu için değerlendirme dışı tutulmuş, geriye kalan 121 kişilik anket verileri değerlendirmeye alınmıştır. Araştırma verileri bir paket program yardımıyla analiz edilmiş, korelasyon ve regresyon analizleri yapılmıştır.

5.3. Veri Toplama Araçları

Araştırmada temel veri toplama aracı ankettir. Anket çalışmasına Bandırma'daki konaklama işletmelerinde çalışan 125 kişi katılmıştır. Konaklama işletmesi çalışanlarının ankette yer alan ifadelere katılma düzeyleri "(1)kesinlikle katılmıyorum" dan "(5)kesinlikle katılıyorum" a doğru 5'li Likert tipi ölçek ile değerlendirilmiştir. Demografik bilgileri ölçmek için ise katılımcılardan yaş, cinsiyet, medeni durum, eğitim durumu ve çalışma süresi gibi bilgileri istenmiştir.

Araştırmada katılımcıların psikolojik sahiplik düzeylerini ölçmek için Van Dyne ve Pierce (2004)'in geliştirdiği, 7 ifadeden psikolojik sahiplik ölçeği kullanılmıştır. Ölçeğin Türkçe soruları için Bekmezci (2018) tarafından yapılan çalışmadan yararlanılmıştır. Bu ölçeği Türkiye'de Bekmezci (2018), Temizkan (2019), Kaya (2019) gibi birçok araştırmacı çalışmalarında kullanmıştır.

Araştırmada katılımcıların örgüte bağlılık düzeylerini ölçmek için ise Allen ve Meyer (1990)'in geliştirdiği, 3 alt boyuttan ve 18 ifadeden oluşan örgütsel bağlılık ölçeği kullanılmıştır. Ölçeğin Türkçe soruları için Ece (2016) tarafından yapılan çalışmadan yararlanılmıştır. Allen ve Meyer (1990)'in geliştirdiği ölçek Türkiye'de Diker (2014), Şenergüç (2009), Kaygın vd. (2017) gibi birçok araştırmacı tarafından bilimsel çalışmalarda kullanılmıştır.

5.4. Güvenirlik Testi

Konaklama sektörü çalışanlarının psikolojik sahiplik ve örgüte bağlılık düzeylerini belirlemek amacıyla kullanılan anket tekniğinde, değişkenler için güvenirliği kabul görmüş hazır ölçekler kullanılmıştır. Bu çalışma özelinde de ölçeklerin güvenilirlikleri test edilmiştir. "Güvenirlik açısından bir ölçeğin Cronbach's Alpha katsayısı en az 0,70 olmalıdır (Gürbüz ve Şahin, 2017).

Tablo 2. Psikolojik Sahiplik ve Örgüte Bağlılık Ölçeklerinin Güvenirlik Analizi

Ölçekler	Soru Sayısı	Cronbach's Alpha
Psikolojik Sahiplik Ölçeği	7	0,817
Örgüte Bağlılık Ölçeği	18	0,778

Psikolojik sahiplik ölçeği için güvenilirlik oranı %81,7 iken, örgütsel bağlılığın güvenirlik oranı ise %77,8'dir. Çalışmada kullanılan anketlerin güvenilir olduğu görülmektedir. Bunun yanı sıra verilerin normal dağılıp dağılmadığını tespit etmek amaçlı ''Normallik Testi'' yapılmıştır. Tablo 3'te normalliğe ilişkin ''basıklık ve çarpıklık'' değerleri gösterilmektedir.

Tablo 3. Psikolojik Sahiplik ve Örgüte Bağlılık Ölçeklerinin Basıklık-Çarpıklık Değerleri

Değişkenler	Basıklık Değeri	Çarpıklık Değeri
Psikolojik Sahiplik	,313	-,191
Örgüte Bağlılık	,013	,421

Hem psikolojik sahiplik hem de örgüte bağlılık ölçeklerinin değerleri -1 ile +1 aralığında olduğu için verilerin normal dağıldığını ve parametrik testler için uygun olduğunu söylemek mümkündür (Gürbüz ve Şahin, 2017).

6.ARAŞTIRMANIN BULGULARI

6.1. Demografik Bulgular

Tablo 4. Demografik Veri Dağılımı

Değişkenler	Kategoriler	Frekans	Yüzde
Cinsiyet	Kadın	60	49,6
	Erkek	61	50,4
Eğitim Durumu	İlköğretim	7	5,8
	Ortaokul	6	5,0
	Lise	34	28,1
	Ön Lisans	36	29,8
	Lisans	30	24,8
	Yüksek Lisans	6	5,0
	Doktora	2	1,7
	Toplam	121	100
Medeni Durum	Evli	57	47,1
	Bekâr	64	52,9
Çalışma Süresi	1 yıldan az	24	19,8
	1-5 yıl arası	55	45,5
	6-10 yıl arası	28	23,1
	11-15 yıl arası	9	7,4
	16 ve üzeri yıl	5	4,1
	Toplam	121	100
Yaş	17-20 yaş	10	8,3
	21-27 yaş	37	30,6
	28-34 yaş	39	32,2
	35-41 yaş	20	16,5
	42-48 yaş	12	9,9
	49-60 yaş	3	2,5
	Toplam	121	100

Katılımcıların demografik özellikleri ile ilgili bilgiler tablo 4'te gösterilmiştir. Tablo 4 incelendiğinde, araştırmaya katılan erkek sayısı 60, yüzde olarak %49,6; kadın sayısı 61, yüzde olarak %50,4'tür. Yaş aralığına bakıldığında 10 kişi "17-20 yaş"; 37 kişi "21 -27 yaş"; 39 kişi "28-34 yaş"; 20 kişi "35-41 yaş"; 12 kişi "42-48 yaş"; 3 kişi "49-60 yaş" arası katılımcılardan oluşmaktadır. Katılımcılardan 57'si evli (%47,1) iken 64'ü bekârdır (%52,9). Eğitim durumuna bakıldığında katılımcıların %5,8'ini oluşturan 7 kişi ilköğretim mezunu, %5'ini oluşturan 6 kişi ortaokul mezunu, %28,1'ini oluşturan 34 kişi lise mezunu, %29,8'ini oluşturan 36 kişi ön lisans mezunu, %24,8'ini oluşturan 30 kişi lisans mezunu, %5'ini oluşturan 6 kişi yüksek lisans mezunu, %1,7'sini oluşturan 2 kişi doktora mezunudur. Çalışma süreleri incelendiğinde, katılımcıların %19,8'i ''1 yıldan az''; %45,5'i "1-5 yıl arası"; %23,1'i "6-10 yıl arası", %7,4'ü "11-15 yıl arası"; %4,1'i "16- ve üzeri" yıldır çalışanlardan oluştuğu göze çarpmaktadır.

6.2. Korelasyon Analizi Bulguları

Tablo 5. Korelasyon Analizi Sonuçları

Değişkenler		**A**	**B**	**C**	**D**	**E**
Psikolojik Sahiplik (A)	Anlamlılık (p)	-				
	Pearson r	1,00				
Örgüte Bağlılık (B)	Anlamlılık (p)	,000	-			
	Pearson r	,335**	1,00			
Duygusal Bağlılık (C)	Anlamlılık (p)	,000	,001	-		
	Pearson r	,362**	,290**	1,00		
Devam Bağlılığı (D)	Anlamlılık (p)	,000	,000	,000	-	
	Pearson r	,444**	,541**	,516**	1,00	
Normatif Bağlılık (E)	Anlamlılık (p)	,182	,000	,019	,009	-
	Pearson r	,122	,758**	,214*	,236**	1,00

**: 0,01 düzeyinde anlamlı korelasyon / *: 0,05 düzeyinde anlamlı korelasyon

Değişkenler arasında ilişkinin yönü ve derecesi, korelasyon analizi ile test edilmiştir. Değişkenlerin ilişki derecelerinin belirlenmesi, korelasyon katsayısının 1 ya da 0'a yakınlık düzeyine göre belirlenir (Gürbüz ve Şahin, 2017).

Korelasyon analiz sonuçlarına göre psikolojik sahiplik ile örgüte bağlılık arasındaki ilişki anlamlı ve pozitif yönlüdür ($r=.335$; $p<0,01$). Bu durumda H1 hipotezi desteklenmiştir. Ayrıca, psikolojik sahiplik ile örgüte bağlılığın duygusal bağlılık ve devam bağlılığı alt boyutları arasında anlamlı ve pozitif ilişki bulunurken, örgüte bağlılığın normatif bağlılık boyutu ile psikolojik sahiplik arasında anlamlı bir ilişki bulunmamıştır.

Gürbüz ve Şahin (2017)'e göre, faktör analizi 200'den az sayıda olan örneklemlerde doğru çalışmayabilir. Bu sebeple mevcut araştırmada, örneklem sayısı 200'den az sayıda olduğu için faktör analizi yapılmamıştır.

6.3. Regresyon Analizi Bulguları

Regresyon analizi, bağımlı değişken üzerinde etkisi olduğu düşünülen bağımsız değişken ya da değişkenler arasındaki ilişkinin açıklanmasını amacıyla yapılan bir parametrik testtir (Gürbüz ve Şahin, 2017). Araştırma kapsamında geliştirilen hipotezleri test etmek adına yapılan regresyon analizi sonuçları aşağıdaki tablolarda yer almaktadır. Analiz sonuçlarında ilk olarak kurulan regresyon modellerinin anlamlılık sonucunu gösteren ANOVA sonuçları sunulmuştur. ANOVA anlamlılık değeri (sig.) 0,05 değerinden ne kadar küçükse, kurulan regresyon

modelinin anlamlı olduğu ve bağımlı değişkeni o kadar iyi açıkladığı söylenebilir (Gürbüz ve Şahin, 2017). ANOVA sonuçlarının ardından değişkenler arası etki düzeylerini gösteren katsayılar tablosu da aynı tablo üzerinde sunulmuştur.

Tablo 6. Psikolojik Sahiplik ile Örgüte Bağlılık Arasında Kurulan Regresyon Analizi Sonuçları

ANOVA TABLOSU					
Model	Kareler Toplamı	Serbestlik Derecesi(sd)	Ortalama Kare	F	Anlamlılık
1 Gruplar arası	2,966	1	2,966	15,025	,000
Grup içi	23,488	119			
Toplam	26,453	120	,197		
a-) Bağımlı Değişken: Örgüte Bağlılık, b-) Yordayıcı (Sabit): Psikolojik Sahiplik					
KATSAYILAR TABLOSU					
Model	Standartlaşmamış Katsayılar		Std. Katsayılar	t	Anlamlılık
	B	Std. Hata	Beta		
Sabit	2,538	,139		18,280	,000
Psikolojik Sahiplik	,175	,045	,335	3,876	,000
a-) Bağımlı Değişken: Örgüte Bağlılık					

Tablo 6'daki sonuçlara bakıldığında kurulan regresyon modeli istatistiksel olarak anlamlıdır ($F=15,025$; $p<0,05$). Regresyon katsayısı olan ''B'' değeri 0,175 çıkmıştır. Yani, psikolojik sahiplik değişkenindeki bir birimlik artış, örgüte bağlılığı %17,5'lik oranda arttıracaktır. Çıkan sonuçlara göre psikolojik sahipliğin örgüte bağlılığı anlamlı düzeyde ve pozitif yönde etkilediği tespit edilmiştir. Bu sonuca göre H2 hipotezi desteklenmiştir.

Tablo 7. Psikolojik Sahiplik ile Örgüte Bağlılığın Alt Boyutu Olan Duygusal Bağlılık Arasında Kurulan Regresyon Analizi Sonuçları

ANOVA TABLOSU					
Model	Kareler Toplamı	Serbestlik Derecesi(sd)	Ortalama Kare	F	Anlamlılık
1 Gruplar arası	9,195	1	9,195	17,930	,000
Grup içi	61,027	119			
Toplam	70,222	120	,513		
a-) Bağımlı Değişken: Duygusal Bağlılık, b-) Yordayıcı (Sabit): Psikolojik Sahiplik					
KATSAYILAR TABLOSU					
Model	Standartlaşmamış Katsayılar		Std. Katsayılar	t	Anlamlılık
	B	Std. Hata	Beta		
Sabit	2,442	,224		10,909	,000
Psikolojik Sahiplik	,308	,073	,362	4,234	,000
a-) Bağımlı Değişken: Duygusal Bağlılık					

Tablo 7'deki sonuçlara bakıldığında kurulan regresyon modeli istatistiksel olarak anlamlıdır ($F=17,930$; $p<0,05$). Regresyon katsayısı olan ''B'' değeri 0,308 çıkmıştır. Yani, psikolojik sahiplik değişkenindeki bir birimlik artış, duygusal bağlılığı %30,8'lik oranda arttıracaktır. Çıkan sonuçlara göre psikolojik sahipliğin duygusal bağlılığı anlamlı düzeyde ve pozitif yönde etkilediği tespit edilmiştir. Bu sonuca göre H3 hipotezi desteklenmiştir.

Tablo 8. Psikolojik Sahiplik ile Örgüte Bağlılığın Alt Boyutu Olan Devam Bağlılığı Arasında Kurulan Regresyon Analizi Sonuçları

ANOVA TABLOSU					
Model	Kareler Toplamı	Serbestlik Derecesi(sd)	Ortalama Kare	F	Anlamlılık
1 Gruplar arası	10,946	1	10,946	29,171	,000
Grup içi	44,652	119			
Toplam	55,598	120	,375		
a-) Bağımlı Değişken: Devam Bağlılığı, b-) Yordayıcı (Sabit): Psikolojik Sahiplik					
KATSAYILAR TABLOSU					
Model	Standartlaşmamış Katsayılar		Std. Katsayılar	t	Anlamlılık
	B	Std. Hata	Beta		
Sabit	2,216	,191		11,574	,000
Psikolojik Sahiplik	,336	,062	,444	5,401	,000
a-) Bağımlı Değişken: Devam Bağlılığı					

Tablo 8'deki sonuçlara bakıldığında kurulan regresyon modeli istatistiksel olarak anlamlıdır (F= 29,171; p<0,05). Regresyon katsayısı olan ''B'' değeri 0,336 çıkmıştır. Yani, psikolojik sahiplik değişkenindeki bir birimlik artış, devam bağlılığını %33,6'lik oranda arttıracaktır. Çıkan sonuçlara göre psikolojik sahipliğin devam bağlılığını anlamlı düzeyde ve pozitif yönde etkilediği tespit edilmiştir. Bu sonuca göre H4 hipotezi desteklenmiştir.

Tablo 9. Psikolojik Sahiplik ile Örgüte Bağlılığın Alt Boyutu Olan Normatif Bağlılık Arasında Kurulan Regresyon Analizi Sonuçları

ANOVA TABLOSU					
Model	Kareler Toplamı	Serbestlik Derecesi(sd)	Ortalama Kare	F	Anlamlılık
1 Gruplar arası	1,183	1	1,183	1,804	,182
Grup içi	78,041	119			
Toplam	79,224	120	,656		
a-) Bağımlı Değişken: Normatif Bağlılık, b-) Yordayıcı (Sabit): Psikolojik Sahiplik					
KATSAYILAR TABLOSU					
Model	Standartlaşmamış Katsayılar		Std. Katsayılar	t	Anlamlılık
	B	Std. Hata	Beta		
Sabit	2,622	,253		10,361	,000
Psikolojik Sahiplik	,111	,082	,122	1,343	,182
a-) Bağımlı Değişken: Normatif Bağlılık					

Tablo 9'daki sonuçlara bakıldığında kurulan regresyon modeli istatistiksel olarak anlamlı değildir (F=1,804; p.>0,05). Çıkan sonuçlara göre psikolojik sahipliğin normatif bağlılığı anlamlı düzeyde etkilemediği tespit edilmiştir. Bu sonuca göre H5 hipotezi desteklenmemiştir.

7.SONUÇ VE ÖNERİLER

Bu çalışma, Balıkesir ilinin Bandırma ilçesinde 125 konaklama işletmesi çalışanı üzerinde psikolojik sahiplik ile örgüte bağlılık ve boyutları arasında ne gibi ilişkiler olduğunu belirlemek amacıyla yapılmıştır. Araştırmada anket tekniği kullanılmış olup, anketlerden elde edilen veriler nicel analiz yöntemleri ile analiz edilmiştir. Yapılan analizler sonucu, psikolojik sahiplik ile örgüte bağlılık arasında pozitif ilişki olduğu, psikolojik sahipliğin örgüte bağlılığı (genel örgüte bağlılık-boyutlardan bağımsız) pozitif yönde etkilediği; boyutlar bazında ise psikolojik

sahipliğin örgüte bağlılığın duygusal ve devam bağlılığını pozitif yönde etkilediği, normatif bağlılığı ise etkilemediği bulunmuştur.

Literatürde psikolojik sahiplik-örgütsel bağlılık ilişkisini inceleyen çalışmalar incelendiğinde bu çalışmalarda ekseriyetle örgütsel bağlılığın boyutlardan bağımsız, genel olarak ele alındığı ifade edilebilir. Han vd. (2010) tarafından Tayvan'da yüksek teknoloji ve bilgi yoğun örgütlerde çalışan 260 kişi üzerinde yapılan çalışmada psikolojik sahiplik düzeyleri yüksek olan kişilerin örgüte olan bağlılıklarının da yüksek olduğu sonuçlarına ulaşılmıştır. Mayhew vd. (2007) tarafından yapılan araştırmada, psikolojik sahipliğin örgütsel bağlılığı pozitif yönde yordadığı tespit edilmiştir. Erkmen ve Esen (2012) tarafından bilgi teknolojileri sektöründe çalışan 166 kişi üzerinde yapılan çalışmada, psikolojik sahipliği yüksek olan kişilerin örgütlerine olan bağlılıklarının artacağı tespit edilmiştir. Çetinkaya (2019) tarafından Kocaeli'nde 236 eğitim personeli üzerinde yapılan çalışmada, psikolojik sahipliğin örgütsel bağlılık üzerinde pozitif etkisinin olduğu bulunmuştur. Altıntaş (2019) tarafından İstanbul'da hazır giyim sektöründe çalışan 300 kişi üzerinde yapılan araştırmada, psikolojik sahiplenmenin örgütsel bağlılığı pozitif yönde etkilediği sonucuna ulaşılmıştır. Mevcut çalışmadaki psikolojik sahipliğin örgütsel bağlılığı pozitif yönde etkilediği bulgusunun, yukarıda bahsedilen farklı sektör ve örneklemlerde yapılan çalışmalarla tutarlılık gösterdiği söylenebilir. Ayrıca, Li Fang (2009) tarafından yapılan çalışmada psikolojik sahipliğin duygusal bağlılık, devam bağlılığı ve normatif bağlılık üzerinde pozitif etkisi olduğu tespit edilmiştir. Bu araştırmadaki psikolojik sahipliğin duygusal bağlılık ve devam bağlılığını pozitif yönde etkilediği, normatif bağlılığı etkilemediği bulgusunun Li Fang'in (2009) çalışmasıyla normatif bağlılık boyutundaki sonuç haricinde örtüştüğü ifade edilebilir.

Araştırma sonuçlarına göre örgütlerde çalışanların psikolojik sahiplik düzeyi arttıkça örgüte olan bağlılıkları da artmaktadır. Psikolojik sahiplik duygusu yüksek düzeyde olan çalışanların örgütlerine daha fazla katkıda bulundukları ve bu sahipliğin örgüt çalışanlarının bağlılıklarını arttırdığı çıkan sonuçlar arasındadır. Özellikle müşteri ile birebir ilişki içerisinde bulunulan konaklama sektöründe çalışanların tutum ve davranışları müşteri memnuniyeti ve müşteri sadakati için önemlidir. Bu noktada çalıştıkları örgütleri kendi örgütleri gibi benimseyip psikolojik sahipliği yüksek çalışanları olan işletmelerin bu konuda avantaj sahibi olacağı söylenebilir. Diğer yandan, bu çalışmanın sonuçları çerçevesinde konaklama işletmesi yöneticileri çalışanların psikolojik sahiplik sahipliklerini yükseltecek yönetim tarzı sergileyerek çalışanların örgütlerine olan duygusal ve devam bağlılıklarını arttırabilirler. Bu çerçevede, konaklama işletmesi çalışanlarına çalıştıkları örgütlerde aileleriyle birlikte ücretsiz ya da yarı ücretli 1-2 haftalık konaklama imkânı verilerek çalışanların hem motivasyonları hem de psikolojik sahiplik seviyeleri arttırılabilir.

Araştırmanın kısıtlarından bahsedilecek olursa, bu araştırma sadece Bandırma'daki konaklama sektörü çalışanları üzerinden gerçekleştirilmiştir. Diğer sektörler araştırmaya dâhil edilmemiştir. Gelecekteki araştırmacılar psikolojik sahipliğin ne gibi sonuçlar doğuracağını farklı sektörleri baz alarak inceleyebilirler ve farklı sektörlerde yeterli örneklem sayısına ulaşarak sektörler arası farklılıkları inceleyebilirler. Bu araştırmada sadece bağımsız değişkenin (psikolojik sahiplik) bağımlı değişken (örgütsel bağlılık) üzerindeki etkisi incelenmiştir. Gelecekteki araştırmacılar modele düzenleyici ve aracı değişkenler (liderlik türleri; babacan liderlik, otantik liderlik…) ekleyerek moderator ve mediator değişkenleri test edebilirler.

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THE NATURE OF SYNERGISM IN CHEMICAL PROCESSES

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ABSTRACT

Background: Until now, the quantitative assessment of synergistic effects has been carried out in two directions. The first consists in determining and comparing the indicators of the properties of compositions containing the components under study separately and in a mixture. The second is to search for adequate mathematical models containing parameters that characterize the synergistic effect.

Objective: Find out the common feature of all synergistic chemical processes.

Results and discussion: The authors have proved for all chemical processes used in various physicochemical methods of research and different fields of applications, that the common feature of the phenomenon of synergism is the formation of a *mixed complex*. If, as a result of a chemical process, a chemical synergistic effect is found, it is necessary to take into account the formation of mixed complexes, and the latter can have a different nature. This statement should be used to find and design new synergistic processes with the required properties. Synergistic mixtures are expected to be the future for "new reagents" instead of actually developing expensive reagents, which then have to go through a long regulatory process.

Conclusion: A prior knowledge of this common feature gives the possibility of a deeper understanding of this phenomenon and of target search or prediction of required or pre-planned synergistic effects. Further studies of chemical synergism should focus on the isolation and description of a large number of mixed compounds, prior to their use in chemical reactions, as well as providing more detailed thermodynamic and kinetic knowledge, supported by theoretical calculations, since the understanding of chemical synergy is currently based mainly on empirical observations.

Keywords: mixed complexes, synergistic effect, thermodynamic model.

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SUSTAINABLE SYNTHESIS OF RENEWABLE FURFURAL FROM BIO-DERIVED XYLOSE OVER NIOBIUM PHOSPHATE SOLID CATALYST

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ABSTRACT

In this work, furfural, a useful chemical was synthesized from xylose over Phosphoric acid treated niobic acid (NbP), a solid acid catalyst with efficient catalytic performance. The catalyst demonstrated interesting and good catalytic performance compared to others catalysts employed in this study. The demonstrated performance of as prepared NbP was attributed to the good synergistic relationship between Brönsted and Lewis acid sites. Additionally, this catalyst exhibited stability with no deactivation or leaching of Nb noticed after it was consecutively used continuous for six recycles. The dehydration of xylose to furfural was carried out in the toluene/water biphasic system. Efficient combination of Green Chemistry's principles #7 (use of renewable feedstocks), #9 (use of catalyst instead of stoichiometry), and Sustainable Development Goals (SDGs) #7(affordable and clean energy; ensure access to inexpensive, reliable, sustainable, and new energy) are inevitable to accomplish bio-economy. Therefore, this work employed the above stated strategies to ensure environmental protection and access to renewable fuels.

Keywords: *Catalysis, Solid catalysts, Phosphoric acid treated niobic acid (NbP), Biofuels, Green Chemistry, Sustainable Development Goals (SDGs).*

ABANDONED DISPOSAL OF ELECTRONIC WASTE: A THREAT FOR HEALTH AND ENVIRONMENT

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ABSTRACT

Abandoned waste electrical and electronic equipment (WEEE) and their ingredients, known as E-waste (electronic waste), are the fastest growing stream of the solid waste. E-waste generally comprises discarded electronic items including metals, semiconductors, ceramics, plastic, various hazardous, non-degradable and toxic components. Modern lifestyle and consumption pattern of every individual generates tons of the waste over one's lifetime. Global E-waste Monitor 2020 reported an annual global production of E-waste approximately 53.6 Mt in 2019 which will exceed to 74 Mt till 2030. While, at present only 17.4% of the total E-waste was collected and recycled world-wide. Mostly the developed countries have exported their E-waste to the developing nations for disposing of or recycling. Currently, non-availability of the standard techniques and processes for the handling, dismantling, disposal, processing of E-waste and its gigantic generation now-a-day is posing a serious threat to both human and environment. E-waste itself is a pollutant debris meanwhile it also contaminates soil, water, and air and has fatal health hazards. The improper, unscientific, and informal E-waste processing over a global scale leads to the environmental pollution. Several heavy metals and toxic chemicals are released during the processing, recycling, and dumping activities of E-waste. Severe health hazards associated with the exposure to toxic and carcinogenic chemicals that are present in the E-waste. This work presents an overview on the serious impact of the E-waste on the environmental and human health.

Keywords: E-waste, hazards, constituents, health impacts, environmental impacts, recycling

Introduction

Advancement in science & technology has brought enormous changes in our lifestyle including organization of society, industries, institutions, economy, etc. This advancement propagates better manufacturing facilities which results in the generation & utilization of electrical and electronic equipments at a large scale. Worldwide scenario for the electrical and electronic equipments (EEE) is increasing exponentially while the lifespan of these products has become shorter. The common usage of EEE in everyday practice has led to generate gigantic stack of electronics waste (E-waste). E-waste generally comprises metals, semiconductors, discarded electronic items, ceramics, various hazardous, non-degradable and toxic components. The term E-waste is generally applied to consumer electronic devices and gadgets that are near or at the end of its immediate useful life. Most of the E-waste is abandoned in the open dumps or landfills. However, a very little efforts are made to recover the valuable materials through recycling processes from it. The worldwide generation of E-waste has grown to 53.6 million metric tons (Mt) in the year 2019 (equaling weight of 350 cruise ships) and is anticipated to grow to 74.7 Mt by 2030, as per UN's Global E-waste Monitor 2020. While, at present only 9.3 Mt (17.4%) of total generated E-waste was collected & recycled world-wide.



Fig. 1 Chronical representation for global E-waste & kg per capita share

Table 1 Global E-waste generation patterns (Forti et al., 2020)

S. no	Regin	EEE on the market		E-waste generated		E-waste formally collected (Mt)	E-waste collection rate (%)
		(Mt)	(kg/person)	(Mt)	(kg/person)		
1.	Africa	4.4	3.8	2.94	2.5	0.03	0.9
2.	Asia	42.1	9.5	24.9	5.6	2.9	11.7
3.	Europe	13.6	18.4	12	16.2	5.1	42.5
4.	Americas	16.2	16.5	13.1	13.3	1.2	9.4
5.	Oceania	0.8	19.7	0.7	16.1	0.06	8.8
6.	Global	77.1	–	53.6	7.3	9.3	17.4

The rate of E-waste generation varies according to time, place, population, lifestyle and socio-economic status. Among different continents, Asia tops with 24.9 Mt, followed by 13.1 Mt in America, 12 Mt in Europe, 2.9 Mt in Africa, and 0.7 Mt in Oceania (Table 1 & Fig. 2-left). Average global per capita E-waste generation in 2019 was 7.3 kg, with 16.2 kg in Europe, 13.1 kg in America, 5.6 kg in Asia and 2.9 kg in Africa. China stood first in top five E-waste producers in the world (Fig. 2-right).

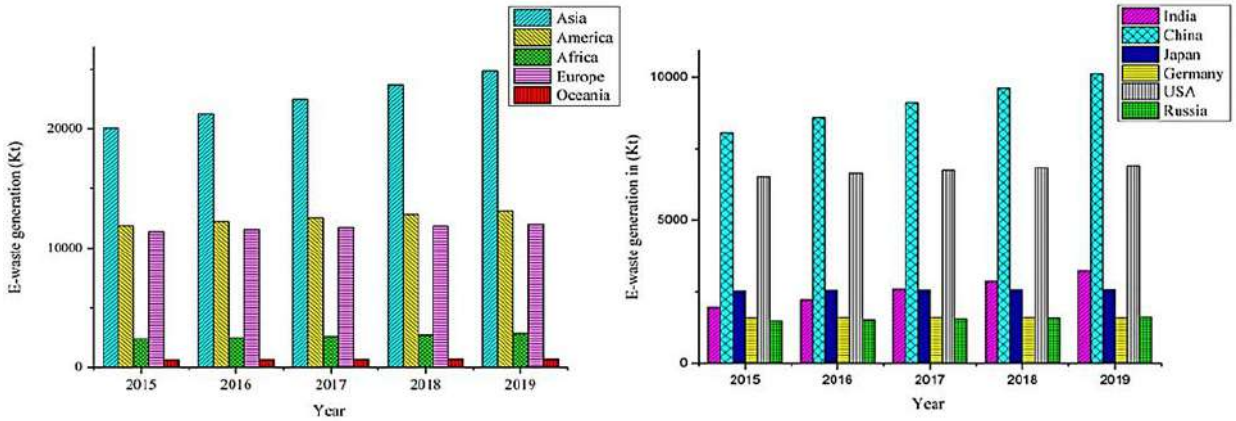

Fig. 2 Representation of E-waste generation: (left) continent-wise (right) top five countries from 2015 to 2019.

Sources of E-waste

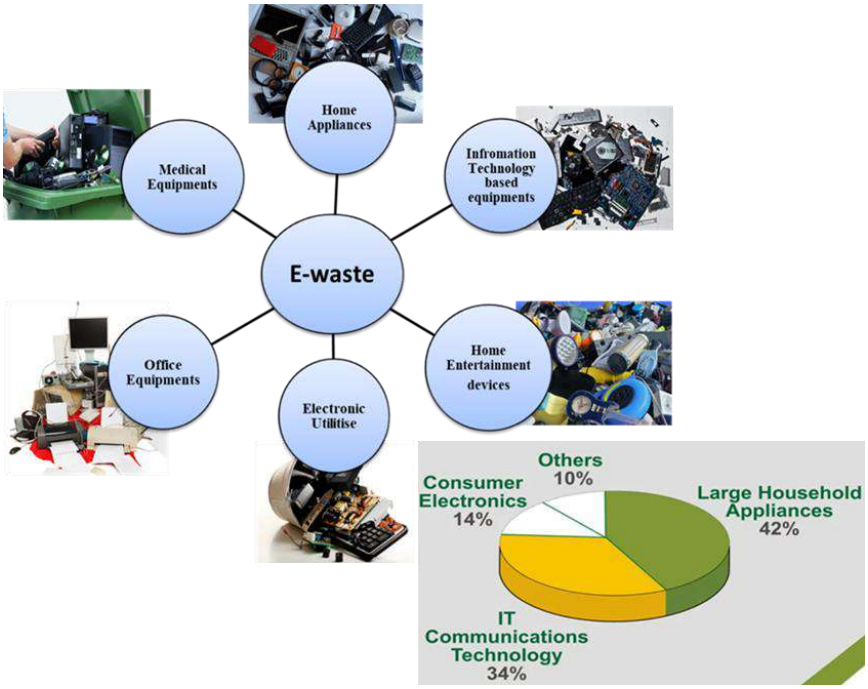

Fig. 3 Types of E-waste Equipments & their percentage share in E-waste

Any appliance that runs on electricity has the potential to cause damage to the environment if it is not disposed properly. Common sources of E-waste are large household appliances, like refrigerators/freezers, washing machines, dishwashers, televisions, small household appliances, including toasters, coffee makers, irons, hairdryers, information technology and telecommunications devices, like personal computers, telephones, mobile phones, laptops, printers, scanners, photocopiers, etc., lighting equipment, such as fluorescent lamps, fancy lights, electronic or electrical tools, i.e., handheld drills, saws, screwdrivers, etc., Toys, leisure and sports equipment, Monitoring, control, automation, and security instruments.

Components of E-waste

The composition along with constituents of the E-waste is very diverse but for simplicity it can be divided into hazardous and non-hazardous compounds. The constituents who are present initially in waste stream can be toxic in nature and include various metallic and organic pollutants. Mostly, it comprises of plastics, glass, wood, ceramics, ferrous metals, non-ferrous metals, circuit boards, rubber, metals & heavy metals, etc. If the E-waste is disposed-of inappropriately in open dumps or landfills, these can be hazardous and toxic.

Table 2 Various constituents in E-waste stream

Components of E-waste	
Primary constituents	Lead, tin, antimony, mercury, nickel, cadmium, chromium, copper, arsenic, barium, zinc, rare earth metals, etc.
Secondary constituents	Plastics, ceramics, few heavy metals, polychlorinated dibenzo-p-dioxins, dibenzofurans, spent acids, sludge, solid residue, volatile compounds, etc.
Tertiary constituents	Leaching agents like cyanides, halides, thiosulphate, few concentrated & electro-wining solutions, sulphuric acids, etc.
Organic pollutant constituents	Polychlorinated biphenyls (PCBs), Poly-halogenated aromatic hydrocarbons (PAHs), flame retardants, polybrominated biphenyls (PBBs), bromine, polybrominated diphenyl ethers (PBDEs), few refrigerant gases like chlorofluorocarbons (CFCs), etc.

The presence of hazardous materials such as lead, cadmium, mercury, nickel, hexavalent chromium, and brominated flame retardants (BFRs) increases the complexity of E-waste treatment. Hence, the disposal of hazardous waste is a major challenge in E-waste management. Abandoned disposal of E-waste not only led to possibility of destruction of environment as well as poses public health.

Impacts of E-waste on Health

The severe health hazards associated with the exposure to the toxic and carcinogenic chemicals present in the E-waste are genetic mutations, cellular malfunctioning, hormonal imbalance, metabolic disorders, lungs and kidney damage, anemia, nervous disorders, enzyme inhibition, and neonatal outcomes. In addition to this, the toxicity of E-waste might cause threats to the workers and residents along with environment pollution. A study (Kumar & Arya, 2020) conducted by collecting the sample of human breast milk in which the concentration of PCBs and PBDEs were found in higher levels indicating the contamination due to the processing and illegal dumping of E-waste. The exposure of these harmful pollutants occurs due to either inhalation or ingestion. Similarly, few studies also collected the human hair samples from the sites as well nearby areas to the processing and dumping sites, it was found that the hair sample had high concentration of many heavy metals and organic contaminants like PCBs. The severe effect of E-waste on human health are summarized in Table 3.

Table 3 some common metals and organic pollutants found in E-waste with potential occupational exposure and toxicity

Metals/organic Pollutants	Sources of E-waste constituents	Major route of exposure	Health effects
Aluminum	Available in printed circuit boards, batteries, capacitors, heat sinks, and gaskets in computer monitors	Ingestion	Lung irritant, neurotoxic
Arsenic	Plastic housing of electronic equipment's	Inhalation, ingestion and dermal contact	Carcinogenic, hematotoxin, endocrine disrupter

Brominated flame retardants	Available in electronic equipment and circuit boards	Inhalation, ingestion, dermal contacts and transplacental	Carcinogenic, neurobehavioral effects and endocrine disruption
Dioxins including PCBs, PBB and PAHs	Released as combustion byproduct, air, dust, soil, and food (bioaccumulate in fish and seafood)	Inhalation, ingestion, dermal contacts and transplacental	Altered liver function, impairment of the immune system, the developing nervous system, endocrine system disrupter and issues of the reproductive functions
Lead	Available in solder in printed circuit boards, glass panels, and gaskets in computer monitors, copier and printers.	Inhalation, ingestion and dermal contact	Carcinogenic effect on human, neurotoxic, cardiotoxic, nephrotoxic, endocrine disrupter, cause to damage the central and peripheral nervous systems, blood systems, and kidney.
Lithium	Present in Lithium-ion battery of mobiles, toys, etc.	Inhalation, ingestion and dermal contact	Skin and eye irritant, can pass into breast milk and may harm a nursing baby
Mercury	Available in relays and switches, and printed circuit boards, thermometers	Inhalation and ingestion	Neurotoxic, skin, eye and gastro-intestinal irritant, endocrine disrupter, cause chronic damage to the brain
Plastics and PVC	Available in cabling, PCBs and computer body	Inhalation and ingestion	While burning produces dioxin that causes reproductive and developmental problems

Impact of E-waste on Environment

The E-waste stream has upstretched many concerns due to the constituents present in them which are hazardous, toxic and do not biodegrade easily. Many studies have shown the presence of high levels of dioxins components which were responsible for high rate of cancer incidences, development defects and other health related issues. These compounds are associated with the inappropriate disposal of electronic goods. Many of the compounds from the E-waste stream nearby the processing, recycling and dumping site percolate the soil and vegetation. Studies have also shown that the sites were E-waste is burned were found contaminated with high concentrations of PCBs. Similarly, high amounts of PBDEs were present in soil sections from E-waste processing spots and its surrounding areas. Reports have stated that presence of metals like arsenic, lead, zinc, copper and aluminum has not only polluted the environment but also has affected the health of workers and people moving around these sites. Both air and soil samples were found to be contaminated due to the presence of pollutants from E-waste stream. Environmental impacts in term of water table pollution have also been found owing to the crude E-waste processing. The effects of improper disposal of E-waste on the environment pose very real threats and dangers to the global environment at large. Improper disposal of these wastes affect the soil, air and water components of the environment.



Fig. 4 Impacts of E-waste on environment (soil, air, water)

Most common result of E-waste on air is through air pollution. Burning of E-waste can release hydrocarbons within the atmosphere that pollutes the air. E-waste can have a negative effect on the soil. As E-waste breaks down, it releases toxic heavy metals. Such heavy metals include lead, arsenic, and cadmium. When these toxins penetrate the soil, they influence the plants and trees. Thus, these toxins can enter the human food supply, which can lead to birth defects as well as a number of other health complications. Heavy metals like mercury, lithium, lead present in electronics (found in mobile phone and computer batteries), etc., when not disposed properly, these heavy metals penetrate from soil to groundwater which then run to the surface as streams or small ponds of water.

Table 4 Different E-waste components and potential environmental hazard

E-waste Component	**Process Used**	**Potential Environmental Hazard**
Cathode ray tubes	Breaking and removal of deflection yoke and then dumping	Lead, barium and other heavy metals leaching into the ground water and release of toxic phosphorous
The computer circuit board	De-soldering and removal of computer chips; thereafter, open burning acid baths to remove metals.	Air emissions and discharge of glass dust, tin, lead, brominated dioxin, beryllium cadmium, and mercury into rivers.
Chips and other gold-plated components	Chemical stripping using nitric and hydrochloric acid and burning of chips	Polycyclic aromatic hydrocarbons **(**PAHs), heavy metals, brominated flame retardants discharged directly into rivers acidifying fish and flora. Tin and lead contamination of surface and groundwater. Air emissions of brominated dioxins, heavy metals, and PAHs
Plastics from printers, keyboards, monitors, etc.	Shredding and low temperature melting to be reused	Emissions of brominated dioxins, heavy metals, and hydrocarbons

Summary

The study exhibited here gives an outline on the nature of E-waste stream and its various constituents along with the associated impacts on human health and environment. Enhanced practices in terms of assemblage, management and treating of E-waste are required to reduce the harmful impact of E-waste. Reduce, Reuse, Repair and Recycle may be the 4Rs best practices for E-waste Management. As a recent development, effective take-back program functioning under extended producer responsibility providing incentives for producers to design products that are less wasteful, contain fewer toxic components, and are easier to disassemble, reuse, and recycle in reducing the wastes. There must be provision for collection and reuse/recycling, enforcement mechanisms and deposit/refund schemes to encourage consumers to return electronic devices for reuse and recycling.

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EVALUATION OF VIRULENCE AND THE LACCASE PRODUCTION ON *CRYPHONECTRIA PARASITICA* VIRULENT AND CONVERTED STRAINS BY CHV1 HYPOVIRUS

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ABSTRACT

Biological control by hypovirulence is an efficient method to control chestnut blight. The presence of *Cryphonectria hypovirus* 1 (CHV1) in *Cryphonectria parasitica* reduces its parasitic growth and sporulation capacity, female fertility, pigmentation, oxalate accumulation and laccase production. Indeed, laccases are involved in lignin degradation, and are also considered as a virulence determinant in *C. parasitica*. The aim of this work was to evaluate the laccase production in both virulent and converted strains and to access the virulence of these strains in vitro and on dormant chestnut stems. Five isolates were converted with two characterized hypovirulent *C. parasitica* isolates (RBB111, SR44.2). To evaluate the virulence of the isolates, dormant chestnut stems were inoculated with the virulent isolates, their converted ones and the hypovirulent isolates. The qualitative evaluation of laccase production was performed using Bavendamm test and RBBR test. For quantitative evaluation of laccase production strains were grown on PDB (Potato Dextrose Broth, 24g/L) and the sample readings taken by spectrophotometry using ABTS. The hypovirulent isolates used in this work has complete ability to convert virulent isolates. The infection area on chestnut stems caused by virulent strains was significantly higher ($P<0.05$) than the infection area caused by converted strains. The isolates Cast13 and Cast26 showed highest enzymatic activity. In the Bavendamm test, the highest dark erea was observed for the converted strains Cast26/RBB111 and Cast17/RBB111 (15.04 mm^2 ± 2.66 and 14.30 mm^2 ± 1.02, respectively). For the quantitative assay two isolates were evaluated and showed a decrease of laccase especially the one converted with RBB111

Keywords: *Cryphonectria parasitica*, virulence, laccase

GRAPH DECOMPOSITION INTO ARBITRARY TREES

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ABSTRACT
A popular research aspect of graph theory is graph decomposition. A decomposition of a graph G is a partitioning of the edges into subgraphs H1, H2, …, Hk such that each edge of G is included in exactly one Hi, $1 \leq i \leq k$. Note that decomposing the graph G means that there is no remaining edges and all the edges need to belong to atleast one subgraph. Another domain in graph theory that is extensively studied is graph domination. A set of vertices S in a graph G dominates G if every vertex in G is either in S or adjacent to a vertex in S. The cardinality of the smallest possible dominating set is called the domination number of G. In the literature of graph theory the domination number of a graph G is denoted by $\gamma (G)$. Generally, while decomposing a graph, domination number is not used as a tool. In this article, we have developed an iterative process of decomposing a given graph into trees using domination number as a tool for decomposition. For this purpose, we define a new kind of domination called circuit domination, and have decomposed G into trees. This article will be of interest to researchers interested in relating both graph domination and graph decomposition.
Key words Decomposition, Domination, Tree.

1. Introduction
Most of the situations in real life can be connected with graph theory proof techniques with set of vertices and edges connecting the pairs of vertices. One among them is dominating sets. Dominating sets arise in many facility location problems such as locating schools, hospitals, radio stations, stores etc. Also, it plays its role in the field of land surveying, situations involving sets of representatives etc. Also graph decomposition is a popular aspect of research in graph theory. Many research works have been undergone using domination and decomposition of graphs. In [1] Kelleher gave out her research work on dominating sets in social network graphs. In [2] E. Ebin Raja Merly et al introduced a new concept called connected domination decomposition and also investigated connected domination path decomposition of triangular snake. In [3] K. Lakshmiprabha et al introduced ascending domination decomposition (ADD) of a graph G in which they also characterised paths and cycles through ADD. In [4] K.S. Jinisha Kalaiarasan et al introduced a new concept called eccentric domination decomposition of a graphs. In [5] J. K. Sebastian et al defined a parameter called star number for the end vertices of a star while partitioning a graph into star. In this article we developed an iterative process by introducing a new concept of decomposing a graph into trees.

2.Terminology and Concepts
A graph G is an ordered pair of two sets V and E, where V is a finite nonempty set of objects called vertices and E is 2 element subsets of V called edges. Let G be a graph. A tree T of G is a connected graph without any circuits. A set $D \subseteq V(G)$ of vertices is called a dominating set if every vertex $v \in V(G)$ is either an element of D or is adjacent to an element of D. A dominating set is a minimal dominating set if no proper subset $D' \subset D$ is a dominating set. The minimal dominating sets in the Fig. 1(b) are {1, 8, 5}, {1, 8, 6, 3}, {1, 8, 6, 4}, {2, 8, 5}, {1, 7, 6, 4}, {1, 7, 6, 3}. The minimum cardinality of a dominating set in G is known as the domination number and is denoted by $\gamma(G)$. For the graph in Fig. b {1, 8, 5}, {2, 8, 5} are

minimum dominating sets. i.e, $\gamma(G) = 3$. A decomposition of graph G is an edge-disjoint subgraphs H_1, H_2, ..., H_n of G, such that union of all H_i includes all the edges of G.

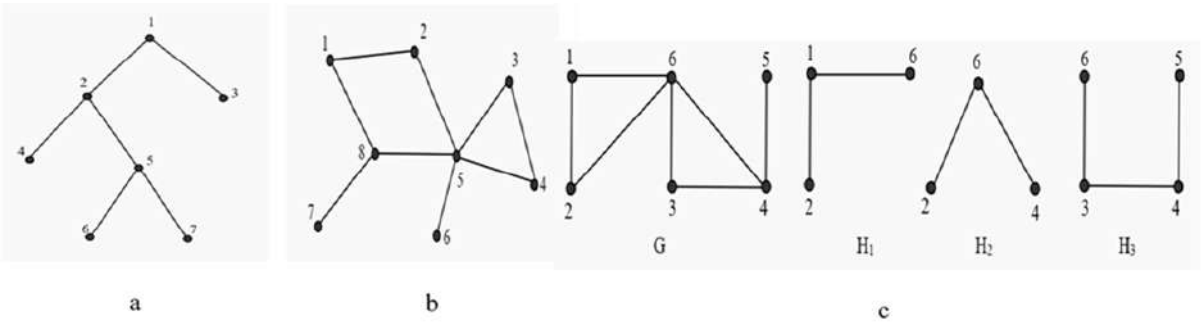


Fig. 1

Fig. 1(a) is an example of a tree, 1(b) is an example of a dominating set. Here {5, 8} is a dominating set and 1(c) illustrates an example for decomposing a graph G into H_1, H_2, H_3.

3.Materials and Methods

In this article, we aim to decompose any graph G into trees. We know that a tree is a connected graph without any circuits. So, to decompose a graph into trees the basic aim is to break all the circuits. A dominating set is a set of vertices that covers all the remaining vertices in G. We shall plan to use this property of a dominating set to decompose a graph into trees. Now our problem is "do we have a γ - set that covers all the circuits?". Let us look at the graph in Fig. 2.

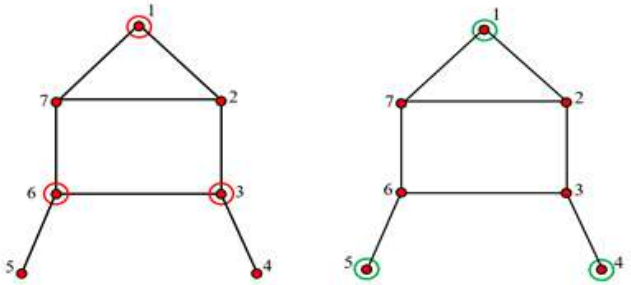


Fig. 2

{1, 3, 6}, {1, 5, 4} are 2 possible γ - sets for G. We observe that {1, 3, 6} cover all the circuits, while {1, 5, 4} does not cover the circuit {2, 3, 6, 7}. So, given any graph we observe that there are possible γ - sets that cover all the circuits in G. Based on this property let us define a new kind of domination labelled as circuit domination.

3.1 Circuit Domination

Let G be any graph. A dominating set $D \in V(G)$ is said to be a circuit dominating set if D covers all the circuits in G. The cardinality of the smallest possible set that covers all the circuits is called the minimum circuit domination number denoted by $\gamma_{CD}(G)$. The set that satisfies this property is denoted as γ_{CD} - set.

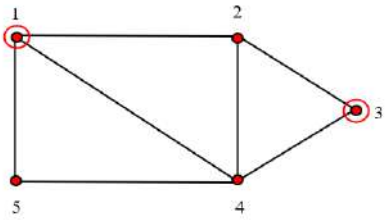


Fig. 3

In Fig. 3, D = { 1, 3 } cover all the circuits in the graph and $\gamma_{CD} = 2$.

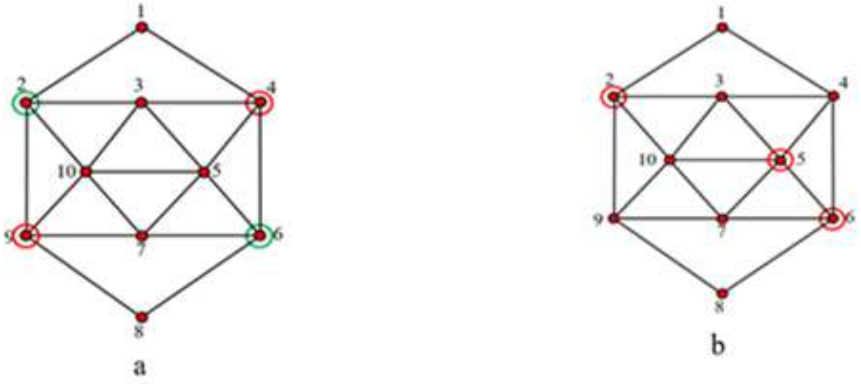


Fig. 4

Consider a graph G in Fig. 4(a). Here {2, 6} and {4, 5} are the possible γ - sets for G. We observe that these γ - sets do not include all the circuits in G. So, there are graphs where we do not have a γ - sets that includes all the circuits. In Fig. 4(b), {2, 5, 6} is not a γ – sets, but a dominating set for G. This dominating set covers all the circuits in G. So, we observe that in such cases a γ - set might not be favourable to break all the circuits in G. To favour our decomposition let us consider dominating sets that covers all the circuits in G. {2, 5, 6, 7} is also a dominating set for the graph G in Fig. 3, but this is not the smallest dominating set that cover all the circuits. It would suffice if we consider a minimum dominating set that covers all the circuits (not necessarily a γ – set). This would help us to decompose any given graph into trees let us now determine an iterative procedure to decompose any graph into trees. Consider the graph in Fig. 5. A dominating set for G that covers all the vertices is D = {2, 6, 9, 11, 12}.

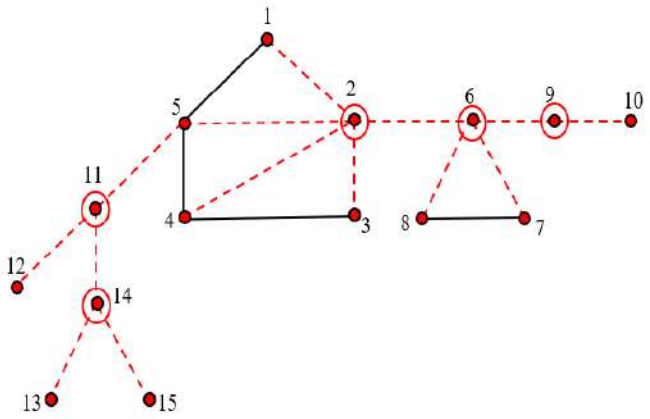


Fig. 5

Consider ⟨V − D⟩ as seen in Fig. 6.

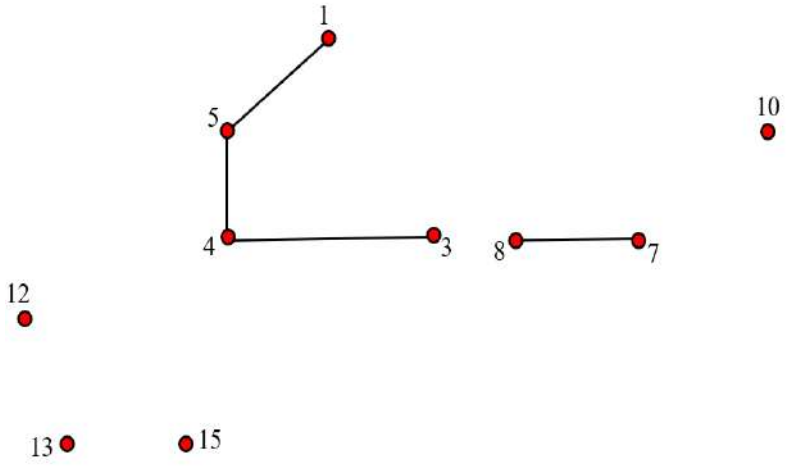


Fig 6

We observe that $\langle V - D \rangle$ has many isolated vertices. Our aim is to break all the circuits in G. For this purpose, $D' = \{2, 6\}$ would be sufficient. In this case $\langle V - D' \rangle$ is as seen in Fig. 7.

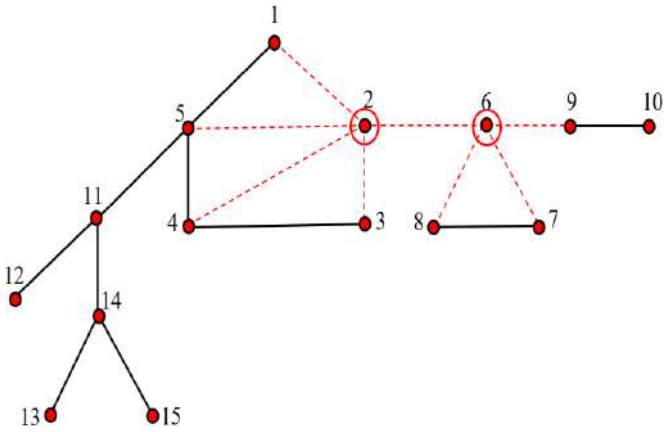


Fig. 7

The graph in Fig. 7 is a forest. So, it is sufficient to consider a dominating set that covers all the circuits. It is not necessary that this set should dominate all the vertices. From all these discussions we conclude that to decompose G into trees it is sufficient to consider a set D such that D covers all the circuits of G and D need not cover all the vertices. Let us denote such a set as a circuit covering set.

Circuit Covering Set

Let G be any graph. A set $D \subseteq V(G)$ such that G covers all the circuits is called a circuit covering set. The cardinality of the smallest circuit covering set D is called circuit covering number denoted by $\Gamma(G)$. Let us denote this smallest circuit covering set by Γ- set. Using this set D, we shall now proceed to develop an iterative procedure of decomposing G into trees.

Iterative Procedure

Let G be any graph.

Step 1 Determine a Γ – set for G.

Step 2 Consider $\langle V - D \rangle$. $\langle V - D \rangle$ is either a tree or a forest. Label the trees as $T_1, T_2, \ldots, T_k$. (Observe that if $\langle V - D \rangle$ is a tree then $k = 1$ else $k \geq 2$).

Step 3 Consider $\langle D \rangle$. If $\langle D \rangle$ is a tree then terminate the procedure and $X = \{T_1, T_2, \ldots, T_k, D\}$ is a required decomposition. If $\langle D \rangle$ is not a tree then continue from step 1 by considering G =

⟨D⟩ to generate a sequence of trees T_1, T_2, …, T_k. X= {T_1, T_2, …, T_s} is the required decomposition of G such that each T_i is a tree, $1 \leq i \leq s$. The graph in Fig. 8 provides an illustration of the iterative procedure.

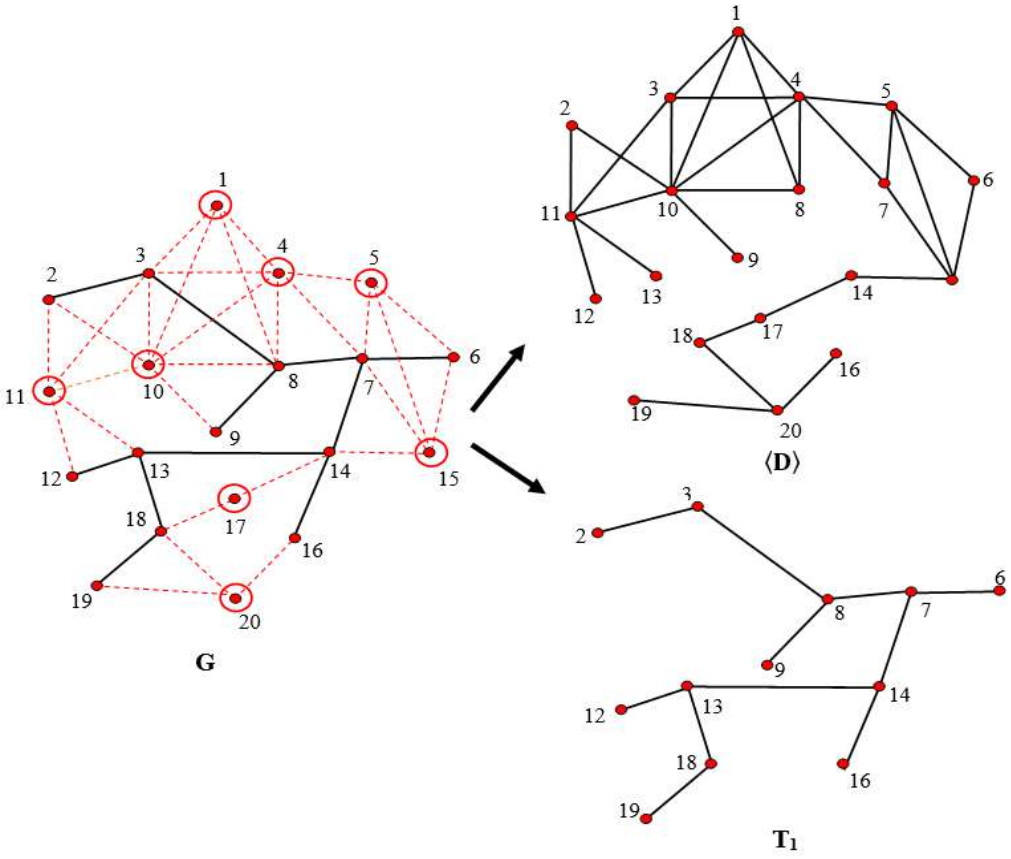
In all the graphs in Fig. 8

○ denotes a Γ – set.

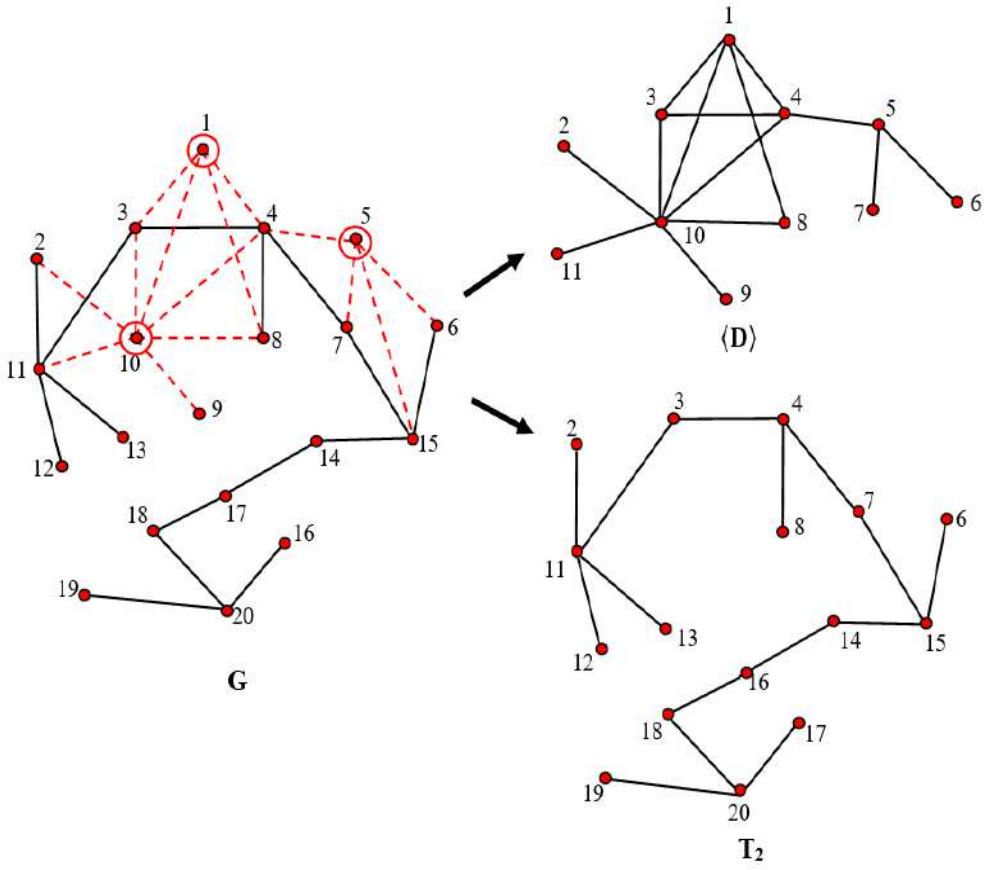
- - - - - - - - denotes the edges on D.

——————— denotes the edges in ⟨V − D⟩

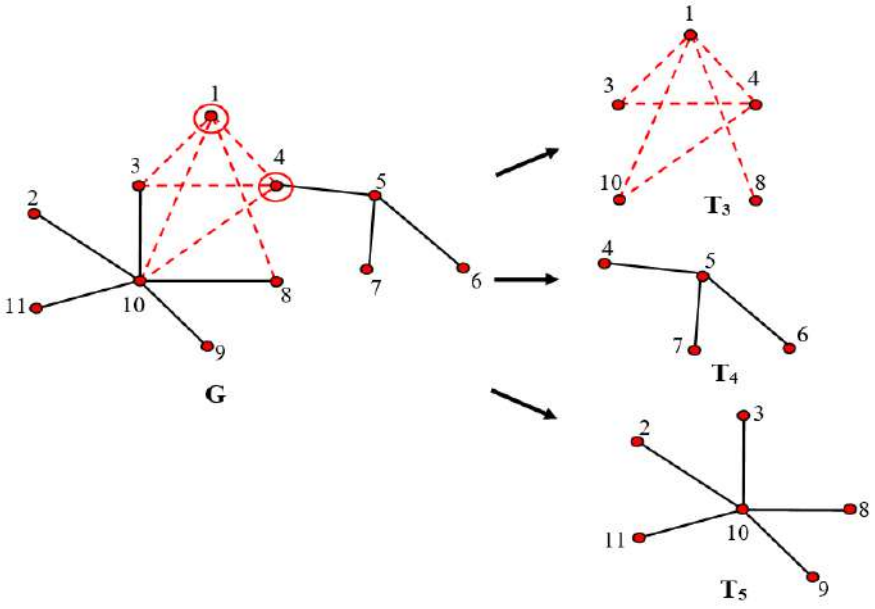
Iteration 1



Iteration 2



Iteration 3



Iteration 4

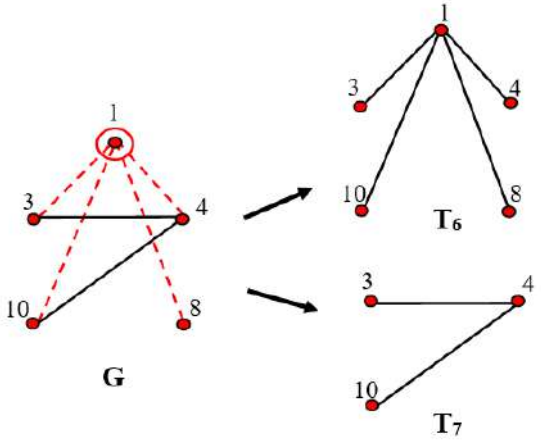


Fig. 8

$X = \{T_1, T_2, T_3, T_4, T_5, T_6\}$ is a decomposition for the graph in iterations of Fig. 8.

Conclusion

In this article we have defined two new types of covering one for covering all the vertices and the other for covering all the circuits. Using these definitions, we have developed an iterative procedure for decomposing G into trees.

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CONFIGURATION REVERSAL EFFECT ON EARTH RESISTIVITY MEASUREMENT IN SOME PART OF BIRNINKEBBI NORTHWESTERN NIGERIA

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ABSTRACT

An approach involving forward and reverse effect on the earth resistivity measurements were carried out in some selected site of Birnin Kebbi area of Gwandu formation northwestern Nigeria, with a view to established empirical relationship based on the principle of reversibility of current and potential difference between the two electrodes in the area of study, as well obtain depth of penetration and determine the apparent resistivity for different probe depth and spacing of current. A total of eight (8) depth sounding data randomly distributed were acquired using schlumberger array with half maximum of current electrode separation (AB/2) of 70 m due to shallow, deep and very deep of penetration was used to measure resistivity in both location. The field data obtained were analysed and interpreted using IPI2win and Excel chart of (x, y scattered) which gave an automatic interpretation of the apparent resistivity data. In this research work series of measurements were conducted to compare apparent soil resistivity of two switches and how it affected by depth of the soil moisture content. The results obtained show how the soil resistivity varies with depth and spacing, which informs the design of earthen protection schemes for worst case scenarios. It was observed that soil resistivity varies based on the type soil and moisture content. The forward switch had a lower resistivity than the reverse switch. The propose design shows that the number of earth electrodes required varies from 4 to 6 forward switch conditions respectively.

Keywords: Configuration reversal effect; Apparent resistivity; Forward-reverse switch; Moisture contents; Birnin Kebbi

SPOR BİLİMLERİ ÖĞRENCİLERİNİN AKILLI TELEFON BAĞIMLILIĞINA İLİŞKİN GÖRÜŞLERİNİN İNCELENMESİ (IĞDIR İLİ ÖRNEĞİ)

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ÖZET

Bu araştırmanın amacı, Iğdır Üniversitesi Spor Bilimi Öğrencileri'nin akıllı telefon bağımlılığına ilişkin görüşlerini incelemektir. Araştırmada betimsel yöntem kullanılmıştır. Çalışmanın araştırma grubunu; Iğdır Üniversitesi Beden Eğitimi ve Yüksekokulu'nda öğrenim gören toplam 308 (183 erkek, 125 kadın) öğrenci oluşturmuştur. Araştırmanın verilerini toplamak için Demirci, Orhan, Demirdaş, Akpınar ve Sert (2014) tarafından geçerlilik ve güvenilirliği yapılan akıllı telefon bağımlılığı ölçeği ile araştırmacı tarafından oluşturulan "Kişisel bilgi formu" kullanılmıştır. Akıllı telefon bağımlılığı ölçeği 7 alt boyuttan oluşmaktadır. 6'lı likert tipi bir ölçektir. Veriler google platformu üzerinden çevrimiçi olarak toplanmıştır.Verilerin analizinde SPSS-23 paket programı kullanılmıştır. Verilerin çarpıklık ve basıklık değerlerine bakılmış ve verilerin normal bir dağılıma sahip olmadığı tespit edilmiştir. Verilerin analizinde ikili gruplar arasında fark olup olmadığını tespit etmek için Non-Parametrik testlerden Mann-Whitney U testi, ikiden fazla gruplar için ise Kruskal Wallis Testi uygulanmıştır. Verilerin değerlendirilmesinde anlamlılık $p<0.05$ olarak kabul edilmiştir. Araştırma sonucunda spor bilimleri öğrencilerinin akıllı telefon bağımlılığının sanal odaklı ilişkiler alt boyutu ile bölüm değişkeni arasında anlamlı fark tespit edilmiştir ($p<0.05$).

Anahtar Kelimeler: Spor, Akıllı Telefon Bağımlılığı, Spor Bilimi Öğrencileri

EXAMINATION OF SPORTS SCIENCE STUDENTS' OPINIONS ON SMART PHONE ADDICTION (IĞDIR PROVINCE EXAMPLE)

ABSTRACT

The aim of this research is to examine the views of Iğdır University Sports Science Students on smartphone addiction. Descriptive method was used in the research. The research group of the study; A total of 308 (183 male, 125 female) students studying at Iğdır University Physical Education and Higher School were formed. In order to collect the data of the research, the smart phone addiction scale, which was validated and reliable by Demirci, Orhan, Demirdaş, Akpınar, and Sert (2014), and the "Personal information form" created by the researcher were used. Smartphone addiction scale consists of 7 sub-dimensions. It is a 6-point Likert type scale. The data were collected online via google platform. SPSS-23 package program was used in the analysis of the data. The skewness and kurtosis values of the data were examined and it was determined that the data did not have a normal distribution. In the analysis of the data, Mann-Whitney U test, which is one of the non-parametric tests, was used to determine whether there

was a difference between the paired groups, and the Kruskal Wallis Test was applied for more than two groups. In the evaluation of the data, the significance was accepted as $p<0.05$.

As a result of the research, a significant difference was found between the Virtual-focused Relations sub-dimension of Smartphone Addiction of sports science students and the department variable ($p<0.05$).

Keywords: Sports, Smartphone Addiction, Sports Science Students.

GİRİŞ

Bağımlılık bir kişiye, nesneye veya bir varlığa duyulan karşı konulamaz istek, başka bir iradenin kontrolü ele geçirmesi ve zihinsel eylemler ile ilişkili hastalıklı bir davranıştır (Uzbay ve Yüksel, 2003). Geçmiş yıllarda bağımlılık uyuşturucu madde ve kimyasal maddelere olan bağlılık olarak değerlendirilmiştir. Fakat literatüre yeni katılan davranışsal bağımlılıklarda vardır. Kişide herhangi bir heyecan uyandıran her şey bağımlılık yapma potansiyeline sahiptir (Comings, 1994; Stein, Hollander ve Coheni, 1994). Günümüzde gelişen teknolojinin de etkisi ile hayatımıza giren internet, telefon, bilgisayar ve televizyon gibi cihazlar yeni davranışları ortaya çıkarmıştır. Teknolojik bu gelişmeler bağımlılık kavramını da etkilemektedir. APA tarafından daha öncesinde madde kötüye kullanımı ve bağımlılık olan tanı kategorisi, madde kullanımı ve bağımlılık bozuklukları olarak değiştirilmiştir (APA, 2013). Teknolojide yaşanan bu gelişmeler akıllı telefonların kapasitelerini ve kullanım alanlarını geliştirmektedir. İnsanlar bilgiye akıllı telefonları ile daha rahat ve kolay ulaşmaya başlamış bu durum akıllı telefonların bireylerin yaşamlarının bir parçası haline dönüşmesine neden olmuştur (Akçay, 2013: 59).

Bireylerin yaşamlarının bir parçası olan akıllı telefonlar amacı dışında kullanıldığı zaman kişilere, bedensel ve zihinsel zarar verebilmektedir.Örneğin öğrencilerin derslere motive olamaması, disiplinli bir çalışma yapamaması, uykusuzluk gibi durumlar söz konusu olabilmektedir. Bu bağlamda araştırmamızın amacı geleceğimizin teminatı olan üniversite öğrencilerinin akıllı telefon bağımlılığına ilişkin görüşlerini incelemektir.

YÖNTEM

Bu çalışmada, nicel araştırma yöntemi kullanılmıştır.

Evren ve Örneklem

Araştırmanın evrenini, Iğdır Üniversitesi Beden Eğitimi ve Yüksekokulu'nda öğrenim gören öğrenciler oluştururken, örneklemini ise Beden Eğitimi ve Yüksekokulu'nda çalışmaya gönüllü olarak katılmayı kabul eden toplam 308 (183 erkek, 125 kadın) öğrenci oluşturmuştur. Veriler google platformu üzerinden çevrimiçi olarak toplanmıştır.

Veri Toplama Araçları

Akıllı Telefon Bağımlılığı: Demirci, Orhan, Demirdaş, Akpınar ve Sert (2014) tarafından geçerlilik ve güvenilirliği yapılmıştır. Akıllı telefon bağımlılığı ölçeği 7 alt boyuttan oluşmaktadır. 6'lı likert tipi bir ölçektir.

Veri Analizi

Araştırma verileri analize hazır hale getirildikten sonra SPSS (23.0) programı ile analiz edilmiştir. Verilerin çarpıklık ve basıklık değerlerine bakılmış ve verilerin normal bir dağılıma sahip olmadığı tespit edilmiştir. Kurtosis (basıklık) değeri ise -135 ile 3.335 arasında, Skewness (çarpıklık) değeri-1,841 ile-.869 arasında değiştiği tespit edilmiştir. Tabachnick ve Fidell'e (2013) göre verilerin normal dağılım kabul edilmesi için "Kurtosis ve Skewness değerleri-1.5 ile +1.5" olmalıdır. Verilerin analizinde ikili gruplar arasında fark olup olmadığını tespit etmek

için Non-Parametrik testlerden Mann-Whitney U testi, ikiden fazla gruplar için ise Kruskal Wallis Testi uygulanmıştır. Verilerin değerlendirilmesinde anlamlılık $p<0.05$ olarak kabul edilmiştir.

BULGULAR

Tablo 1. Betimleyici İstatistikler

	Grup	(f)	(%)
Cinsiyet	Kadın	125	40,6
	Erkek	183	59,4
Bölümler	Öğretmenlik	108	35.1
	Yöneticilik	79	25.6
	Antrenörlük	121	39.3
Toplam		308	

Tablo 1 incelendiğinde, öğrencilerin %40,6'sının kadın, %59.4'ünün erkek; %35.1'inin öğretmenlik, %25.6'sının yöneticilik, % 39.3'ünün antrenörlük bölümü mezunu olduğu tespit edilmiştir.

Tablo 2. Akıllı telefon bağımlılığı alt boyutlarının normallik dağılımı

Alt Boyutlar	N	Minimum	Maximum	X	SS	Skewness (Çarpıklık)	Kurtosis (Basıklık)
Günlük yaşamı engelleme ve tolerans	743	2,00	5,88	4,6258	,72628	-1,082	,439
Yoksunluk belirtileri	743	2,00	5,71	4,6841	,70559	-1,818	2,846
Pozitif beklentiler	743	2,00	5,80	4,6948	,68324	-1,804	3,118
Sanal odaklı ilişkiler	743	2,00	5,75	4,6843	,70591	-1,841	3,364
Aşırı kullanım	743	2,25	5,50	4,7183	,65449	-1,782	2,725
Sosyal ağ bağımlılığı	742	2,00	6,00	4,7565	,73364	-1,358	2,482
Fiziksel belirtiler	743	2,00	6,00	4,4794	,84991	-,869	-,135

Tablo 2 incelendiğinde çarpıklık değerlerinin-1,841 ile-,869 arasında, basıklık değerlerinin ise-,135 ile 3,364 araasında olduğu görülmüştür.

Tablo 3. Akıllı telefon bağımlılığı alt boyutlarının cinsiyete göre Mann-Whitney U testi

Alt Boyutlar	Cinsiyet	N	Sıra Ortalaması	Sıra Toplamı	U	P
Günlük yaşamı engelleme ve tolerans	Erkek	183	151,98	27812,00	10976,000	,544
	Kadın	125	158,19	19774,00		
	Toplam	308				
Yoksunluk belirtileri	Erkek	183	157,27	28779,50	10931,500	,500
	Kadın	125	150,45	18806,50		
	Toplam	308				
Pozitif beklentiler	Erkek	Aa1	157,10	28748,50	10962,500	,525
	Kadın	125	150,70	18837,50		
	Toplam	308				
Sanal odaklı ilişkiler	Erkek	183	156,08	28562,00	11149,000	,696
	Kadın	125	152,19	19024,00		
	Toplam	308				
Aşırı kullanım	Erkek	183	157,49	28821,50	10889,500	,452
	Kadın	125	150,12	18764,50		
	Toplam	308				
Sosyal ağ bağımlılığı	Erkek	183	158,01	28916,00	10795,000	,354
	Kadın	125	149,36	18670,00		
	Toplam	308				
Fiziksel belirtiler	Erkek	183	153,77	28139,50	11303,500	,858
	Kadın	125	155,57	19446,50		
	Toplam	308				

Tablo 3 incelendiğinde cinsiyetin herhangi bir akıllı telefon bağımlılığı alt boyutu ile anlamlı bir ilişkisinin olmadığı tespit edilmiştir.

Tablo 4. Akıllı telefon bağımlılığı alt boyutlarının tercih edilen bölümlere göre Kruskal Wallis testi

Alt Boyutlar	Bölüm	N	Sıra Ortalaması	X^2	Sd	P
Günlük yaşamı engelleme ve tolerans	BES Öğretmenliği	108	164,08	3,487	2	,175
	Spor Yöneticiliği	79	139,77			
	Antrenörlük	121	155,57			
	Toplam	308				
Yoksunluk belirtileri	BES Öğretmenliği	108	166,70	4,021	2	,134
	Spor Yöneticiliği	79	141,34			
	Antrenörlük	121	152,21			

	Toplam	308				
Pozitif beklentiler	BES Öğretmenliği	108	161,25	2,019	2	,364
	Spor Yöneticiliği	79	143,22			
	Antrenörlük	121	155,84			
	Toplam	308				
Sanal odaklı ilişkiler	BES Öğretmenliği	108	171,08	8,043	2	,018*
	Spor Yöneticiliği	79	135,43			
	Antrenörlük	121	152,15			
	Toplam	308				
Aşırı kullanım	BES Öğretmenliği	108	165,89	5,096	2	,078
	Spor Yöneticiliği	79	137,68			
	Antrenörlük	121	155,31			
	Toplam	308				
Sosyal ağ bağımlılığı	BES Öğretmenliği	108	162,63	2,093	2	,351
	Spor Yöneticiliği	79	145,68			
	Antrenörlük	121	153,01			
	Toplam	308				
Fiziksel belirtiler	BES Öğretmenliği	108	167,29	4,935	2	,085
	Spor Yöneticiliği	79	138,87			
	Antrenörlük	121	153,29			
	Toplam	308				

Tablo 4. incelendiğinde bölüm değişkeninin akıllı telefon bağımlılığı alt boyutları ile (günlük yaşamı engelleme ve tolerans, yoksunluk belirtileri, pozitif beklentiler, sanal odaklı ilişkiler, aşırı kullanım, sosyal ağ bağımlılığı, fiziksel belirtiler) arasında anlamlı bir fark olmadığı tespit edilmiştir.

SONUÇ

Araştırma bulgularına bakıldığında spor bilimleri öğrencilerinin Akıllı telefon bağımlılık puanlarının yüksek olduğu tespit edilmiştir.

Cinsiyet değişkenine göre alt boyut puanları karşılaştırıldıgında anlamlı bir sonuç tespit edilememiştir. Literatür incelediğinde Göymen ve Ayas (2019), Çuhadar, Demirel, Er ve Serdar (2020)'ın çalışmaları araştırma bulgularımızı desteklemektedir. Diğer taraftan Chen, Liu, Ying, Wang ve Wen (2017), yapmış oldukları araştırmada akıllı telefon bağımlılığı ile cinsiyet arasında anlamlı bir farklılığın olduğu sonucuna ulaşmışlardır.

Bölüm değişkenine göre ölçek puanları karşılaştırıldığında sadece sanal odaklı ilişkiler alt boyutunda anlamlı bir sonuç tespit edilirken diğer alt boyutlarda anlamlı sonuç tespit edilememiştir. Araştırma bulgularımızla benzerlik gösteren Çelik (2014), Boumosleh ve Jaalouk'un (2017) yapmış oldukları araştırmada da akıllı telefon bağımlılığı alt boyutları ile tercih edilen bölümler arasında anlamlı bir farklılığın olmadığını sonucuna ulaşılmıştır. Traş ve Öztemel (2019), Bal (2020)'ın yapmış oldukları çalışmalarda ise cinsiyet ile akıllı telefon bağımlılılığı arasında anlamlı sonuç elde edilememiştir.

Sonuç olarak, geleceğimizin teminatı olan üniversite öğrencilerinin akıllı telefon bağımlılığına karşı tutumları, kariyerleri açısından önem arzetmektedir. Bu sonuçlar ışığında spor bilimleri öğrencilerini akıllı telefon bağımlılığına iten nedenler detaylı bir şekilde araştırılmalı, ayrıca öğrenci ve velilerin akıllı telefon bağımlılığına karşı bilinçlendirme faaliyetleri artırılmalıdır.

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OTİZM SPEKTRUM BOZUKLUĞU OLAN ÇOCUK VE ERGENLERDE EGZERSİZ UYGULAMALARI: EXERGAMİNG İNCELEMESİ

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ÖZET

Otizm Spektrum Bozukluğu (OSB), çeşitli etiyolojilerle ilişkili ve sosyal etkileşim, duygusal karşılıklılık, iletişim, motor beceriler ve bilişsel işlevlerdeki eksiklikler ile karakterize, hayal gücünde bozulma, sınırlı ve tekrarlayan ilgilerin eşlik ettiği karmaşık bir nörogelişimsel bozukluktur. Motor disfonksiyonu OSB'de yaygın bir sorundur. Bu durum fiziksel aktiviteye katılımı engelleyebilir ve erken yaşta sosyal bozulmalara katkıda bulunabilir. OSB'li çocuklarda, temel motor becerilerin gelişimine odaklanan Çocuklar için Spor, Oyun ve Aktif Rekreasyon gibi geleneksel fiziksel aktivite programları; nesne kontrolü, denge, koordinasyon ve genel motor becerilerde olumlu gelişmelerle sonuçlanmıştır. Exergaming (örneğin, Wii ve Kinect) yaygın olarak kullanılmaktadır ve OSB'li çocuklar için oldukça ilgi çekicidir. Exergaming, fiziksel aktivite ile video oyunları arasında bağlantı kurar, fiziksel ve zihinsel aktivitelerin bir karışımını içerir. OSB'li bireylerin karşılıklı ve ortak davranışlarda bulunmaları zor olduğundan, exergaming gibi platformlara katılmak, bu bireylere motor ve yürütücü işlev becerilerini uygulama konusunda yardımcı olabilmektedir. Ayrıca bu bireylerin video oyunları ile fiziksel etkileşimi ile karakterize edilen oyunlar olan exergaming, yaygın fiziksel aktivitelerden daha eğlenceli ve eğlenceli oldukları için OSB'li bireyler için düşük maliyetli ve güvenli bir egzersiz türü olarak kabul edilmektedir. Bu derlemenin amacı, exergaming programlarının OSB'li çocuklarda ve ergenlerde fiziksel uygunluk, bilişsel işlevler ve tekrarlayan davranışlara olan etkisini ilgili mevcut literatürdeki kanıtları gözden geçirerek tartışmaktır. Ortaya çıkan sonuçlar incelendiğinde, OSB'li çocuklar ve ergenler için exergaming programlarının fiziksel uygunluğu, bilişsel işlevleri geliştirmek ve tekrarlayan davranışları azaltmak için potansiyel bir araç olarak kabul edilebilir olduğunu ifade edebiliriz. Bu potansiyel faydaların OSB'li çocuk ve ergenler üzerindeki etkilerin daha iyi anlaşılması için daha birçok araştırmaya ihtiyaç vardır.

Anahtar kelimeler: Otizm spektrum bozukluğu, egzersiz, exergaming, çocuk, ergen

EXERCISE PRACTICES IN CHILDREN AND ADOLESCENTS WITH AUTISM SPECTRUM DISORDER: AN EXERGAMING REVIEW

ABSTRACT

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental disorder associated with various etiologies and characterized by deficits in social interaction, emotional reciprocity, communication, motor skills, and cognitive functions, accompanied by impaired imagination,

limited and repetitive interests. Motor dysfunction is a common problem in ASD. This may hinder participation in physical activity and contribute to social impairment at an early age. In children with ASD, traditional physical activity interventions such as Sports for Children, Play and Active Recreation, which focus on the development of basic motor skills, have resulted in improvements in object control, balance, coordination and general motor skills. Exergaming (for example, Wii and Kinect) are widely used and very interesting for children with ASD. Exergaming links physical activity with video games and includes a mix of physical and mental activities. Since it is difficult for individuals with ASD to engage in mutual and shared behaviors, participating in platforms such as exergaming can help these individuals to practice their motor and executive function skills. In addition, exergaming, which is characterized by the physical interaction of these individuals with video games, is considered a low-cost and safe type of exercise for individuals with ASD, as they are more fun and enjoyable than common physical activities. The purpose of this review is to discuss the effect of exergaming programs on physical fitness, cognitive functions and repetitive behaviors in children and adolescents with ASD by reviewing the evidence in the relevant literature. When the results are examined, we can state that exergaming programs for children and adolescents with ASD can be considered as a potential tool to improve physical fitness, cognitive functions and reduce repetitive behaviors. More research is needed to better understand the implications of these potential benefits for children and adolescents with ASD.

Key words: Autism spectrum disorder, exercise, exergaming, child, adolescent

Giriş

Otizm spektrum bozukluğu (OSB) popülasyonundaki artış, halk sağlığı içinde derin bir endişeyi tetiklemektedir. Bu endişe verici eğilim, bu artan nüfusa yardımcı olabilecek etkili stratejilerin geliştirilmesine duyulan ihtiyacı vurgulamaktadır. Exergaming, esnek oyun, egzersiz için özel alan ve çeşitli fiziksel aktivite türleri gibi bir Otizm spektrum bozukluğu (OSB) tanısı olan bireylerde alternatif bir müdahale olarak çeşitli avantajlara sahip olduğu belirtilmektedir. Bu derleme, exergaming programlarının OSB'li çocuklarda ve ergenlerde fiziksel uygunluk, bilişsel işlevler ve tekrarlayan davranışlara olan etkisini ilgili mevcut literatürdeki kanıtları gözden geçirerek tartışmayı amaçlamaktadır.

Otizm Spektrum Bozukluğu (OSB)

Otizm spektrum bozukluğu (OSB) ilk olarak 1943'te psikiyatrist Leo Kanner tarafından başkalarıyla ilgili sorunları olan ve çevrelerindeki değişikliklere karşı yüksek hassasiyet gösteren çocuklarda görülen bir bozukluk olarak tanımlamıştır (Kanner, 1943). O zamanlar nadir görülen bir hastalık gibi görünse de otizm spektrum bozukluğunun (OSB) yaygınlığı giderek artmıştır. Hastalık Kontrol ve Önleme Merkezlerinin (CDC'ler) 11 lokasyondan oluşan ağı, erkek-kız oranı 4,5'e 1 olan 68 çocuktan birinde otizm prevalansı tanımlamaktadır (Christensen ve ark., 2016). Bu veriler, birden fazla ulus ve geniş ölçüde ayrılmış konumlar arasında yapılan diğer çalışmalarla ilişkilidir (Elsabbagh ve ark., 2012; Boyle ve ark., 2011). [3, 4] 2013'te DSM-5, daha önce ayrı olan dört bozukluğu birleştirerek OSB'nin şemsiye tanısını oluşturdu: otistik bozukluk, Asperger sendromu, çocuklukta dezintegratif bozukluk ve başka türlü tanımlanamayan yaygın gelişimsel bozukluk (APA, 2013).

Etiyoloji

OSB'nin genetik kalıtım derecesi çalışmaları %40 ile %90 arasında değişmektedir ve en son tahminler yaklaşık %50 genetik sorumluluğa sahiptir. OSB'ye genetik katkı, birçok biyolojik yol boyunca çeşitli mutasyon mekanizmaları aracılığıyla gerçekleşir (Colvert ve ark.., 2015; Talkowski ve ark., 2014). Bunlar doğum öncesi riskler arasında baba veya annenin yaşı,

diyabetes mellitus, hipertansiyon ve obezite gibi maternal metabolik durumlar yer almaktadır. Rahim içi riskler arasında valproat (Depacon) maruziyeti, anne enfeksiyonları, trafikle ilgili hava kirliliği ve pestisit maruziyeti sayılabilir. Ayrıca düşük doğum ağırlığı ve erken doğum gibi perinatal olaylar, genel nörogelişimsel hasar riskinin bir parçası olarak OSB riskini artırmaktadır (Mandy & Lai, 2016).

Klinik tanı

OSB'li çocukların temel tanı özellikleri, sosyal iletişimdeki eksiklikleri ve kısıtlı, tekrarlayan davranış, ilgi veya aktivite kalıplarını içerirmektedir. Teşhis kriterleri, sürekli bir şiddet ve işlevsel bozulma üzerinde mevcuttur (APA, 2013). Altı ile 12 aylıkken bazı belirti ve semptomlar ortaya çıkabilir. Çoğu durumda, 24 aylıkken güvenilir bir tanı konulabilir (Guthrie ve ark., 2013; Lord ve ark., 2006). Sosyal yetersizlikler ve konuşma dilindeki gecikmeler, üç yaşından küçük çocuklarda en belirgin özelliklerdir. Ortak dikkat, kişinin kendi dikkatini başka bir kişi ile uzak bir nesne arasında ilgiyi paylaşmak için koordine etme yeteneğidir. Nörotipik çocuklar, ortak dikkati 12 aylıkken yanıtlar ve 14 aylıkken başlatırlar. 15 aylıktan sonra ortak dikkat göstermeyenler OSB açısından değerlendirilmelidir. Ebeveynler işitme kaybı endişesiyle başvurabilirler çünkü OSB'li çocuklar isimlerini söyleyerek dikkatlerini çekmek için yapılan birçok girişimden sonra yanıt vermeyebilirler (Baird ve ark., 2011; Blenner ve ark., 2011).

Otizm Spektrum Bozukluğu (OSB) ve Egzersiz

OSB'li bireylerde fiziksel aktiviteyi (PA) artırmayı hedefleyen programların son yıllarda arttığı görülmektedir (Janssen & LeBlanc, 2010). PA, çocuklara sayısız fiziksel ve psikolojik faydalar sağlamaktadır. Stereotipik davranışları azaltma, sosyal işlevsellik, iletişim ve akademik performansı olumlu yönde etkilemek gibi OSB'ye özgü davranışlar üzerinde olumlu bir etkiye sahip olduğu belirtilmektedir (Sowa & Meulenbroek, 2012). Mevcut öneriler, çocukların haftanın çoğu günü 60 dakika veya daha fazla gelişimsel olarak uygun orta-şiddetli PA'ya katılmaları gerektiği tavsiye edilmektedir (Janssen & LeBlanc, 2010). Bununla birlikte, tipik gelişen Avustralyalı çocukların yalnızca 5'i önerilen aktivite düzeylerine ulaşırken (ABS, 2013), OSB dahil engelli çocukların olasılığı daha da düşük olduğu görülmektedir (Srinivasan ve ark., 2014; Tyler ve ark., 2014). OSB'li çocuklar, aynı zamanda, ekran tabanlı etkinlikler gibi görsel-uzaysal becerileri içeren hareketsiz ve ev içi etkinlikleri tercih edebileceği ifade edilmektedir (Must ve ark., 2013).

PA önerilerine ulaşılmaması, OSB'li çocukların temel hareket becerilerini (THB) geliştirme fırsatını azaltabilir. THB, nesne kontrolünü (el, ayak veya vücudun diğer kısımlarını kullanarak, örneğin bir topu yakalama veya fırlatma gibi aletleri ve nesneleri kontrol etme), lokomotor (yani, koşma, atlama) ve stabilite veya denge becerilerini içermektedir (Staples & Reid, 2010). Bu beceriler, daha sonraki yaşamda spora veya PA'ya katılım için gerekli olan daha karmaşık hareket becerilerinin geliştirilmesi için gereklidir (Hardy ve ark., 2012; Staples & Reid, 2010). Erken çocukluk dönemindeki THB düzeyi ile yaşamın ilerleyen dönemlerindeki PA arasında pozitif bir ilişki gösterilmiştir (Barnett ve ark., 2010). Ek olarak, düşük THB, daha düşük kardiyorespiratuar zindelik ve artan obezite oranı ile ilişkilidir (Hardy ve ark., 2012). Algılanan fiziksel yeterlilik, aynı zamanda, çocuklarda ve ergenlerde PA davranışının önemli bir pozitif korelasyonudur (Babic ve ark., 2014). Stodden ve arkadaşları (2008), kavramsal modellerinde, çocukların FA katılımının hareket becerisi gelişimini etkilediği, bu da yetkinlik algılarını arttırdığı ve dolayısıyla daha fazla FA'yı teşvik ettiği, böylece hareket yetkinliğini artırdığı belirtilmiştir (Stodden ve ark., 2008).

Exergaming

Teknoloji ile fiziksel aktiviteyi birleştirmeyi amaçlayan aktif oyunlar veya exergaming, fiziksel egzersizleri ve video oyunlarını birleştiren, tüm vücudun hareket etmesini gerektiren teknolojilere verilen isimdir (Lin ve ark., 2015). Bu araçlar, gerçek hayattaki görevlere benzer hareketler kullanarak (sanal sporlar, fitness egzersizleri ve/veya interaktif fiziksel aktiviteler uygulanarak) gerçek hareketleri sanal ortama dönüştürerek kullanıcıların daha aktif olmalarını sağlamaktadır (Reynolds ve ark., 2014; Deutsch ve ark., 2011). Exergaming, oyun sırasında gerekli fiziksel efor ve motor beceri ve yeteneklerinden dolayı sedanter video oyunlarından farklıdır ((Deutsch ve ark., 2011; Biddiss & Irwin, 2010).

Exergaming günlük hayata dahil edilmesi, çocukların ve ergenlerin önerilen fiziksel aktivite seviyelerine ulaşmalarına yardımcı olabilmekte ve muhtemelen çocukların yaşamları üzerinde olumlu bir etkiye sahip olabileceği belirtilmektedir. Ayrıca motor beceri ve yeteneklerin kazanılması ve geliştirilmesi için alternatif bir yöntem olabileceği öngörülmektedir (Lin ve ark., 2015; Vernadakis ve ark., 2015; Hammond ve ark., 2014). Exergaming, çocukların ve ergenlerin yaşamlarında motor becerilerin ve yeteneklerin geliştirilmesi için uygulanabilirlikleri araştırılmaya devam etmektedir.

Otizm Spektrum Bozukluğu (OSB) ve Exergaming

Egzersiz yoluyla OSB'li bireylerin kendi algıladıkları motor becerileri ve bilişsel işlevleri artırmayı, tekrarlayan davranışlarını azaltmayı amaçlayan programlar bazı çalışmaların odak noktası olmuştur (Edwards ve ark., 2017; Golden ve ark., 2017; Dickinson & Place, 2014; Getchell ve ark., 2012; Anderson-Hanley ve ark., 2011). Egzersizin, tekrarlayan davranışların azaltılması ve bilişsel işlevlerin ve fiziksel uygunluğun iyileştirilmesi gibi OSB'ye özgü davranışlar dahil olmak üzere çocuklar için sayısız fayda sağladığı bilinmektedir (Golden ve ark., 2017; Dickinson & Place, 2014; Getchell ve ark., 2012; Anderson-Hanley ve ark., 2011). Bununla birlikte, geleneksel egzersiz yöntemlerinin, OSB'li kişilerin uyumu konusunda ek tedaviyi zorlaştırabilecek sınırlamaları olduğu bilinmektedir. Bu nedenle, bu popülasyon için fiziksel egzersiz sağlamak için yeni stratejiler üzerinde çalışmak esastır ve oyun oynama yoluyla sınırlayıcı engellerin üstesinden gelebildiğinden, egzersiz oyunları yüksek uyum oranına ulaşmak için potansiyel bir araç gibi görünmektedir (Bossink ve ark., 2017; Must ve ark., 2015).

Katılımcıların video oyunları ile fiziksel etkileşimi ile karakterize edilen oyunlar olan exergaming, yaygın fiziksel aktivitelerden daha eğlenceli ve eğlenceli oldukları için OSB'li kişiler için düşük maliyetli ve güvenli bir egzersiz türü olarak kabul edilebilir (Bossink ve ark., 2017; Must ve ark., 2015). En sık kullanılan konsollar Xbox Kinetic, Nintendo Switch ve PlayStation Move'dur ve en yaygın oyunlar spor (Kinetic Sports), dans (Just Dance) ve macera (Kinetic Adventure) oyunlarıdır (Silva ve ark., 2017; Chao ve ark., 2015; O'Donovan ve ark., 2012). Bu oyunlardan yaşlılar, hipertansiyonu olanlar, zihinsel engelliler, Parkinson hastalığı ve diğer nörolojik bozukluklar için egzersizi teşvik etmenin ilgili bir yolu olarak tavsiye edilmektedir (Ribas ve ark., 2017; Silva ve ark., 2017; Chao ve ark., 2015; Monteiro-Junior ve ark., 2014). Exargaming, OSB için fiziksel egzersizi teşvik etmek için harika bir alternatiftir (Costa ve ark., 2019). Yapılan bir çalışma (Anderson-Hanley ve ark., 2011), 20 dakikalık tek bir exergaming oturumunun etkileri, OSB'li öğrencilerin bilişsel performanslarında (örneğin, işleyen bellek) iyileşmenin yanı sıra tekrarlayan davranışlarda önemli bir azalmaya yol açabildiğini göstermiştir.

Anderson-Hanley ve ark. (2011), OSB'li ergenlerde exergaming programının akut etkilerini inceleyen iki pilot çalışma yürütmüştür. Çapraz tasarımlı ilk pilot çalışma, katılımcıların 20 dakika boyunca akut bir Dans Dansı Devrimi (DDR) ve farklı günlerde bir kontrol görevi gerçekleştirdiği 12 OSB çocuğunda egzersiz oyunlarının davranışsal ve bilişsel faydalarını

incelemişlerdir. İkinci pilot çalışmada, on genç daha 20 dakika boyunca akut bir siber bisiklet turu gerçekleştirmiştir. Her iki exergame koşulu, kontrol koşuluyla karşılaştırıldığında, tekrarlayan davranışlarda önemli bir azalma ve yürütücü işlevlerde bir gelişme göstermiştir (Anderson-Hanley ve ark., 2011). Başka bir çalışmada, Edwards ve ark. (2017), exergaming uygulamasının OSB'li 11 çocuğun gerçek ve algılanan nesne kontrol becerilerini 19 TD eşleştirilmiş çocuğa kıyasla artırıp artırmadığını araştırmışlardır. OSB grubu, kendi kendine algılanan motor becerilerde önemli ölçüde geliştiği; ancak, oyun temelli bir müdahale olarak exergaming programının kullanılması, çocukların beceriyi etkilemek için doğru hareket kalıplarını gerçekleştirmeleri için yeterli fırsat sağlamayabileceğini ifade etmişlerdir (Edwards ve ark., 2017).

Daha sonra, iki benzer vaka kontrol çalışması yapılmıştır (Golden ve ark., 2017; Getchell ve ark., 2012). Yapılan bir diğer çalışmada farklı exergaming oturumları arasındaki enerji tüketimini karşılaştırdı ve hangisinin "orta ile kuvvetli" olarak sınıflandırılan en fazla zamana yol açtığını araştırılmıştır (Golden ve ark., 2017). Getchell ve ark. (2012), 2 hafta boyunca 20 dakika 2 ile 3 seans exergaming programı gerçekleştirdiler ve her iki grup da OSB grubunun önemli ölçüde daha fazla kilokalori harcadığı Wii Fit hariç tüm aktivitelerde benzer miktarda kilokalori harcadığını tespit etmişlerdir (Getchell ve ark., 2012). Benzer şekilde, Dickinson ve Place (2014), bir exergaming protokolünün, OSB'li çocukların Eurofit fitness testi ve vücut kütle indeksi üzerindeki etkilerini araştırmışlardır. Kontrol grubuna kıyasla exergames grubu lehine esneklik dışındaki tüm testlerde istatistiksel olarak anlamlı bir gelişmenin olduğunu tespit etmişlerdir (Dickinson & Place, 2014).

Sonuç ve Öneriler

Bu derleme, OSB'li çocuklar ve ergenler için exergaming programlarının önemini göstermiştir. Bu konuyla ilgili çok az çalışma bulmuş olmamıza rağmen, exergaming OSB'li çocuk ve ergenlerde fiziksel uygunluğu, bilişsel işlevleri geliştirmek ve tekrarlayan davranışları azaltmak için potansiyel bir araç olarak kabul edilebileceğini belirtebiliriz. Ek olarak, exergaming yoluyla OSB özelliklerinin iyileştirildiğine dair yeterli kanıt bulunmadığından, egzersiz bilimcileri ve sağlık alandaki uzmanların bu popülasyona yardım etmeye çalışırken oldukça dikkatli olmalıdır. Exergaming, OSB'li çocuklar ve ergenler üzerindeki etkilerinin daha iyi anlaşılmasını sağlamak için daha birçok randomize kontrollü araştırmalara ihtiyacın olduğu görülmektedir.

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ATLETİK PERFORMANSTA PROBİYOTİK ALIMININ BAĞIRSAK MİKROBİYOTASI VE FİZİKSEL PERFORMANS ÜZERİNDEKİ ETKİSİ

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ÖZET

Yorucu ve uzun süreli egzersiz, bağırsak mikrobiyotasının bozulması ve performansın düşmesiyle ilişkili çoklu semptomların olasılığını artıran; karın krampları, asit reflü (mide ekşimesi), mide bulantısı, kusma, ishal ve bağırsak geçirgenliği gibi mide-bağırsak yolu üzerinde stres yaratmaktadır. Egzersiz sırasında gastrointestinal şikayetleri en aza indirmeye yönelik stratejiler, karın ağrısını ve sıvı, elektrolit ve besin alımındaki bozuklukları azaltmaya yardımcı olabilir ve böylece atletik sağlığı, performansı ve toparlanmayı iyileştirebilir. Bu stratejilerden bazıları, egzersiz sırasında birden fazla taşınabilir karbohidrat tüketmek, egzersiz öncesi ve sırasında diyet lifi içeriğini azaltmak ve probiyotik takviyesi gibi beslenme değişikliklerini içerir. Son zamanlarda, yüksek yoğunluklu antrenman yapan atletlerde sağlık ve atletik performansı iyileştirmek için potansiyel bir çare olarak tek veya çok suşlu ürünler kullanılarak probiyotik takviyesine artan bir ilgi gösterilmiştir. Probiyotikler yaygın olarak sağlığı teşvik eden mikroorganizmalar olarak kabul edilir. Probiyotikler, özellikle laktik asit üreten bakteriler olmak üzere, ticari olarak kapsüller, toz veya fermente süt veya yoğurt gibi seçilmiş süt ürünlerinde bulunan laktik asit üreten bakterilerden oluşur. Son yıllarda yapılan araştırmalar incelendiğinde, bağırsak mikrobiyotasının bileşimi ile egzersiz arasında bir ilişki olduğunu ve bağırsak mikrobiyota yapısındaki değişikliklerin fiziksel performansı iyileştirebileceği ifade edilmektedir. Bu nedenle, bağırsak mikrobiyota fonksiyonunu iyileştirme aracı olarak kullanılan probiyotik takviyesi, sporcunun genel sağlığına da faydalı etkiler sağlayabilmektedir. Probiyotik takviyesinin atletik performans üzerindeki etkisini inceleyen çalışmaların sayısı oldukça azdır. Araştırma sonuçları incelendiğinde çok türlü probiyotikler, tek tür probiyotik takviyesine kıyasla bu hedeflere ulaşmada daha etkili olduğu görülmüştür. Probiyotik takviyesi, gastrointestinal semptomlarının insidansını ve şiddetini, yoğun antrenman ve yarışmalar geçiren elit performans sporcularının algılanan efor derecesini azaltmak için cesaret verici bir yaklaşım sunmaktadır. Bu derlemenin amacı; atletik performans sporcularında probiyotik alımının bağırsak mikrobiyotası ve fiziksel performans üzerindeki etkisini güncel literatürü özetleyerek tartışmaktır. Bu bağlamda ortaya çıkan sonuçlar incelendiğinde, probiyotik faydaları suşa özgüdür ve doza bağlıdır ve gelişmiş bağırsak bariyeri işlevini, besin emilimini, toparlanmayı ve sporcularda performansını iyileştirmektedir. Bu potansiyel faydaların atletik bir popülasyonu etkileyip etkilemediğini ve nasıl etkilendiğini daha iyi anlamak için daha fazla araştırmaya ihtiyaç vardır.

Anahtar kelimeler: Atletik performans, egzersiz, probiyotik, bağırsak mikrobiyatası

EFFECT OF PROBIOTIC INTAKE ON GUT MICROBIOTA AND PHYSICAL PERFORMANCE IN ATHLETIC PERFORMANCE

ABSTRACT

Strenuous and prolonged exercise increases the likelihood of multiple symptoms associated with disruption of the gut microbiota and decreased performance; It creates stress on the gastrointestinal tract such as abdominal cramps, acid reflux (heartburn), nausea, vomiting, diarrhea and intestinal permeability. Strategies to minimize gastrointestinal complaints during exercise can help reduce abdominal pain and disturbances in fluid, electrolyte, and nutrient intake, thereby improving athletic health, performance, and recovery. Some of these strategies include dietary changes such as consuming more than one portable carbohydrate during exercise, reducing dietary fiber content before and during exercise, and supplementing with probiotics. Recently, there has been increasing interest in probiotic supplementation using single- or multi-strain products as a potential remedy to improve health and athletic performance in high-intensity training athletes. Probiotics are widely considered health-promoting microorganisms. Probiotics consist of lactic acid-producing bacteria, especially lactic acid-producing bacteria, commercially available in capsules, powder, or selected dairy products such as fermented milk or yogurt. When studies conducted in recent years are examined, it is stated that there is a relationship between the composition of the intestinal microbiota and exercise, and that changes in the structure of the intestinal microbiota can improve physical performance. For this reason, probiotic supplementation, which is used as a means of improving intestinal microbiota function, can also provide beneficial effects on the general health of the athlete. The number of studies examining the effect of probiotic supplementation on athletic performance is very few. When the research results were examined, it was seen that multi-type probiotics were more effective in reaching these goals compared to single-type probiotic supplements. Probiotic supplementation offers an encouraging approach to reduce the incidence and severity of gastrointestinal symptoms and the degree of perceived exertion in elite performance athletes who undergo intense training and competitions. The purpose of this review; To discuss the effect of probiotic intake on gut microbiota and physical performance in athletic performance athletes by summarizing the current literature. Considering the results in this context, probiotic benefits are strain-specific and dose-dependent, improving improved gut barrier function, nutrient absorption, recovery, and performance in athletes. More research is needed to better understand whether and how these potential benefits affect an athletic population.

Key words: Athletic performance, exercise, probiotics, gut microbiota

Giriş

Antrenman ve müsabaka sırasında sporcularda yorgunluk, duygu durum bozuklukları, performans düşüklüğü ve gastrointestinal sıkıntı yaşayabilmektedirler. Atletik performansa ve egzersize bağlı değişiklikler, bağırsak mikrobiyotasında özellikle bağışıklık fonksiyonu, enfeksiyona karşı daha düşük duyarlılık, inflamatuar yanıt ve doku onarımı için çok önemli olan sağlık parametrelerini etkileyebilmektedir. Sağlıklı bir bağırsak mikrobiyotasının bakımı, bir sporcunun sağlığı, antrenmanı ve performansı için esastır. Probiyotikler, konakçıya sağlık yararları sağlayan canlı mikroorganizmalardır. Literatürü incelediğimizde, bazı probiyotik suşların immünomodülatör bir rol oynadığını, sporcular ile düzenli fiziksel aktivite yapan bireylerde solunum ve gastrointestinal enfeksiyonların insidansını azalttığını göstermektedir. Bu nedenle probiyotik takviyesi, egzersiz performansını dolaylı olarak

iyileştirebilmektedir. Bu derleme, egzersizin bağırsak mikrobiyotası üzerindeki etkisini araştırırken, probiyotiklerin sporcularda antrenmanla ilişkili çeşitli potansiyel sonuçlar üzerindeki etkisini ilgili mevcut literatürdeki kanıtları gözden geçirerek tartışmayı amaçlamaktadır.

Atletik Performans ve Bağırsak Mikrobiyotası

Stres, homeostaz, performans ve hayatta kalma için gerekli olan temel bir adaptasyondur. Stres tepkisi, bir birey hoş olmayan, olumsuz veya tehdit edici olarak algılanan içsel veya dışsal bir zorlukla karşılaştığında ortaya çıkar. Fiziksel, fizyolojik veya psikolojik uyaranlar tarafından indüklenebilir (Galley ve ark., 2014). Yoğun egzersiz, homeostaziyi yeniden kazanma girişiminde duygusal, fizyolojik, biyokimyasal ve bilişsel-davranışsal süreçleri içerdiğinden dolayı (Morgan ve ark., 2015) egzerisizin stres etkileri ve psikolojik stres etkilerini birbirinden ayırmak güçtür (Lin ve ark., 2012). Bu nedenle yoğun egzersiz sırasında hem fiziksel hem de psikolojik talepler burada "stres" olarak adlandırılır. Purvis ve ark. (2010) incelemesine göre, sporcuların tahminen %20-60'ı aşırı egzersiz ve yetersiz toparlanmanın neden olduğu strese maruz kaldığı belirtilmiştir (Purvis ve ark., 2010). Yüzme, kürek çekme, bisiklete binme, triatlon ve bir dereceye kadar uzun mesafe koşuları gibi dayanıklılık sporlarında, sporcuların haftada 6 gün, günde 4-6 saat, birkaç hafta boyunca herhangi bir ilaç almadan antrenman yaptıkları durumlarda stres prevalansının daha yüksek olduğuna inanılmaktadır. Hangi semptomların veya biyobelirteçlerin stresi tanımladığı konusunda bir fikir birliği olmamasına rağmen, bilimsel literatürde yaygın olarak kabul edilen bazı yaygın belirtiler arasında klinik, hormonal göstergeler ve yorgunluk, performans düşüşü, uykusuzluk, iştahta değişiklik, kilo kaybı ve ruh hali ile ilişkili diğer semptomlar (sinirlilik, endişe, motivasyon kaybı, zayıf konsantrasyon ve depresyon gibi rahatsızlıklar) yer almaktadır (Purvis ve ark., 2012; Mackinnon, 2000).

Egzersiz sırasında stres tepkisini etkileyen iki ana farklı fakat birbiriyle ilişkili sistem şunlardır: Sempatoadrenomedüler (SAM) ve hipotalamus-hipofiz-adrenal (HPA) eksenleri. Bu eksenlerin aktivasyonu, katekolaminlerin (norepinefrin (NE) ve epinefrin) ve glukokortikoidlerin dolaşım sistemine salınmasıyla sonuçlanır (Galley ve ark., 2014; Ulrich-Lai ve ark., 2009). Egzersiz sırasındaki stres aynı zamanda sempatik ve parasempatik kolları aracılığıyla stresör uyarana en hızlı yanıtı sağlayan otonom sinir sistemini (ANS) aktive eder ve gastrointestinal gibi periferik dokularda NE ve diğer nörotransmitterlerin nöronal salınımını arttırır (Ulrich-Lai ve ark., 2009; Martins ve ark., 2005). ANS ile GI yolundaki enterik sinir sistemi (ENS) arasındaki çift yönlü iletişim, bağırsak-beyin ekseni, esas olarak, beyin sapından sindirim sistemi boyunca uzanan ve neredeyse her yönünü düzenleyen vagus siniri yoluyla gerçekleşir (Eisenstein, 2016). Bağırsak-beyin ekseni arasındaki diğer iletişim yolları şunlardır: (i) bağırsak hormonları (yani gama aminobütirik asit (GABA), nöropeptid Y, dopamin), (ii) bağırsak mikrobiyota molekülleri (yani kısa zincirli yağ asitleri (SCFA), triptofan) (Stilling ve ark., 2011; Lyte ve ark., 2011; Rhee ve ark., 2009).

Bağırsak mikrobiyotası, insan sindirim sisteminde simbiyotik olarak yaşayan bakteriler, mantarlar, arkeler, protistler, helmintler ve virüslerden oluşmaktadır. Bağırsaktaki baskın mikroorganizmaları temsil eden beş bakteri filumu; Firmicutes, Bacteroidetes, Actinobacteria, Proteobacteria ve Verrucomicrobia'dır. "Mikrobiyom" terimi, bu mikropların toplu genomunu ifade etmektedir (Ho & Bunyavanich, 2018).

Birçok çalışma, çevresel ve davranışsal faktörlerin mikrobiyota bileşimi üzerindeki rolünü belirlemeyi amaçlamıştır (Salazar ve ark., 2019; Nishida ve ark., 2018; Lazar ve ark., 2018). Diyet şu anda dış faktör olarak kabul edilirken (Moszak ve ark., 2020; Wilson ve ark., 2020), bunu uyku, sirkadiyen ritim ve fiziksel aktivite izlemektedir (Matenchuk ve ark., 2020) . Benzer şekilde, hastalığın varlığı ve ilerlemesi bakteri bolluğunu ve çeşitliliğini değiştirebilmektedir.

Örneğin, İrritabl bağırsak sendromu (IBS) (Nishida ve ark., 2018; Collins, 2014), Tip 2 diyabet (T2D) (Moreno-Indias ve ark., 2014), hipertansiyon (Jose & Raj, 2015) gibi kronik hastalıklar ve kanser (Lazar ve ark., 2018) anormal mikrobiyota bileşimi ve işlevi ile ilişkilidir. Mikrobiyota çeşitliliğindeki değişiklikler, yararlı bakterilerin bolluğunu azaltırken, potansiyel olarak patojenik mikroorganizmaların büyümesini destekler, "disbiyoz" olarak bilinen ve konak metabolizmasını daha fazla etkileyebilecek bir süreç olabilir (Zeng ve ark., 2017; Tremaroli & Backhed, 2012).

Aktif yaşam tarzı davranışları, kronik hastalıklarda çeşitli metabolik ve inflamatuar parametreleri iyileştirir: egzersiz rejimleri, obezite ve T2D'ye karşı terapötik stratejiler olarak kullanılmıştır (Warburton Bredin, 2017). Fiziksel aktivite, atletler söz konusu olduğunda rekabete dayalı veya rekabetçi olmayan popülasyonda rekreasyonel ve estetik olabilecek belirli bir hedefe ulaşmak için insanın metabolik kapasitelerinde adaptasyonel değişiklikleri teşvik eder. Diyet takviyelerinin tüketimi aktif insanlarda yaygın olduğundan (Maughan ve ark., 2018; Campbell ve ark., 2007) probiyotik tüketimi, özellikle rakip sporcular için bağırsak epitelyum homeostazı üzerindeki olası etkileri nedeniyle oldukça önemlidir (Jager ve ark., 2019). Bununla birlikte, probiyotik kullanımının insan bağırsak mikrobiyotası üzerindeki olumlu etkisi hakkında hala bazı endişeler vardır (Dekker, 2019).

Bireyin yaşam tarzı dâhil olmak üzere belirli faktörler mikrobiyomun yapısını değiştirebilmektedir. Sporcuların, daha hareketsiz kontrollere kıyasla bağırsak mikrobiyal çeşitliliğini artırdığı bir dizi çalışmada belirtilmiştir (Barton ve ark., 2017; Petersen ve ark., 2017; Clarke ve ark., 2014). Clark ve ark. (2014) erkek profesyonel elit ragbi oyuncuları ile atlet olmayan erkek kontrollerden oluşan bir kohort arasında önemli bağırsak mikrobiyom farklılıkları gösterdiğini belirtmişlerdir (Clarke ve ark., 2014. Özellikle sporcular, Akkermansia cinsinin yüksek seviyelerinin eşlik ettiği önemli ölçüde daha yüksek bağırsak mikrobiyal çeşitliliğine sahip olduğu tespit edilmiştir. Aynı kohort üzerinde yapılan müteakip bir çalışma (Barton ve ark., 2017) sporcuların daha yüksek miktarda kısa zincirli yağ asitleri (SCFA) metabolik yollarına sahip olduğu sonucuna varmıştır. Yapılan bir araştırmada, Petersen ve ark. (2017) bisikletçilerin bağırsak mikrobiyomunu araştırmışlardır ve 33 bisikletçiden 30'unun ayrıca artan bir Akkermansia tespit etmişlerdir (Petersen ve ark., 2017).

Atletik Performans, Bağırsak Mikrobiyotası ve Probiyotik Kullanımı

Düzenli olarak egzersize katılıma ek olarak probiyotik tüketiminin bağırsak mikrobiyotasının popülasyonunu ve yapısını olumlu yönde değiştirebileceğini, bağışıklık fonksiyonunu, bağırsak epitel hücre çoğalmasını ve egzersizi takip eden bireylerde korumayı etkileyebileceğini gösteren kanıtlar vardır (Mach & Fuster-Botella, 2016). Probiyotik takviyesi, suşa ve mikrobiyota bileşimine bağlı olarak oldukça değişkendir ve bu nedenle, sporcularda dozajlar veya suşlar için spesifik diyet önerileri bulunmamaktadır. Yararlı bakteri suşları ile takviye edilmiş yoğurt, iltihaplanma ve epitel bariyer fonksiyonunun yenilenmesi gibi bazı GI bozukluklarının tedavisine yardımcı olmak için halihazırda kullanılmaktadır (Mach & Fuster-Botella, 2016). Örneğin, *Lactobacillus rhamnosus* suşuCNCMI-4317, hücresel fonksiyon ve bakım, lenfoid doku yapısı ve gelişimi, bağışıklık sistemi tepkisi ve epitel hücrelerinde lipid metabolizması dahil olmak üzere birçok yolu düzenleyebildiği tespit edilmiştir (Jacouton ve ark., 2015). Bununla birlikte, probiyotiklerin insan davranışını ve bağırsak-tahıl eksenini nasıl etkilediği hakkında çok az çalışma verileri bulunmaktadır. Probiyotiklerin depresif semptomları nasıl iyileştirebileceğini daha iyi anlamak için daha birçok araştırmaya ihtiyaç vardır. Bununla birlikte, 8 hafta boyunca *Lactobacillus acidophilus, Lactobacillus casei* ve *Bifidobacterium bifidum* ile takviye edilen majör depresif düzeni olan hastalar, depresyon, insülin ve glutatyon konsantrasyonu üzerinde yararlı etkilere sahip olduğu belirtilmiştir (Akkasheh ve ark., 2016). *Bifidobacterium longum*30 gün süreyle alınan R0175, kaygı benzeri davranışları ve stres düzeylerini azalttığı, kaygı ve depresyonda da önemli

iyileşmeler gözlendiği belirtilmiştir (Messaoudi ve ark., 2011). Son yıllarda, insanlar da dahil olmak üzere birçok memelinin bağırsak mikrobiyotasında yaygın olan *Bifidobacterium* suşları en iyi sonuçları vermiştir (Schmidt, 2015).

Sağlıklı ve atletik insanlarda tespit edilen bazı türler, faydalı etkileri nedeniyle yaygın olarak aday probiyotikler olarak kabul edilmektedir. *Bifidobacterium adolesan,* güçlü dirençli nişasta parçalayıcı aktivite sergiler (Jung ve ark., 2019). *B. longum,* vagus siniri yoluyla bağırsak ve beyin arasındaki yolların uyarılması dahil nöroenterik özellikleri için kapsamlı bir şekilde araştırılmıştır. Enfeksiyöz kolitli farelerde anksiyete benzeri davranışın ve hipokampal beyin kaynaklı nörotrofik faktörün normalleştirilmesi; ve istirahat nöral aktivitesinin modülasyonu, zihinsel yorgunluğun azaltılması ve olumsuz duyguların karşı düzenlenmesi için bağırsak-beyin arasındaki yolların aktivasyonunu iyileştirdiği belirtilmiştir (Wang ve ark., 2019; Bercik ve ark., 2011).

Yoğun antrenmanlara katılan sporcularda; astım, üst solunum yolu hastalığı, gastrointestinal şikayetler, depresyon ve anksiyete geliştirme riskine sahip olabilmektedir (Gouttebarge ve ark., 2015; Ter Steege ve ark., 2008; Spence ve ark., 2007; Helenius ve ark., 1998; Nieman ve ark., 1990) Bağışıklık baskılanması ve kronik yorgunluk gibi çeşitli diğer semptomlar da çok yaygın olarak görülebilmektedir (Walsh ve ark., 2011). Belirtilerin sporcu üzerinde olumsuz etkileri olduğundan performansın gelişimini engeller ve performansı düşürür. Sporcular ve probiyotikler arasındaki ilişkiyi, yapılan yoğun antrenmanla ilişkili semptomları hafifletmek veya önlemek için nasıl kullanılabileceği ile ilgili araştırmalar devam etmektedir (Shing ve ark., 2013; West ve ark., 2011; Cox ve ark., 2010).

Şimdiye kadar, probiyotik araştırmaları öncelikle GI işlevine ve bağışıklık düzenlemesine odaklanmıştır. Ancak son çalışmalar, metabolik ve bilişsel sağlık gibi yeni araştırma alanlarını hedef almıştır. Bağırsak sağlığı ve bağışıklık sistemi işlevi üzerindeki köklü probiyotik etkiler, yüksek yoğunluklarda antrenman yapan ve performans gösteren ve genellikle bir yarışma sırasında ve sonrasında GI ve bağışıklık sağlığı ile ilişkili fizyolojik zorluklarla karşılaşan dayanıklılık sporcularına fayda sağlayabilmektedir. Bu nedenle probiyotik takviyesi, sağlıklı antrenman ve müsabaka günlerinin sayısını artırarak dolaylı olarak bir sporcunun performansını iyileştirebilir ve hatta dayanıklılığa da fayda sağlayabilir. Son yıllarda probiyotiklerin spor performansı ve antrenmanı için faydaları kabul edilmiştir, fakat bu konuları inceleyen çalışmaların sayısı sınırlı olduğu görülmektedir (Jager ve ark., 2019).

Bugüne kadar, probiyotik takviyesinin etkileri, çeşitli probiyotik suşları incelenerek, çeşitli atletik ve fiziksel olarak aktif popülasyonlarda incelenmiştir. Probiyotikler ve fiziksel performans arasındaki ilişkiye ilişkin klinik çalışmaların sayısı çok düşük kaldığından, her çalışma genellikle az sayıda katılımcıyı içerdiğinden ve farklı egzersiz protokolleri kullandığından, sonuçlar dikkatli bir şekilde çıkarılmalıdır. Katılımcıların eğitim durumu ve eğitim geçmişi de egzersiz müdahalelerinin sonuçlarını etkileyebilmektedir. Antrenmanlı sporcular ve antrenmansız bireyler, egzersize verdikleri fizyolojik tepkilerde farklılık gösterir farklı çalışma popülasyonları arasında tartışmalı sonuçlara yol açabilir (Coffey & Hawley, 2017). Egzersiz programları sırasında tek başına direnç eğitimi programlarının kullanılması, özellikle daha önceden hareketsiz olan popülasyonlar arasında, probiyotik takviyesi ile ilişkili etkilerin yerini alabilecek vücut kompozisyonu ve iskelet kası organizasyonundaki değişikliklere katkıda bulunabilir.

Probiyotiklerin fiziksel performans üzerindeki etkilerini inceleyen çalışmalar genellikle 2 hafta ile 3 ay arasında değişen takviye süreleri ile orta ve uzun vadeli faydalara odaklanmıştır. İncelenen probiyotik suşları, formülleri ve dozları, çalışmadan çalışmaya farklılık göstermektedir.En çok çalışılan türler, Lactobacillus ve Bifidobacterium cinsinin üyeleridir; bununla birlikte, tek bir tür içinde bile probiyotiklerin yararları genellikle

suşa özgüdür. Ayrıca, farklı etki biçimlerine sahip olabilen hem canlı hem de inaktive edilmiş bakteriler kullanılarak çalışmalar yapılmıştır (Hill ve ark., 2014).

Sonuç ve Öneriler

Sonuç olarak, egzersiz bağırsak mikrobiyomunun bileşimini olumlu yönde değiştirebilir ve konakçı sağlığına fayda sağlayarak atletik potansiyeli koruyabilir. Çalışmalar, farklı egzersiz biçimlerinin farklı bakteri popülasyonlarının bolluğunu etkileyebileceğini ve dolayısıyla mikrobiyomu farklı bir şekilde değiştirebileceğini ve bu nedenle gelecekte yapılacak çalışmaların bunu dikkate alması gerektiğini göstermektedir. Bu derlemede ele alındığı gibi, yorucu egzersiz, bir sporcuyu enfeksiyona, iltihaplanmaya, depresyona ve bağırsak geçirgenliği işlev bozukluğuna neden olabilmektedir. Probiyotikler, bu semptomları önlemek veya iyileştirmek için etkili bir strateji sunar ve yukarıda belirtilen semptomların dezavantajı olmadan devam eden atletik başarıya ulaşmaya destek sağlayabilir. Gelecekteki araştırmalar, etkinliği kanıtlanmış her bir suş için optimal dozu netleştirmeyi ve ayrıca probiyotik suşların bağırsaklarımızı kolonize edip etmediğini veya sadece yararlı etkileri olan geçici mikroorganizmalar olup olmadığını belirlemeyi amaçlamalıdır. Probiyotiklerin atletik popülasyon üzerindeki etkisi, bugüne kadar sınırlı sayıda araştırmanın yapıldığı yeni bir araştırma alanıdır ve probiyotiklerin atletik performanstaki faydaları hakkında daha birçok araştırma sonuçlarına ihtiyacın olduğu görülmektedir.

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SPOR BİLİMLERİ ÖĞRENCİLERİNİN KARİYER ENDİŞELERİNE DAİR GÖRÜŞLERİ

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ÖZET

Bu araştırmanın amacı, Iğdır Üniversitesi Spor Bilimi Öğrencileri'nin kariyer endişelerine dair görüşlerini incelemektir. Araştırmada betimsel yöntem kullanılmıştır. Çalışmanın araştırma grubunu; Iğdır Üniversitesi Beden Eğitimi ve Yüksekokulu'nda öğrenim gören toplam 308 (211 erkek, 97 kadın) öğrenci oluşturmuştur. Araştırmanın verilerini toplamak için Şahin ve ark. (2019) tarafından geçerlilik ve güvenilirliği yapılan Yetişkin Kariyer Endişeleri ölçeği ile araştırmacı tarafından oluşturulan "Kişisel Bilgi Formu" kullanılmıştır. Kariyer Endişeleri ölçeği 4 alt boyuttan oluşmaktadır. 5'li likert tipi bir ölçektir. Veriler google platformu üzerinden çevrimiçi olarak toplanmıştır.Verilerin analizinde SPSS-23 paket programı kullanılmıştır. Verilerin çarpıklık ve basıklık değerlerine bakılmış ve verilerin normal bir dağılıma sahip olduğu tespit edilmiştir. Verilerin analizinde bağımsız örneklem t testi, tek yönlü varyans analizi (ANOVA) ve tanımlayıcı istatistik analizi uygulanmıştır. Verilerin değerlendirilmesinde anlamlılık düzeyi $p<0.05$ kabul edilmiştir. Araştırma sonucunda spor bilimi öğrencilerinin kariyer endişe alt boyut puanlarının orta seviyede olduğu tespit edilmiştir. Kariyer endişeleri ile değişkenlar arasında anlamlı fark tespit edilmemiştir ($p<0.05$).

Anahtar Kelimeler: Spor, Kariyer Endişeleri, Spor Bilimi Öğrencileri

OPINIONS OF SPORTS SCIENCES STUDENTS ON CAREER CONCERNS

ABSTRACT

The aim of this research is to examine the views of Iğdır University Sports Science Students on career concerns. Descriptive method was used in the research. The research group of the study; A total of 308 (183 male, 125 female) students studying at Iğdır University Physical Education and Higher School were formed. To collect the data of the study, Şahin et al. (2019), the Adult Career Concerns scale, which was validated and reliable, and the "Personal Information Form" created by the researcher were used. Career Concerns scale consists of 4 sub-dimensions. It is a 5-point Likert scale. The data were collected online via google platform. SPSS-23 package program was used in the analysis of the data. The skewness and kurtosis values of the data were examined and it was determined that the data had a normal distribution. Independent sample t-test, one-way analysis of variance (ANOVA) and descriptive statistical analysis were used in the analysis of the data. In the evaluation of the data, the level of significance was accepted as $p<0.05$. As a result of the research, it was determined that the career anxiety sub-dimension scores of sports science students were at a moderate level. No significant difference was found between Career Concerns and the variables ($p<0.05$). of the research, a significant difference was found between the Virtual-focused Relations sub-dimension of Smartphone Addiction of sports science students and the department variable ($p<0.05$).

Keywords: Sports, Career Concerns, Sports Science Students.

GİRİŞ

Teknolojinin gelişmesiyle birlikte endüstrilerde hızlı bir şekilde büyümeye başlamıştır. Büyüyen endüstrilerde insan kaynakları departmanları iş alımlarında kariyere ve deneyime büyük önem vermektedirler. İyi bir kariyere sahip olmanın ilk basamaklarından biri üniversitelerdir.

Kariyer, "bir meslekte zaman ve çalışmayla elde edilen aşama, başarı ve uzmanlık" olarak ifade edilmektedir (TDK, 2021). Endişe ise tasa, korku, düşünce şeklinde tanımlanmıştır. (TDK, 2021). Kariyer endişesi ise, bir kişinin kariyer gelişimi için önemli ve gerekli olduğunu düşündüğü yaşantıları yönetme konusundaki endişeyi temsil etmektedir (Savickas; Passen ve Jarjoura, 1988). Üniversite öğrencileri üzerine yapılan ile yapılan bir araştırmada 20 yaşında kariyer endişelerinin en yüksek düzeyde olduğu tespit edilmiş ve zaman içerisinde bu endişelerinin azaldığı belirlenmiştir (Ranta, Dietrich ve Salmela-Aro, 2014).

Konu ile ilgili olarak Dinç (2020) yapmış olduğu araştırmada; "*Ülkemizde üniversite ve üniversitelere giren ve mezun olan öğrenci sayıları günden güne artmakta ve buna paralel olarak üniversiteli işsiz sayıları da yükselmektedir. İş bulma ve kariyer sürdürülebilirliği faaliyetleri gün geçtikte daha zor hale gelmektedir"*demiştir. Bu bakımdan araştırma amacımız üniversitemizin spor bilimlerinde okuyan öğrencilerin kariyer endişelerine dair görüşlerini incelemektir.

YÖNTEM

Bu çalışmada, nicel araştırma yöntemi kullanılmıştır.

Evren ve Örneklem

Araştırmanın evrenini, Iğdır Üniversitesi Beden Eğitimi ve Yüksekokulunda öğrenim gören öğrenciler oluştururken, örneklemini ise Beden Eğitimi ve Yüksekokulunda çalışmaya gönüllü olarak katılmayı kabul eden toplam 308 (211 erkek, 97 kadın) öğrenci öğrenci oluşturmuştur. Veriler google platformu üzerinden çevrimiçi olarak toplanmıştır.

Veri Toplama Araçları

Yetişkin Kariyer Endişeleri Ölçeği Kısa Formu: Şahin ve ark. (2019) tarafından geçerlilik ve güvenilirliği yapılmıştır. Yetişkin Kariyer Endişeleri ölçeği 4 alt boyuttan oluşmaktadır. 5'li likert tipi bir ölçektir.

Veri Analizi

Araştırma verileri analize hazır hale getirildikten sonra SPSS (23.0) programı ile analiz edilmiştir. Verilerin çarpıklık ve basıklık değerlerine bakılmış ve verilerin normal bir dağılıma sahip olduğu tespit edilmiştir. Kurtosis (basıklık) değeri ise-1,275 ile-,639 arasında, Skewness (çarpıklık) değeri ,616 ile-.089 arasında değiştiği tespit edilmiştir. Tabachnick ve Fidell'e (2013) göre verilerin normal dağılım kabul edilmesi için "Kurtosis ve Skewness değerleri-1.5 ile +1.5" olmalıdır. Verilerin analizinde bağımsız örneklem t testi, tek yönlü varyans analizi (ANOVA) ve tanımlayıcı istatistik analizi uygulanmıştır. Verilerin değerlendirilmesinde anlamlılık düzeyi $p<0.05$ kabul edilmiştir.

BULGULAR

Tablo 1. Betimleyici İstatistikler

	Grup	(f)	(%)
Cinsiyet	Kadın	97	31,5
	Erkek	211	68,5
Bölümler	Öğretmenlik	108	35,1
	Yöneticilik	79	25,6
	Antrenörlük	121	39,3
Toplam		308	100

Tablo 1 incelendiğinde, öğrencilerin %31,5'inin kadın, %68,5'inin erkek; %35.1'inin öğretmenlik, %25.6'sının yöneticilik, % 39.3'ünün antrenörlük bölümü mezunu olduğu tespit edilmiştir.

Tablo 2. Kariyer endişesi ölçeği alt boyutlarının normallik dağılımı

Alt Boyutlar	N	Minimum	Maximum	X	SS	Skewness (Çarpıklık)	Kurtosis (Basıklık)
Keşfetme	308	1,00	5,00	2,5357	1,22754	,300	-,900
Yerleşme	308	1,00	5,00	3,0925	1,37936	-,089	-1,274
Sürdürme	308	1,00	5,00	2,3203	1,17544	,616	-,639
Gericekilme	308	1,00	5,00	2,4854	1,35021	,461	-,999

Tablo 2 incelendiğinde çarpıklık ve basıklık değerlerinin -1,5 ile +1,5 arasında olduğu görülmüştür.

Tablo 3. Cinsiyet değişkeninin kariyer endişesi alt boyutlarına göre t-testi sonuçları

	Cinsiyet	N	Ort./5	ss	sd	t	P*
Keşfetme	Erkek	284	2,4834	1,23480	306	1,103	,271
	Kadın	279	2,6495	1,21012			
Yerleşme	Erkek	284	3,0995	1,37739	306	,131	,896
	Kadın	279	3,0773	1,39071			
Sürdürme	Erkek	284	2,2622	1,16142	306	1,281	,201
	Kadın	279	2,4467	1,20174			
Gericekilme	Erkek	284	2,4692	1,38108	306	-,310	,757
	Kadın	279	4,02	,737			

Tablo 3 incelendiğinde öğrencilerin cinsiyetlerine göre alt boyut puanları arasında anlamlı bir sonuç tespit edilememiştir (p>0.05).

Tablo 4. Bölüm değişkeninin kariyer endişesi alt boyutlarına göre varyans analizi

	bölüm	N	Ort.	Varyansın kaynağı	KarelerToplamı	Sd	Karelerortalaması	F	P*
Keşfetme	Öğretmenlik	108	2,5787	Gruplararası	,733	2	,367	,242	,785
	Yöneticilik	79	2,5696	Gruplariçi	461,874	305	1,514		
	Antrenörlük	121	2,4752	Toplam	462,607	307			
Yerleşme	Öğretmenlik	108	3,0278	Gruplararası	2,972	2	1,486	,780	,459
	Yöneticilik	79	3,2595	Gruplariçi	581,140	305	1,905		
	Antrenörlük	121	3,0413	Toplam	584,113	307			
Sürdürme	Öğretmenlik	108	2,3951	Gruplararası	1,145	2	,572	,413	,662
	Yöneticilik	79	2,3207	Gruplariçi	423,026	305	1,387		
	Antrenörlük	121	2,2534	Toplam	424,170	307			
Gericekilme	Öğretmenlik	108	2,6343	Gruplararası	3,770	2	1,885	1,034	,357
	Yöneticilik	79	2,4304	Gruplariçi	555,914	305	1,823		
	Antrenörlük	121	2,3884	Toplam	559,684	307			

Tablo 4 incelendiğinde öğrencilerin bölüm değişkenine göre alt boyut puanları arasında anlamlı bir sonuç tespit edilememiştir ($p>0.05$).

SONUÇ

Bu çalışmada üniversitemizin spor bilimlerinde okuyan öğrencilerin kariyer endişelerine dair görüşlerini incelenmiştir. Çalışma sonunda spor bilimleri öğrencilerinin kariyer endişesi ölçeğinin yerleşme alt boyut puanlarının yüksek olduğu tespit edilmiştir ($X=3.09$).

Cinsiyet ve bölüm değişkenine göre ölçek alt boyut puanları karşılaştırıldığında anlamlı bir sonuç tespit edilememiştir. Literatür incelendiğinde Dursun ve Karagün (2012), Bozdam ve Taşğın (2011), Doğan ve Çoban (2009),'ın yapmış oldukları araştırmalarda çalışmamızın sonuçlarını destekler niteliktedir.

Sonuç olarak, spor bilimleri öğrencilerinin gelecek hayatları açısından kariyer endişesi önem arzetmektedir. Araştırma sonuclarına göre öğrencilerin kariyer endişelerini azaltmak için üniversitelerin kariyer merkezleri daha aktif rol alarak rehberlik hizmetleri sunulabilir.

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EGZERSİZDE ANTİOKSİDAN TAKVİYESİNİN ETKİLERİ

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ÖZET

Antioksidanlar endojen ve eksojen olmak üzere iki gruba ayrılır. Eksojen antioksidanlar diyetle dışarıdan alınır. Endojen antioksidanlar vücudun kendisi tarafından üretilir. Bunlar da kendi içinde enzimatik (Süperoksit Dismutaz (SOD), Glutatyon Peroksidaz (GPx), glutatyon redüktaz (GR)) ve enzimatik olmayan (Thioredoxin (TRX gibi), Ubiquinone/CoQ10 gibi) Ürik Asit, Lipoik Asit, Bilirubin) olarak iki alt gruba ayrılır. Egzersizde eksojen antioksidan takviyesinin faydaları tartışmalıdır. Eksojen antioksidan alımının egzersiz yapan kişilere potansiyel faydası olmasına rağmen, dikkate değer sayıda çalışma, eksojen antioksidan takviyesinin iskelet kasının egzersize uyumunu engellediğini göstermektedir.[1,2] Bu araştırmalarda antioksidan takviyesinin iskelet kasının dayanıklılık antrenmanına uyum sürecini olumsuz etkilediği belirtilmektedir. Başka bir çalışma, eksojen antioksidan takviyesinin iskelet kasındaki normal redoks sinyal yollarını önleyebileceğini vurgulamaktadır.[3] Yaşlılar, azaltılmış endojen antioksidan mekanizma ile birlikte artan ROS oluşumu ile karşılaştıkları için egzersiz sırasında oluşan oksidatif strese hasarına daha açıktırlar. Egzersizde büyük oranda ROS üretimi gerçekleşir. Bu nedenle eksojen antioksidan takviyesinin özellikle yaşlılarda faydalı olması beklenmektedir. Resveratrol alımı, düzenli egzersiz alışkanlığı olan yaşlılarda yaşlanmaya bağlı fiziksel performans düşüşünü azaltmaktadır.[4] Ayrıca C vitamini alımı yaşlılarda fiziksel performansı artırmaktadır.[5] Ancak Nalbant ve ark. (2009), 6 aylık bir süre boyunca antioksidan E vitamini takviyesinin, aerobik egzersiz eğitimi ile birlikte gençlerde fiziksel performans üzerine katkı sağlamadığını bildirmektedir.[6] Ekzojen antioksidan takviyesinin egzersizdeki faydaları tartışmalıdır. Cevaplanması gereken birçok soru vardır. Gelecekte yapılacak çalışmalar bu konulara ışık tutacaktır.

Anahtar Kelimeler: Egzersiz, Eksojenik Antioksidan Takviyesi, Endojen Antioksidan Sistem

THE EFFECTS OF ANTIOXIDANT INTAKE DURING EXERCISE

ABSTRACT

Antioxidants are basically divided into two groups as endogenous and exogeneous. Exogenous antioxidants are those taken from outside with diet. Endogenous antioxidants are produced by the body itself, and this is divided into two subgroups, enzymatic (like Superoxide Dismutase (SOD), Glutathione Peroxidase (GPx), glutathione reductase (GR)), and nonenzymatic (like Thioredoxin (TRX), Ubiquinone/CoQ10, Uric Acid, Lipoic Acid, Bilirubin). The benefits of exogenous antioxidant supplementation during exercise are controversial. Albeit exogenous antioxidant supplement has potential benefit to people who exercise, a remarkable number of studies show that exogenous antioxidant supplements inhibit skeletal muscle response to exercise.[1,2] In these studies, it is stated that antioxidant supplementation negatively affects the adaptation process of skeletal muscle to endurance training. Another study emphasizes that

exogenous antioxidant supplementation may prevent normal redox-signaling pathways in skeletal muscle.[3] Senescent seems to be more susceptible to oxidative stress during exercise. Since they have an increased ROS formation together with a reduced endogenous antioxidant mechanism. In addition, a large amount of ROS generation takes place during exercise. Therefore, exogenous antioxidant supplementation is expected to be beneficial. Resveratrol intake suppresses the aging-related decline in physical performance in elderly people, who have regular exercise habits.[4] Moreover, intake of vitamin C enhances physical performance in elderly.[5]However, Nalbant et al. (2009) reported that antioxidant vitamin E supplementation for a 6-month period has no additive effects on the physical performance along with aerobic exercise training.[6] Both the exercise effects on the endogenous antioxidant system and the benefits of exogenous antioxidant supplementation during exercise are thought-provoking. There are many questions waiting to be answered and future studies will enlighten these matters.

Keywords: Exercise, Exogenic Antioxidant Supplementation, Endogenous Antioxidant System

REKREAKTİF AMAÇLI YÜZME SPORUYLA UĞRAŞAN KADINLARIN, DURUMLUK VE SÜREKLİ KAYGI DÜZEYLERİNİN İNCELENMESİ

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ÖZET

Bu çalışmanın amacı, rekreaktif amaçlı yüzme spor branşı ile ilgilenen kadınların, durumluk ve sürekli kaygı düzeylerinin, kadınların yaşlarına, eğitim durumlarına, mesleklerine, bakılarak aralarında anlamlı bir fark olup olmadığının incelenmesini amaçlamıştır.

Çalışmada, veri toplama aracı Spielberger ve arkadaşlarının 1970 yılında geliştirdiği durumluk ve sürekli Anksiyete Envanterinin 1983 yılında Öner ve Le Compte tarafından Türkçe'ye çevrilen durumluluk ve süreklilik kaygı ölçeği kullanılarak nicel veriler toplanmıştır. Çalışmaya İstanbul ili, Avrupa yakası Avcılar İlçesinde bulunan İstanbul Üniversitesi yerleşkesinde İBB Spor kompleksi kapalı yüzme havuzuna üye olan 150 kadın oluşturmaktadır. Verilerin normallik testini saptamak için kolmogrov smirnov kullanılmıştır. Verilerin normal dağılım gösterdiği için değişkenlerin karşılaştırılması için 2 değişkenliler için independent sample t testi uygulanırken üç ve daha fazla değişkenler için one way anova testi uygulanmıştır. Verilerin analizleri Windows için hazırlanmış SPSS 24.0 paket programından yararlanılarak yapılmıştır. Bu çalışmanın sonucunda rekreaktif amaçlı yüzme branşı ile ilgilenen kadınların alt boyutlardan aldıkları puanların (durumluk ve süreklik kaygı) yaşları, eğitim durumları, meslek grupları açısından farklılığı bulunmuştur. Çalışmamıza katılan grupların kaygı düzeylerinin genel olarak birbirine yakın seviyede olduğu düşüncesini oluşturmaktadır.

Anahtar kelimeler: Rekreatif faaliyet, Durumluk Kaygı, Sürekli Kaygı, Yüzme Sporu

AN EXAMINATION OF THE STATUS AND CONSTANT ANXIETY LEVELS OF WOMEN ENGAGED IN RECREATIONAL SWIMMING SPORTS

ABSTRACT

The purpose of this study women who are interested in the sport of swimming for recreative purposes, state-trait anxiety levels of women their age, education level, occupation, by looking at seeks to examine whether a significant difference between them.

In the study, the data collection tool was developed in 1970 and colleagues Spielberger state-trait anxiety inventory were translated by Öner and Le Compte durumluluk anxiety scale and continuity in 1983 by using quantitative data were collected. The study included 150 women who are members of the IMM Sports complex indoor swimming pool at the Istanbul University campus located in Avcılar, the European side of Istanbul province, who are members of the IMM Sports complex indoor swimming pool. Kolmogorov-smirnov test was used to determine the normality of the data. Since the data showed a normal distribution, the independent sample t test was used for 2 variables while the one way anova test was used for three or more variables to compare the variables. The data were analyzed using the SPSS 24.0 package program prepared for Windows. As a result of this study, it was found that the scores obtained from the lower dimensions (status and continuity anxiety) of women interested in swimming for

recreational purposes differ in terms of their age, educational status, professional groups. It is believed that the anxiety levels of the groups participating in our study are generally close to each other.

Keywords: Recreational Activity, Situational Anxiety, Constant Anxiety, Swimming Sport

GİRİŞ

Son dönemlerde ülkemizde ortaya çıkan "toplumsal cinsiyet eşitliği" yaklaşımları spor alanına olumlu yansımış ve spor ve serbest zaman etkinliği olarak fiziksel aktivitelere katılımda kadın bireylerin de en az erkek bireyler kadar rağbet gösterdikleri gözlenmiştir. "Toplumsal cinsiyet kavramı kadın ve erkek arasındaki biyolojik farklılıklardan ziyade kültürel ve psikolojik farklılıkları ifade ederken, bu farklılıklara dayalı olarak kadından ve erkekten beklenen toplumsal rol ve sorumluluklar toplumsal cinsiyet rolü kavramı ile tanımlanmaktadır. Bu bağlamda kadınlık ve erkeklik, toplum tarafından kadına ve erkeğe uygun görülen toplumsal cinsiyet rollerini ifade etmektedir" (Koca, 2006).

"Rekreasyon, insanın yaşam standartını artırmak için serbest ve boş zamanında doğaya zarar vermeden, istemli olarak yaptığı faaliyetleri kapsayan multidisipliner bir çalışma alanıdır". Tanımda boş zaman yerine serbest zaman kavramı önemli olarak belirtilmek istenmiştir. Diğer yapılan yayınlarda yaşam kalitesinin artırılması, serbest zaman içinde de planlanması vurgulanmaktadır. (Tütüncü, 2012) Bireylerin yaşamış oldukları küresel çağda, serbest zaman ve serbest zamanı değerlendirme biçimleri toplumunun temel özelliklerinden biri haline gelmiştir. Yaşamış olduğu kent içerisinde bireyler serbest zamanlarını geçirecek spor etkinliklerini kullanmaktadırlar. Meiskop (1991)

Bireylerin çalışma için ayrılan zaman dilimi dışında, kendi arzularıyla mutlu olmaları için serbest zamanlarını kullanma zaman dilimi olarak anlaşılabilir. (Mclean, Hurd ve Rogers, 2005; Parr ve Lashua, 2004)

Bireylerin gönüllü olarak kendi tercihleriyle katıldıkları çeşitli rekreatif faaliyetlere katılmak onlara mutluluk verdiği, hayata daha pozitif baktıkları ve daha dinç oldukları ile iligili birçok bilimsel çalışama vardır. (Barnett ve Weber, 2008: Sorensen vd., 2003). Değişen ve sürekli gelişen teknolojinin yanısıra insanların zamanlarını daha refah ve hayata daha sıkı tutunmaları için Rekreatif aktivitelerin, son yıllarda giderek artması, gerçekleştirilen aktivitelerdeki çeşitliliğe neden olmuş ve bu alanda geniş bir pazarın (piyasanın) oluşmasına kaynaklık etmiştir. (Korucu, 2013). Spor yapan kadınların tümü ev işlerini yaparken hiç yorgunluk hissetmemektedir ancak spor yapmayanların ev işlerinde daha fazla yoruldukları anlaşılmıştır. Toplumsal yaşamda sporun, kadınlar üzerinde sosyalleştirici, toplumsal birliği sağlayıcı, sağlık kazandırıcı etkisinin olduğu saptanmıştır (Aytan, 2013). Bu çalışmanın amacı, rekreaktif amaçlı yüzme spor branşı ile ilgilenen kadınların, durumluk ve sürekli kaygı düzeylerinin, kadınların yaşlarına, eğitim durumlarına, mesleklerine, bakılarak aralarında anlamlı bir fark olup olmadığının incelenmesini amaçlamıştır.

MATERYAL METOD

Araştırmanın Modeli

Bu araştırma, rekreaktif amaçlı yüzme branşı ile ilgilenen kadınları durumluk ve sürekli kaygı düzeylerinin tespitini belirlemeye yönelik betimsel ve tanımlayıcı bir çalışmadır. Araştırmada, aşağıda tanıtılan veri toplama aracı Spielberger ve arkadaşlarının 1970 yılında geliştirdiği durumluk ve sürekli Anksiyete Envanterinin 1983 yılında Öner ve Le Compte tarafından Türkçe'ye çevrilen durumluluk ve süreklilik kaygı ölçeği kullanılarak nicel veriler toplanmıştır. İstanbul ili, Avcılar ilçesinde bulunan İstanbul Üniversitesi yerleşkesi içinde bulunan spor İstanbul spor kompleksine (halka açık olan) kapalı yüzme havuzunu kullanan kadın üyelerden

toplanan veriler, üyelerin kişisel bilgi formuna ve araştırmada ele alınan diğer değişkenlere göre analiz edilerek raporlaştırırılmıştır.

Bu araştırmanın çalışma grubu spor Istanbul Avcılar spor kompleksi kapalı yüzme havuzuna üye olarak gelen yüzme branşı ile rekreaktif amaçlı ilgilenen 150 kadın üyeyi kapsamaktadır. Bu araştırmanın evreni, İstanbul ili, örneklemi ise Avrupa yakası, Avcılar ilçesi içerisinde bulunan Spor İstanbul spor kompleksi Merkez Kapalı Yüzme Havuzunu kapsamaktadır. Araştırma örneklemine giren kadın üyelerin yaşları 20 yaş altı ve 40 yaş üstü olarak değişmektedir.

Veri Toplama Aracı

Bu araştırmada veri toplama aracı olarak Spielberger ve arkadaşlarının 1970 yılında geliştirdiği durumluk ve sürekli Anksiyete Envanterinin 1983 yılında Öner ve Le Compte tarafından Türkçe'ye çevrilen durumluluk ve süreklilik kaygı ölçeğidir. Durumluk-Sürekli Kaygı ölçeğinin toplam 40 maddeden oluşan iki ayrı ölçeği içermektedir.

Ölçekte, Durumluk Kaygı Ölçeğini belirlemek için 20 soru, Sürekli Kaygı Ölçeğini belirlemek için ise 20 soru ve toplamda 40 sorudan oluşmaktadır. Durumluk kaygı ölçeği bireyin belli bir anda ve belirli koşullarda kendisini nasıl hissettiğini betimlemesini, içinde bulunduğu duruma ilişkin duygularını dikkate alarak cevaplamasını; sürekli kaygı ölçeği ise, bireyin genellikle nasıl hissettiğini betimlemesi amacı ile oluşturulmuştur.

Bireysel ve grup olarak uygulanabilir. Her iki ölçek de aynı zamanda uygulanabilir. Bu durumda önce, Durumluk Kaygı Ölçeği sonra Sürekli Kaygı Ölçeği verilmelidir. Nedeni, Durumluk Kaygı Ölçeği, sınanma ya da sınama koşullarıyla ilgili tedirginlik, kuruntu ve heyecan gibi duyuşsal, fizyolojik ve bilişsel süreçlere duyarlı olduğundan, bireyin başlangıçtaki olumsuz algılamalarına ifade olanağı vermesidir. Böylelikle anlık (geçici) kaygı güvenilir düzeyde ölçülmüş olur. Rehberlik servislerinde kaygı ile ilgili yapılacak çalışmaların öncesinde ve sonrasında kullanılabilir.

Durumluk Kaygı ölçeğinin yanıtlanmasında; maddelerin ifade ettiği duyuş, düşünce ya da davranışların şiddet derecesine göre "hiç", "biraz", "çok", ve tamamiyle" şıklarından birinin seçilmesi, Sürekli Kaygı Ölçeğinin yanıtlanmasında ise maddelerin ifade ettiği duyuş, düşünce ya da davranışların sıklık derecesine göre "hemen hiçbir zaman", "bazen", çok zaman" ve "hemen her zaman" şıklarından birinin seçilmesi istenir.

Ölçeklerde "doğrudan (düz)" ve tersine çevrilmiş ifadeler vardır. Olumlu duyguları dile getiren ters ifadeler puanlanırken 1 ağırlık değerinde olanlar 4'e, 4 ağırlık değerinde olanlar ise 1'e dönüştürülür. Olumsuz duyguları dile getiren doğrudan ifadelerde 4 değerindeki yanıtlar kaygının yüksekliğini gösterir. Tersine çevrilmiş ifadelerde ise 4 değerindeki yanıtlar düşük,1 değerindeki yanıtlar yüksek kaygıyı gösterir. Durumluk Kaygı Ölçeğinde 10 tane (1,2,5,8,10,11,15,16,19 ve 20. maddeler), Sürekli Kaygı ölçeğinde ise 7 tane (21,26,27,30,33,36 ve 39. maddeler) tersine çevrilmiş ifade vardır.

Doğrudan ve tersine çevrilmiş ifadelerin toplam ağırlıklarının saptanması için iki ayrı anahtar hazırlanır. Doğrudan ifadeler için elde edilen toplam ağırlıklı puandan, ters ifadelerin toplam ağırlıklı puanı çıkartılır ve bu sayıya değişmeyen bir değer eklenir. Bu değer Durumluk kaygı ölçeği için 50, sürekli kaygı ölçeği için ise 35 dir. Her iki ölçekten elde edilen toplam puan değeri 20 ile 80 arasında değişir. Büyük puan yüksek kaygı seviyesini, küçük puan ise düşük kaygı seviyesini belirtir. Uygulamalarda saptanan ortalama puan seviyesi 36 ile 41 arasında değişmektedir.

Verilerin İstatiksel Analizi

Ölçekte elde edilen veriler öncelikle bilgisayar ortamına aktarılmış yüzde (%) ve frekansları yapılmıştır. Verilerin normallik testini saptamak için kolmogrov smirnov kullanılmıştır. Verilerin normal dağılım gösterdiği için değişkenlerin karşılaştırılması için 2 değişkenliler için independent sample t testi uygulanırken üç ve daha fazla değişkenler için one way anova testi uygulanmıştır. Ve $p<0,05$ altındaki değerler anlamlı olarak kabul edilmiştir. Verilerin analizleri Windows için hazırlanmış SPSS 24,0 paket programından yararlanılarak yapılmıştır.

BULGULAR

Tablo 1. Katılımcıların yüzde ve frekans değerleri

Değişkenler		Frekans	Yüzde (%)
Yaşınız nedir?	20yaş ve altı	38	25,3
	21-30	46	30,7
	31-40	28	18,7
	40 yaş ve üstü	38	25,3
	Toplam	150	100.0
Eğitim durumunuz?	İlk okul mezunu	30	20,0
	Orta okul mezunu	25	16,7
	Lise mezunu	37	24,7
	Lisans mezunu	58	38,7
	Toplam	150	100,0
Mesleğiniz?	Ev hanımı	49	32,7
	Özel sektör	73	48,7
	Kamu sektörü	28	18,7
	Toplam	150	100,0
	Toplam	150	100

Tablo1 İncelendiğinde çalışmaya katılan toplam 150 kişinin %25,3'ünü (38 kişi) 20 ve yaş altı yaş aralığındaki kişiler oluştururken, %30,7'sini (46 kişi) 21-30 yaş aralığındaki kişiler oluştururken, %18,7 'sini (28 kişi) 31-40 yaş aralığını oluştururken, %25,3'ünü (38 kişi) 40 yaş ve üstü yaş aralığındaki kişiler oluşturmaktadır.

Çalışmaya katılan toplam 150 kişinin %20,0'sini (30 kişi) ilk okul mezunu grubundaki kişiler oluştururken, %16,7'sini (25 kişi) orta okul mezunu kişiler oluştururken, %24,7 'sini (37 kişi) lise mezunu kişiler oluştururken, %38,7'sini (58 kişi) lisans mezunu kişiler oluşturmaktadır.

Çalışmaya katılan toplam 150 kişinin %32,7'sini (49 kişi) mesleği ev hanımı grubundaki kişiler oluştururken, %48,7'sini (73 kişi) mesleği özel sektör grubundaki kişiler oluştururken, %18,7 'sini (28 kişi) mesleği kamu sektörü grubundaki kişiler oluşturmaktadır.

Tablo 2. Katılımcıların yaşlarına göre durumluk kaygı ve sürekli kaygı alt boyutlarının değerlendirilmesi

Alt boyutlar	Yaş	n	x±sd	F	p
Durumluk kaygı	20 yaş ve altı yıl[1]	38	46,52±6,34	,448	,719
	21-30 yıl[2]	46	45,95±7,66		
	31-40 yıl[3]	28	45,92±6,67		
	41 yaş ve üzeri[4]	38	47,55±6,80		
Sürekli kaygı	20 yaş ve altı yıl[1]	38	48,31±5,95	1,973	,121
	21-30 yıl[2]	46	47,89±8,78		
	31-40 yıl[3]	28	49,07±6,94		
	41 yaş ve üzeri[4]	38	51,76±8,63		

p<,05

Katılımcıların yaşlarına göre durumluk kaygı ve sürekli kaygı alt boyutlarının anova sonuçlarına göre

Sürekli kaygı ortalamaları durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer "yaş" gruplarına göre "41 yaş ve üzeri" (51,76±8,63) en yüksek çıkmıştır ancak (F=,448; p=,719>,05) anlamlı bulunmamıştır.

Durumluk kaygıda ise yine "41 yaş ve üzeri" (47,55±6,80) en yüksek çıkmıştır ve (F=1,973; p=,121>,05) anlamlı bulunmamıştır.

Tablo 3. Katılımcıların eğitim düzeylerine göre durumluk kaygı ve sürekli kaygı alt boyutlarının değerlendirilmesi

Alt boyutlar	Eğitim düzeyi	n	x±sd	F	p	Farklılık
Durumluk kaygı	İlk okul mezunu[1]	30	48,46±6,33	3,811	,011	1-4
	Orta okul mezunu[2]	25	46,28±6,47			3-4
	Lise mezunu[3]	37	48,40±7,54			
	Lisans mezunu[4]	58	44,36±6,46			

Sürekli kaygı	İlk okul mezunu[1]	30	52,93±8,87	4,768	,003	1-4
	Orta okul mezunu[2]	25	49,36±5,43			
	Lise mezunu[3]	37	50,05±7,89			
	Lisans mezunu[4]	58	46,65±7,43			

p<,05

Katılımcıların eğitim düzeylerine göre durumluk kaygı ve sürekli kaygı alt boyutlarının anova sonuçlarına göre

Sürekli kaygı ortalamaları durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer "eğitim" gruplarına göre "ilkokul mezunları" (52,93±8,87) en yüksek çıkmıştır, ayrıca (F=4,768; p=,003<,05) 1. Grup ve 4. Grup arasında farklılık bulunmuştur.

Durumluk kaygıda ise yine "İlk okul mezunu" (48,46±6,33) en yüksek çıkmıştır ayrıca (F=3,811; p=,011<,05) 1-4 ve 3-4 grup arasında farklılık bulunmuştur.

Tablo 4. Katılımcıların meslek gruplarına göre durumluk kaygı ve sürekli kaygı alt boyutlarına göre incelenmesi

Alt boyutlar	Meslek	n	x±sd	F	p
Durumluk kaygı	Ev hanımı[1]	49	48,20±6,35	2,509	,085
	Özel sektör[2]	73	45,97±7,40		
	Kamu sektörü[3]	28	44,89±6,05		
Sürekli kaygı	Ev hanımı[1]	49	51,26±8,61	2,694	,071
	Özel sektör[2]	73	47,95±7,37		
	Kamu sektörü[3]	28	48,82±7,20		

p<,05

Katılımcıların mesleklerine göre durumluk kaygı ve sürekli kaygı alt boyutlarının anova sonuçlarına göre

Sürekli kaygı ortalamaları durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer "meslek" gruplarına göre "ev hanımlığı" (51,26±8,61) en yüksek çıkmıştır ancak (F=2,694; p=,071>,05) anlamlı bulunmamıştır.

Durumluluk kaygıda ise yine "ev hanımlığı" (48,20±6,35) en yüksek çıkmıştır ve (F=2,509; p=,085>,05) anlamlı bulunmamıştır.

TARTIŞMA VE SONUÇ

İstanbul ili Avcılar ilçesindeki Spor İstanbul Spor Kompleksinde İşlerine kapalı yüzme havuzunda rekreatif amaçlı yüzme branşına gelen kadınların, durumluk ve sürekli kaygı düzeylerinin incelenmesi amacı ile yapılan bu çalışmada, kadınların yaş, eğitim düzeyleri, medeni durumları, mesleki gruplara, ikamet ettikleri bölgeler, spora geliş amaçları gibi değişkenler incelenilerek durumluk ve sürekli kaygı düzeylerine anlamlı veya anlamsız bir farklılık olup olmadığı araştırılmıştır.

Katılımcıların yaşlarına göre durumluk kaygı ve sürekli kaygı alt boyutlarında;

Sürekli kaygı ortalamaları durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer yaş gruplarına göre "41 yaş ve üzeri" (51,76±8,63) en yüksek çıkmıştır ancak (F=,448; p=,719>,05) anlamlı bulunmamıştır. Durumluluk kaygıda ise yine "41 yaş ve üzeri" (47,55±6,80) en yüksek çıkmıştır ve (F=1,973; p=,121>,05) anlamlı bulunmamıştır.

Katılımcıların eğitim düzeylerine göre durumluk kaygı ve sürekli kaygı alt boyutlarında;

Sürekli kaygı ortalamaları durumluluk kaygı ortalamalarından yüksek çıkmıştır. Diğer eğitim gruplarına göre "ilkokul mezunları" (52,93±8,87) en yüksek çıkmıştır, ayrıca (F=4,768; p=,003<,05) 1. Grup ve 4. Grup arasında farklılık bulunmuştur. Durumluluk kaygıda ise yine "İlk okul mezunu" (48,46±6,33) en yüksek çıkmıştır ayrıca (F=3,811; p=,011<,05) 1-4 ve 3-4 grup arasında farklılık bulunmuştur.

Katılımcıların Mesleklerine Göre Durumluk Kaygı ve Sürekli Kaygı Alt Boyutlarında;

Sürekli kaygı ortalamaları durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer meslek gruplarına göre "ev hanımlığı" (51,26±8,61) en yüksek çıkmıştır ancak (F=2,694; p=,071>,05) anlamlı bulunmamıştır. Durumluluk kaygıda ise yine "ev hanımlığı" (48,20±6,35) en yüksek çıkmıştır ve (F=2,509; p=,085>,05) anlamlı bulunmamıştır. Smith, Eskilson ve Wiley yaptıkları araştırmada, kadınların yaratıcılık gerektiren grupları daha başarılı bir şekilde yönettiğini ve kadınların yönettiği grupların daha verimli olduğunu ortaya koymuştur (Akt. Toduk Akiş, 2004). Bu çalışmalar göz önüne alınarak kadın yöneticilerin durumluk ve sürekli kaygı düzeylerini azaltacak çalışma ortamları oluşturulabilir.

Sonuç olarak;

Katılımcıların yaşlarına göre Sürekli kaygı ortalamaları, durumluk kaygı ortalamalarından yüksek çıkmıştır. Diğer yaş gruplarına göre her iki kaygı durumlarında da 41 yaş ve üzeri kaygıları yüksek çıkmıştır. Bunun nedeni olarak kadınların yaşları ilerledikçe hayata dair kaygılarının artması olarak düşünülebilir. (Başaran, 2009), çalışmasına göre spor yaşı küçük olanların durumluk ve sürekli kaygı puanları spor yaşı büyük olanların durumluk ve sürekli kaygı puanlarından anlamlı derecede yüksektir. Buda lisanslı spor yapan kadınların yaşları ilerledikçe kaygı düzeylerinin daha düşük olduğunu göstermektedir. (Koç, 2004) araştırmasının sonucunda; "profesyonel futbolcuların yaşlarının arttıkça durumluk kaygı düzeylerini etkileyen faktörlerden daha düşük düzeyde etkilendikleri ve duygularına daha fazla hâkim oldukları" sonucuna ulaşmıştır.

Katılımcıların eğitim düzeylerine göre Sürekli kaygı ortalamaları, durumluluk kaygı ortalamalarından yüksek çıkmıştır. Diğer eğitim durumlarına göre ilkokul mezunlarının her iki kaygı durumları da yüksek çıkmıştır. Bunun sebebi ise eğitim düzeyinin artması ile bireylerin daha fazla bilgilenmesi ve kendini daha doğru yönetip durumluk ve sürekli kaygı ile başa çıkmayı öğrenmesi olarak düşünülebilir. Bunun sebebi ise eğitim düzeyinin artması ile bireylerin daha fazla bilgilenmesi ve kendini daha doğru yönetip durumluk ve sürekli kaygı ile başa çıkmayı öğrenmesi olarak düşünülebilir.

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OPTIMIZATION OF HUMAN FUNCTIONAL STATUS AS A RESULT OF INCREASING PHYSICAL ACTIVITY

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ABSTRACT

Purpose: to determine the effectiveness of the author's version of the health improvement of adolescents with signs of asthenia.

Research methodology and organization. There were 54 adolescent girls (13-14 years old) who were divided into three groups of 18 people each. The girls of the first group had optimum health and formed a control group. The persons who made up the second and third groups had symptoms of asthenia during the last 4 months. For rehabilitation in the second group of girls, the traditional version of health improvement was applied. In the third group, the author's method of rehabilitation was used, consisting of a daily health-improving walk of 2.5 km in a free mode, daily yoga exercises, daily exercises for the development of flexibility for 30 minutes a day. Recuperation in the second and third groups lasted 4 months.

Research results. Initially, in both groups with asthenia, similar violations of the recorded indicators with the control level were noted. In the second observed group, against the background of traditional rehabilitation, by the end of the observation, the recorded indicators slightly improved, which did not ensure their access to the control level. More preferable dynamics of the considered parameters was achieved by the end of the observation in the third group. This was possible due to the pronounced stimulation of the resistance of the girls' bodies with an increase in their upper blood pressure by 32.2%, lower by 24.7% and with an increase in heart rate by 26.1%. At the same time, in the third group, the level of Stange's test increased by 39.6%, and Genchi's test increased by 35.4%.

Conclusion. Only against the background of the author's rehabilitation was it possible to achieve the level of control in all the considered indicators.

Key words: asthenia, physiology, health improvement, muscular activity, physical activity.

KLASİK ŞİİRİMİZDE İKTİBAS SANATI: "KÜN FE YEKÜN" ÖRNEĞİ

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ÖZET

Edebi sanatlar, şiirlerin anlaşılmasında ve yorumlanmasında hiç şüphesiz önemli bir yer tutmaktadır. Şiirlerin hemen hemen her parçasında bir ya da birkaç sanatın varlığı görülmektedir. Aslen Arapça bir sözcük olan ve sözlükte ödünç almak, ateş yakmak için kor almak gibi anlamlara gelen iktibas, edebiyat terimi olarak şiir yahut düz yazı metninde bir ayet-i kerimenin veya hadis-i şerifin tamamının veya bazı kelimelerinin alıntılanması olup bir edebi sanat olarak kabul edilmektedir. Bu sanatın amacı diğer sanatlarda olduğu gibi sözü güzelleştirmek, anlatımı ve düşünceyi kuvvetlendirmektir. Kur'an-ı Kerim gerek şekil gerekse muhteva olarak klasik edebiyatımızın en önemli kaynaklarından biri olmuş ve ayetlerinden bazıları ya tam olarak ya da kısmen iktibas yoluyla şairler tarafından şiirlerde kullanılmıştır. Kur'an-ı Kerim'in Bakara, Ali İmran, Enam, Meryem, Yasin, Mümin surelerinde, yedi farklı yerde ayet içerisinde geçen "Kün fe yekün" Arapça bir ifade olup "Allah bir varlığın veya olayın gerçekleşmesini istediği zaman 'ol' (kün) der, o da hemen oluverir." anlamına gelmektedir. Klasik edebiyatımızda en çok iktibas edilen ayetlerin başında gelen bu ifadenin, bu şeklinin dışında "kün fe-kân", "kâf u nûn" ya da" kün" şekliyle de şiirlerde kullanıldığı görülmektedir. Çalışmamızda Allah'ın gücünü, kudretini ve yüceliğini ifade eden bu ayetin, sadece klasik şiirimizdeki kullanım şekilleri örneklerle açıklanmaya çalışılacak, çalışmanın sınırlarını aşacağından düz yazı metinleri çalışma dışında tutulacaktır.

Anahtar Kelimeler: Klasik edebiyat, edebi sanat, ayet, iktibas, Kün fe yekün.

THE ART OF QUOTATION IN OUR CLASSICAL POETRY: THE EXAMPLE OF "KUN FE YEKUN"

ABSTRACT

Literary arts undoubtedly have an important place in understanding and interpreting poems. The presence of one or more arts is seen in almost every part of the poems. Quoting, which is originally an Arabic word and means borrowing in the dictionary, taking embers to make a fire, is the quoting of all or some words of a verse or hadith in the text of a poem or prose as a literary term and is accepted as a literary art. The Qur'an has been one of the most important sources of our classical literature, both in form and in content, and some of its verses have been used in poems by poets either fully or partially through quotation. "Kün fe yekun", which is mentioned in verses in seven different places in the Qur'an's Bakara, Ali Imran, Enam, Meryem, Yasin, and Mümin suras, is an Arabic expression that says "When Allah wants something or an event to happen, 'be' (kün) says, and it happens immediately." means. It is seen that this expression, which is one of the most quoted verses in our classical literature, is also used in poems as "kün fe-kan", "kaf u nûn" or "kün". In our study, the usage of this verse, which expresses the power, might and sublimity of Allah, will be tried to be explained only with examples in our classical poetry, and prose texts will be excluded from the study as it will exceed the limits of the study.

Keywords: Classical literature, literary art, verse, quotation, Kün fe yekün.

GİRİŞ

İslamiyet'ten sonraki dönemlerde Kur'ân-ı Kerim ve Hz. Peygamberimizin sözleri kabul edilen hadis-i şerifler edebiyatımızın en önemli kaynakları olmuşlardır. Şairler, duygu ve düşüncelerini ifade ederken bunları kendilerine dayanak olarak göstermiş ve bu yolla şiirlerine bir nevi kutsiyet atfetmişlerdir.

Ayetlerle Allah'ın kelâmı olduğu apaçık belli olan Kur'ân-ı Kerim, mucizevi üslubuyla, başta İslâm âlimleri ve müfessirler olmak üzere, söz ustalarının ilgisini çeken ve son derece sade, bir o kadar da anlaşılır bir yapıda olması, ayetlerinin mana olarak anlaşılır, akıcı, diziliş olarak kusursuz ve sağlam olması, açıklama ve anlatım yönteminin farklı olması ile belâgat yönünden eşsiz bir kitaptır. (Karakuş ve Aydın, 2019:5255). Kur'ân-ı Kerim'in bu özelliği bizzat Allah tarafından şu ayet ile ifade edilir: "Eğer kulumuza indirdiğimiz Kur'ân'dan şüphe ediyorsanız haydi onun benzeri bir sure getirin ve eğer iddianızda doğru iseniz, Allah'tan başka güvendiklerinizi de çağırın." (Bakara, 2/23; Yunus, 10/38; Hud, 11/33; İsra, 17/88).

Şiirlerin anlaşılmasında ve yorumlanmasında edebi sanatlar, hiç şüphesiz önemli bir yer tutmaktadır. Öyle ki şiirlerin hemen hemen her parçasında bir ya da birkaç sanatın varlığı bir arada görülmektedir. İşte şairler özellikle Kur'ân-ı Kerim'in bu belagat yönünü incelemiş, araştırmış, kendilerine örnek almış ve şiirlerinde kendilerince uygun gördükleri yerlerde ayetleri kullanmakta da bir beis görmemişlerdir. Hatta bunu edebî bir sanat haline getirmişlerdir. Bu sanatın adı "İktibas" sanatıdır. Çalışmamızda bu sanatın örnekleri sadece Kurân-ı Kerim ayetleri ile sınırlı tutulmuş, hadis-i şerifler ve düz yazı metinlerindeki örnekler çalışmamızın sınırlarını aşacağından alınmamıştır.

1. KLASİK ŞİİRİMİZDE İKTİBAS SANATI

Aslen Arapça bir sözcük olan iktibas sözlüklerde ateş yakmak için kor almak (Mermer ve Koç Keskin, 2016:98), ödünç alma (Pala, 1995:278), ilim almak, faydalanmak (Bolelli, 2013:435) gibi anlamlara gelen; edebiyat terimi olarak şiir yahut düz yazı metninde bir âyet-i kerimenin veya hadis-i şerifin tamamının veya bazı kelimelerinin alıntılanması (Saraç, 2000:274) olup bir edebi sanat olarak kabul edilmektedir.

Bu sanatın amacı diğer sanatlarda olduğu gibi sözü güzelleştirmek, anlatımı ve düşünceyi kuvvetlendirmektir. Kur'an-ı Kerim gerek şekil gerekse muhteva olarak klasik edebiyatımızın en önemli kaynaklarından biri olmuş ve ayetlerinden bazıları ya tam olarak ya da kısmen iktibas yoluyla şairler tarafından şiirlerde kullanılmıştır.

Muhtelif belâgat kitaplarında iki şekilde sınıflandırılan iktibas sanatını Emel Nalçacıgil Çopur, "İktibas Sanatı ve Mazmun" adlı çalışmasında dört başlıkta değerlendirir:

1. Bütünlük Açısından İktibas Sanatı: İktibas sanatı, iktibas edilen ibarelerin aynen veya bir bölümünün alınmasına göre tam ve nâkıs iktibas olarak iki şekilde değerlendirilir:

1.1. Tam İktibas: İktibas edilmek istenen ayet veya hadislerin tamamının alıntılanmasıdır.

1.2. Nâkıs İktibas: Alıntılanmak istenen herhangi ayet, hadis veya metnin anlamını tam karşılayacak şekilde bir parçasının iktibas edilmesidir.

2. Dil Açısından İktibas Sanatı:İktibas sanatı kullanılan dil açısından da iki çeşittir.

2.1. Lafzî/Lafzen İktibas: Lafzî iktibas, alıntılanan ibare/ibarelerin orijinallerinin yer aldığı iktibastır.

2.2 Mânevî/Mânen İktibas: İktibas edilmek istenen cümlelerin manasının alıntılanmasıdır.

3. Telmih Yoluyla Yapılan İktibas

4. Tenâsüb Yoluyla Yapılan İktibas (Nalçacıgil Çopur, 2019:168).

Ayrıca iktibasla ilgili hem eser hem de örnekler hakkında daha detaylı bilgi için Reyhan Keleş'in "Divan Şiirinde Lafzî Âyet ve Hadis İktibasları" adlı eserine de bakılabilir.

2. KLASİK ŞİİRİMİZDE "KÜN FE YEKÜN" AYETİNİN KULLANIMI

"Kün fe yekün" Arapça bir ifade olup "Allah bir varlığın veya olayın gerçekleşmesini istediği zaman 'Ol' (Kün) der, o da hemen oluverir." anlamına gelir ve Kur'an-ı Kerim'in yedi farklı yerinde ayet içerisinde geçer. Geçtiği yerler şunlardır: Âl-i İmrân, 3/47, 59; En'âm, 6/73; Nahl, 16/40; Meryem, 19/35; Yâsîn, 36/82; Mü'min, 40/68.

Kısaca "Ol (der) o da oluverir." anlamına gelen "Kün fe yekûn" ayeti divanlarda en çok iktibas edilen ayetlerden biridir (Keleş, 2013:32). Bu ayetlerden hareketle "kevn" masdarının emir kökünden türetilen bir terim olup kelâm, tasavvuf ve edebiyatta Allah'ın yoktan mutlak manada yaratmasını ifade etmek üzere kullanılmıştır. "Kün" emrinin tasavvuf geleneğinde yaratılışla birlikte anılması ona geniş bir kullanım alanı sağlamış ve kelime "kün fe-kân"; "kün fe-yekûn"; "kâf u nûn"; "nûn ile kâf" gibi şekilleriyle edebiyata yansımış, pek çok şair tarafından bir telmih unsuru olarak ve yaratılıştan bahseden her vesileyle kullanılmıştır (Pala, 2002:552). Söz konusu kullanımlara örnek olarak şu beyitler gösterilebilir:

Zuhûr eyledi bir emr-i kün ile bu ef'âl

'Aceb degül mi ki ef'âle emr ola masdar (Aşık Çelebi, K. 14/13)

(Bütün bu fiiller bir "Ol" emri ile meydana geldi. Bu fiillerin meydana gelmesinde yine bir emir masdarının olmasına şaşılır mı?)

Nice bir keşmekeş-i ma'reke kün fe yekûn

Şöhret-i 'âlem içün hâlk ile gavgâ nice bir (Neşati, Kıta 26/15)

(Alemde bilinmek için halk ile yaptığın bu meydan kavgası daha ne kadar sürecek, "Ol!" de, istediğin oluversin.)

Hallâk-ı ins ü mucid-i cin vâhibü'l-hayat

Çün kıldı kâf u nûn ile tekvîn-i kâinat (Şeyhi, K. 1/1)

(Allah, insan ve cinleri yaratmak, onlara hayat vermek için "Kaf ve nun" ile kainatı yarattı.)

Emriñe fermândur senüñ kün fe kân

Nârı Ḫalîl'e gülzâr iden sensin (Ümmü Sinan G. 123/5)

("Kün fe kan" senin emrinin fermanıdır, sen ne dersen o olur. Ateşi Halil'e gül bahçesi yapan sensin.)

Fâ'il-i muṭlaḳdur ol Ḥaḳ kün fe kân emrindedür

Her ne isterse ḳılur ol kimse yıġmaz hükmüni (Ümmü Sinan G. 175/13)

(O Hak, mutlak yaratıcıdır, "Kün fe kan" onun emrindedir. Her ne isterse o olur, kimse onun hükmünün önüne geçemez, onu engelleyemez.)

Örneklerden de anlaşılacağı üzere "Kün fe yekün" ifadesi ve onun farklı türevlerdeki kullanımları ile Allah'ın istediği bir şeyi yaratması için sadece ona "Ol" demesinin yeterli olacağı ve bu emir karşısında hiçbir gücün ona karşı koyamayacağı vurgulanmıştır. Farklı şair ve beyitler üzerine yapılan incelemelerde onların da bu kullanımla aynı minvalde oldukları görülmüş ve her bir kullanım için birer örneğin yeterli olacağı düşünülmüştür.

SONUÇ

Aslen Arapça bir sözcük olan ve sözlüklerde ödünç almak, ateş yakmak için kor almak, ilim almak, faydalanmak gibi anlamlara gelen iktibasın, edebiyat terimi olarak şiir yahut düz yazı metninde bir ayet-i kerimenin veya hadis-i şerifin tamamının veya bazı kelimelerinin alıntılanması olup manaya dayalı bir edebi sanat olarak kabul edildiği tespit edilmiştir. Bu sanatın amacının diğer sanatlarda olduğu gibi sözü güzelleştirmek, anlatımı ve düşünceyi kuvvetlendirmek olduğu görülmüştür. Bu amaçla özellikle Kur'an-ı Kerim'in, gerek şekil gerekse muhteva olarak klasik edebiyatımızın en önemli kaynaklarından biri olduğu ve ayetlerinden bazılarının ya tam olarak ya da kısmen iktibas yoluyla şairler tarafından şiirlerde kullanıldığı belirlenmiştir. Kur'an-ı Kerim'in Bakara, Ali İmran, Enam, Meryem, Yasin, Mümin surelerinde, yedi farklı yerde ayet içerisinde geçen "Kün fe yekün" ün, Arapça bir ifade olup "Allah bir varlığın veya olayın gerçekleşmesini istediği zaman 'ol' (kün) der, o da hemen oluverir." anlamına geldiği; klasik edebiyatımızda en çok iktibas edilen ayetlerin başında geldiği, ayrıca bu şeklinin dışında "kün fe-kân", "kâf u nûn" ya da" kün" şekliyle de şiirlerde kullanıldığı görülmüştür. Farklı yüzyıllarda yaşamış farklı şair ve beyitler üzerine yapılan incelemelerde de iktibas edilen söz konusu ifadenin ve onun farklı türevlerinin de aynı minvalde kullanıldıkları tespit edilmiştir. Bu çalışma ile Allah'ın gücünü, kudretini ve yüceliğini ifade eden bu ayetin, klasik şiirimizdeki kullanım şekilleri örneklerle açıklanmaya çalışılmış, çalışmanın sınırlarını aşacağından düz yazı metinleri çalışma dışında tutulmuştur.

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FUNCTIONAL CHANGES IN THE BODY AS A RESULT OF YOGA EXERCISES

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ABSTRACT

Introduction. The frequent occurrence of chronic bronchitis in adolescents, often with a severe course, creates a great need for the development of additional options for their rehabilitation. **Purpose**: to find out the degree of the optimizing effect of the complex of yoga exercises in adolescents with chronic bronchitis for a long time.

Research methodology and organization. The examination included 26 adolescents aged 12-14 years old, suffering from chronic bronchitis for a long time. The control group was formed by 17 practically healthy adolescents 12-14 years old. All examined with chronic bronchitis for 4 months did a number of yogic exercises: "Cobra", "Onion", "Locust", "Folding knife", "Birch".

Research results. In those examined with chronic bronchitis, the available parameters were inferior to the control level. After regular yoga exercises, the adolescents in the observation group increased the volume of vital lung capacity by 16.0%, reaching the level of the control group. Against the background of performing yoga exercises, the volume of forced vital capacity of the lungs in adolescents increased by 23.1%, reaching the control level. As a result of performing yoga exercises, the amount of forced expiration increased by 23.9% within 1 second. At the same time, the volume of minute respiration and maximum ventilation of the lungs returned to normal. At the same time, in those suffering from chronic bronchitis, as a result of the exercise, the peak volumetric velocity increased by 51.7% and the maximum volumetric velocity increased at the level of 25%, 50% and 75% of the forced vital capacity of the lungs. **Conclusion**. The use of a complex of yogic exercises in adolescents with chronic bronchitis leads to the improvement of their respiratory system, minimizing the pathological processes existing throughout the body.

Key words: yoga, physiology, adolescents, health improvement, lungs, respiratory system.

SPOR ANTRENMANLARINDA KAS YORGUNLUĞU İZLEME ARAÇ VE TEKNİKLERİ

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ÖZET

Kas yorgunluğu, herhangi bir seviyedeki sporcuların spor antrenman sürecini ve performansını kesin olarak etkileyen faktörlerden biridir. Yönetici modellerinde güç ve ekonomi ifadesi açısından performans kapasitesinde düşüş ile kendini gösterir. Kas yorgunluğunun nedenleri çeşitli biyokimyasal ve psiko-motivasyonel faktörlere bağlanabilir. Yorgunluğun başlangıcını doğru bir şekilde izleyebilmek, yarışta yeterli düzeyde performans sağlamak, antrenmandan kaynaklanan doğru ayarlamaları sağlamak ve yaralanmaları önlemek için büyük önem taşımaktadır. Bu veriler, eğitimde yükün bileşenlerinin (hem iç hem de dış) daha iyi yönetilmesini ve dolayısıyla önceden belirlenmiş periyotlarda daha iyi performans sonuçları elde edilmesini garanti etme işlevine sahiptir. Hem denekler arasında hem de deneklerin kendilerinde olgunun yüksek değişkenliği nedeniyle, atletik antrenman sırasında kas yorgunluğunun izleme parametrelerini anlamak her zaman kolay değildir. Bu derlemenin amacı, spor antrenmanını planlamak ve programlamak için faydalı uygulamaları ana hatlarıyla belirtmek için egzersize bağlı kas yorgunluğunu izlemeye yönelik araçları belirlemek ve tanımlamaktır. Çalışma PRISMA yöntemi kullanılarak gerçekleştirilmiştir. Google Scholar, Pubmed ve Scopus'un arama motorlarından ve veri tabanlarından elde edilen bilimsel makaleler dahil edilme kriterlerine göre seçilmiştir. Anahtar kelimeler: kas yorgunluğu, merkezi yorgunluk, periferik yorgunluk, kas yorgunluğu göstergeleri. Araştırmanın sonuçları, antrenman seanslarında kullanılacak kas yorgunluğunu izlemek için birkaç faydalı faktörün altını çizdi. Bu faktörler, yükün türünü (dış ve iç) ifade eder. Bunlardan biri, atalet sensörleri gibi uygun araçlar aracılığıyla motor hareketlerin gerçekleştirilme hızını izlemektir. GPS kullanımı, takım sporlarında performans düşüşünün izlenmesine yardımcı olur. Bahsedilmeyi hak eden kas yorgunluğunu izlemek için başka bir araç, algılanan yorgunlukla ilgili anketlerle temsil edilir.

Anahtar Kelimeler: kas yorgunluğu, merkezi yorgunluk, periferik yorgunluk, kas yorgunluğu göstergeleri, iç ve dış yük.

MUSCLE FATIGUE MONITORING TOOLS AND TECHNIQUES IN SPORTS TRAINING

Abstract

Muscle fatigue is one of the factors that decisively influence the sports training process and the performance of athletes at any level. It manifests itself with a decline in performance capacity in terms of the expression of strength and economy in executive models. The causes of muscle fatigue are attributable to various biochemical and psycho-motivational factors. Being able to accurately monitor the onset of fatigue is of great importance to ensure adequate levels of performance in the race, ensure the right adjustments resulting from training and avoid injuries. This data has the function of guaranteeing better management of the components of the load (both internal and external) in training and therefore obtaining better performance results in the

pre-established periods. Understanding the monitoring parameters of muscle fatigue during athletic training is not always simple due to the high variability of the phenomenon both between subjects and in the subjects themselves. The purpose of this review is to identify and describe the tools for monitoring exercise-induced muscle fatigue to outline useful practices for planning and scheduling sports training. The study was carried out using the PRISMA method. Scientific articles derived from search engines and databases of Google Scholar, Pubmed and Scopus were selected through inclusion criteria. Key words included: muscle fatigue, central fatigue, peripheral fatigue, indicators of muscle fatigue. The results of the research highlighted several factors useful for monitoring muscle fatigue to be used in training sessions. These factors refer to the type of load (external and internal). One of them is monitoring the speed of execution of motor gestures, through suitable instruments, such as inertial sensors. The use of GPS helps to monitor the decline in performance in team sports. Another tool for monitoring muscle fatigue that deserves mention is represented by the questionnaires relating to perceived fatigue.

Keywords: Muscle fatigue, central fatigue, peripheral fatigue, indicators of muscle fatigue, internal and external load.

OZONE THERAPY EFFICIENCY IN TREATMENT OF HYPERTROPHIC GINGIVITIS

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ABSTRACT

Introduction: The approach towards hypertrophic gingivitis (HG) treatment is related to the identification of the main etiological factor and the action on the site of gingival proliferation. The existing treatment methods so far are imperfect (conservative, surgical, physiotherapy), recurrences often occur and existing anti-inflammatory drugs act superficially and have a temporary impact on the gingiva. They are in fact limited to the elimination of the inflammatory process in the gum and the sclerosis of the hypertrophic sectors with different medication remedies (superficial and deep sclerosis) selected depending on the clinical type of hypertrophic gingivitis.

Material and Methods: A clinico-analytical and descriptive study of HG cases was realized, with a narrative review of the contemporary references concerning the subject under discussion. The researches were performed in a group of 27 patients divided into two cohorts: the control cohort 15 patients (9 females and 6 males) and the study cohort 12 patients (7 females and 5 males). The study was axed on patients included in both cohorts, diagnosed with HG using the parameters proposed by the American Academy of Periodontology (2009), aged between 17 and 68 years, with considerable increase in gingival volume up to I-III degree, false gingival pockets, glossy purplish color, bleeding on probing, supra- and subgingival dental deposits. The inclusion criteria in both cohorts represented patients diagnosed with HG with a lack of previous treatment of at least 3 months. The protocol for examination and treatment of patients with HG included the registration of laser Doppler flowmetry (LDF) before treatment, after treatment, then at 1 month, 3 months, 6 months, 12 months post-treatment.

Subsequently, the scaling, professional brushing, air flow and sanation of the oral cavity were performed.

Results: The average value of the blood perfusion status in the gingival tissue in the patients from the study cohort with HG evaluated based on the level of microcirculation (M) represents: until treatment 13.07; after treatment 10.71; at 1 month of treatment 11.77; at 3 months of treatment 12.27; at 6 months of treatment 12.74 and 12 months after treatment 13.26. The average value of the microcirculation efficiency index (MEI) before treatment 1.14; after treatment 1.43; at 1 month of treatment 1.46; at 3 months of treatment 1.14; at 6 months of treatment 1.21 and 12 months after treatment 1.69. Submucosal injection of medical ozone into hypertrophied papillae with a concentration of 8–10 mg / mL has been shown to be sufficient and effective in treatment. The result of the evaluation of the average value of the level of capillary blood microcirculation (M) in the hypertrophied tissue in the control cohort determined until treatment 14.60; after treatment 9.75; at 1 month of treatment 10.34; at 3 months of treatment 8.41; at 6 months of treatment 8.19 and 12 months after treatment 15.05. The result of the evaluation of the average value of the capillary blood MEI in the hypertrophied tissue in the control cohort appreciated up to treatment 0.96; after treatment 0.94; at 1 month of treatment 1.44; at 3 months of treatment 0.90; at 6 months of treatment 1.05 and 12 months after treatment 0.91.

Conclusions: The evaluation of capillary blood microcirculation indices (M, MEI) in hypertrophied gingival tissue has changed considerably, which idicated a high efficacy of the administered treatment. The average values of the microcirculation level (M) and of the MEI in the study cohort increased after treatment within one month, 3, 6 and 12 months.

Keywords: hypertrophic gingivitis, ozone therapy, laser Doppler flowmetry.

Introduction

Hypertrophic gingivitis (HG) is a chronic inflammatory process, mainly located in the gingiva with the predominance of the proliferation of fibrous elements of the chorion, cellular elements and basement membrane of the gingival epithelium. Despite the diversity of etiological factors and pathogenetic mechanisms of gingival hypertrophy, the local effect is achieved by a phenomenon, especially the disturbance of local regulation of tissue growth and the development of hyperpasia of tissue components of the gum [10]. The situation is conditioned by the unfavorable action of local and general factors, may appear as a separate nosologic entity or show a symptom of other conditions and occurs without destroying the integrity of the dentogingival junction. There is usually a direct dependence between the nature of the process in the gums and the cause of its development. HG treatment with existing traditional methods is long and difficult, post–treatment recurrences and complications often occur.

Objective of the study:

Evaluation and assessment of the efficiency of the ozone administration in HG treatment with Laser Doppler flowmetry method.

Material and methods.

A clinico-analytical and descriptive study of HG cases was realized, with a narrative review of the contemporary references concerning the subject under discussion. The researches were performed on a sample of 27 patients divided into two cohorts: the control group 15 patients (9 females and 6 males) and the study cohort 12 patients (7 females and 5 males). The study focused on patients included in both cohorts, diagnosed with HG using the parameters proposed by the American Academy of Periodontology (2009), aged between 17 and 68 years, with considerable increases in gingival volume grade I–III, gingival pockets (false), glossy purplish color, bleeding on probing, supra– and subgingival dental deposits. The inclusion criteria in both groups represent patients diagnosed with HG with a lack of previous treatment of at least 3 months. The exclusion criteria were patients with hyperthyroidism, leukemia, cancer and diabetes. In the investigated cohorts, the efficiency of the administered treatment methods was comparatively evaluated: the control group (classic non–surgical conservative method in 13 patients and the classic surgical method in 2 patients) and the study group (non–surgical ozone therapy method in 12 patients). The protocol for examination and treatment of patients with HG included the registration of LDF before treatment, after treatment, then at 1 month, 3 months, 6 months, 12 months post–treatment. Subsequently, the scaling, professional brushing, air flow and sanation of the oral cavity were performed. Submucosal injections with O2–O3 8–10 mg / mL were performed every 3–4 days (from 5–10 procedures, depending on the severity of the process and recovery), intravenous perfusion or injection with O3 in 0.09% NaCl sol., nr.10 –14, 2 times a week (depending on the severity of the process and recovery). Patients in the control cohort also underwent scaling, professional brushing, superficial sclerosis of the hypertrophied gingival by instillations and swabs with cauterizing remedies and gingivectomy. Periodontal tissue probing was performed using the LAKK–02 laser–Doppler analyzer, Russia having an infrared laser that provides complete information about blood flow in 1–1.5 mm. of tissue. Previously, blood pressure was measured with a tonometer and pulse with a pulse oximeter.

The principle of operation of the LDF method is based on the Doppler effect, where the ray of light directed towards the tissue is dispersed on its static and dynamic components [2]. Computerized analysis of LDF–graphs was per formed using the program that analyzed and calculated the parameters of blood microcirculation M, σ, Kv, ALF, ACF, AHF, IEM. Where M — the microcirculation index, σ — the standard deviation of the oscillation amplitude of the blood flow, Kv — the coefficient of variation, ALF — the maximum amplitude of the oscillations of the blood flow in the low frequency band, the maximum of the high frequency oscillations of the blood flow, MEI — microcirculation efficiency index. In order to obtain stable data in the evaluation of the capillary blood microcirculation, the impression of the jaw in occlusion was obtained, then in 3 points to be examined: left, center and right, a guide tube made of copper for the Laser Doppler probe was introduced. The same procedure
was repeated on the jaw.

Results and discussions.

HG is characterized by a chronic evolution and in the absence of timely treatment can lead to serious consequences with the formation of a wide focus of infection, mobility and tooth loss, attenuation of the body's reactivity. According to Чумакова Ю. Г. (2019), HG constitutes 24.8% of the structure of gingivitis, in pregnant women it occurs with a frequency from 8 to 24%. At the same time, the highest rate of HG disease (20.7%) is registered in the group of youngest women 18–20 years old, who usually have their first pregnancy. It is also attested in young people in the period of sexual maturity around 3–5% [7], the localized form of gingival hypertrophy represents 3–11% of all diseases of the periodontium and is mainly determined in the region of the incisors and canines of the lower and upper jaw [5]. Gingival hypertrophies are increases in the volume of the gums, of different causes. They are relatively common and produce functional and aesthetic changes [6,11]. The volume and color are different depending on the histological structure, most often they are bleeding, soft, inflammatory or firm and fibrous. To assess the clinical aspects of gingivitis, it is necessary to monitor the following changes in volume, shape, size, color, consistency, texture, position of the gum and blood microcirculation, ease and severity of bleeding, increased production of gingival fluid, gingival itch, pain and gingival tenderness. [3,4]. Gingival bleeding is one of the early signs of gingival inflammation and even precedes the color changes of the gingiva, being the main objective clinical sign due to microulcerations in the gingival epithelium and the fragility of capillaries in the chorion [1]. Determining the degree of bleeding may be the method of evaluating regeneration processes, but limitations are described in the use of this method as a clinical parameter [5,8,10]. In order to prevent posttreatment recurrences and complications, as well as to prolong the period of HG remission, ozone therapy has been proposed, a current and modern method widely used in the practice of various medical fields. Changes in blood flow and assessment of treatment effectiveness were monitored using laser Doppler flow meter (LDF), pre– and post–treatment at 1, 3, 6, 12 months.

In our reserches the average value of the blood perfusion status in the gingival tissue in the patients from the study cohort with HG evaluation based on the level of microcirculation (M) constitutes: 13.07 before treatment and 10.71 after treatment; at 1 month of treatment 11.77; at 3 months of treatment 12.27; at 6 months of treatment 12.74 and 12 months after treatment 13.26. The average value of the MEI before treatment 1.14; after treatment 1.43; at 1 month of treatment 1.46; at 3 months of treatment 1.14; at 6 months of treatment 1.21 and 12 months after treatment 1.69 (Table 1 and 2). Submucosal injection of medical ozone into hypertrophied papillae with a concentration of 8–10 mg / mL has been shown to be sufficient and effective in treatment. The result of the evaluation of the average value of the level of capillary blood microcirculation (M) in the hypertrophied tissue in the control group determined until treatment 14.60; after treatment 9.75; at 1 month of treatment 10.34; at 3 months of treatment 8.41; at 6 months of treatment 8.19 and 12 months after treatment 15.05.

The result of the evaluation of the average value of the capillary blood MEI in the hypertrophied tissue in the control group appreciated up to treatment 0.96; after treatment 0.94; at 1 month of treatment 1.44; at 3 months of treatment 0.90; at 6 months of treatment 1.05 and 12 months after treatment 0.91.

Table 1. The result of the evaluation of the average value of the capillary blood microcirculation efficiency index (MEI) in the gingival tissue in the study cohort before treatment, after treatment, at 1, 3, 6, 12 months.

	MEI pre	**MEI post**	**MEI 1 month**	**MEI 3 months**	**MEI 6 months**	**MEI 12 months**
Patient 1	**0,69**	**0,74**	**0,86**	**0,92**	**1,02**	**1,25**
2	**1**	**0,95**	**1,14**	**1,23**	**1,34**	**1,4**
3	**0,59**	**0,56**	**0,67**	**0,85**	**0,99**	**1,03**
4	**1,07**	**0,77**	**1,34**	**1,41**	**1,53**	**1,56**
5	**0,83**	**0,75**	**0,97**	**1,11**	**1,22**	**1,29**
6	**0,94**	**1,56**	**2**	**1,21**	**2,02**	**2,05**
7	**1,57**	**0,64**	**1,59**	**1,1**	**1,63**	**1,71**
8	**0,96**	**1,41**	**0,91**	**0,91**	**1,57**	**1,64**
9	**1,44**	**0,79**	**0,89**	**1,13**	**1,67**	**1,77**
10	**0,9**	**1,79**	**1,33**	**0,85**	**1,43**	**1,51**
11	**1,05**	**1,11**	**2,09**	**1,69**	**1,78**	**1,93**
12	**1,14**	**1,43**	**1,46**	**1,14**	**1,47**	**1,66**
Median value, MEI	**1,015**	**1,041667**	**1,270833**	**1,129167**	**1,4725**	**1,566667**
Standard error	**0,080298**	**0,117897**	**0,130885**	**0,070662**	**0,086674**	**0,084273**
P<0,001						

Table 2. The result of the evaluation of the average value of the level of capillary blood microcirculation (M) in the gingival tissue in the study group before treatment, after treatment, at 1, 3, 6, 12 months.

	Indicator	M pre	M post	M 1 month	M 3 months	M 6 months	M 12 months
Patient	**1**	**11,5**	**12,58**	**10,59**	**12,41**	**13,18**	**11,89**
	2	**7,67**	**4,36**	**8,14**	**9,03**	**7,09**	**8,6**
	3	**14,03**	**7,87**	**11,3**	**11,56**	**13,02**	**13,89**
	4	**9,36**	**11,32**	**10,51**	**11,33**	**12,14**	**10,9**
	5	**10,64**	**9,03**	**10,98**	**11,46**	**9,84**	**10,51**
	6	**9,62**	**9,51**	**10,34**	**15,05**	**14,52**	**10,62**
	7	**16,35**	**11,05**	**8,41**	**8,19**	**11,51**	**14,23**
	8	**14,6**	**9,75**	**14,79**	**12,74**	**11,02**	**14,2**
	9	**15,1**	**10,79**	**13,86**	**17,24**	**16,87**	**15,73**
	10	**11,92**	**12,45**	**6,98**	**13,26**	**8,18**	**11,79**
	11	**10,85**	**4,53**	**16,27**	**7,18**	**13,74**	**13,19**
	12	**13,07**	**10,71**	**11,77**	**12,27**	**12,78**	**12,61**
Median value, M indicator		**12,05917**	**9,495833**	**11,16167**	**11,81**	**11,99083**	**12,34667**
Media error		**0,755423**	**0,783798**	**0,790944**	**0,808134**	**0,782001**	**0,581239**
P<0,1							

Conclusion.

1. The evaluation of capillary blood microcirculation indices (M, IEM) in hypertrophied gingival tissue has changed considerably, which proved a high efficacy of the administered treatment.
2. The average values of the microcirculation level (M) and of MEI in the study cohoort increased at 1 month, 3 months, 6 months and 12 months after the treatment.
3. No significant positive changes of M and MEI were registered in the control cohort, in which their unstable growth was revealed.

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OPPORTUNITIES FOR REHABILITATION OF OLFACTORY FUNCTION AFTER COVID-19

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ABSTRACT

One of the clinical components of COVID-19 is partial impairment of the sense of smell-hypoxia- or complete loss- anosmia. Quantification of odor is carried out with the use of olfactometry, which is a method of measuring odor by the degree of its effect on the person. An algorithm has been developed to determine olfactory sensitivity in the form of testing with five odorizers.

Keywords: Infection, pandemic, nose, research, training, olfactometry.

Relevance of the work. The emergence of a new viral infection COVID-19, its spread and outgrowth into a pandemic, has become a new global trigger for all humanity. The virus affects sensory cells, neurons which block transmission of odour molecules to receptors. Along with impaired sense of smell there is also sporadic perception of flavors, which is explained as a manifestation of disorders associated with the inability to detect odors while eating [1,2]. An important problem in this case is to improve the efficacy of diagnosis and treatment of pathologies associated with dyspnoeic and sniffing dysfunction of the nasal cavity in COVID-19. To solve this problem, diagnostic data based on aerodynamic indices of airflow in the nasal cavity are needed [3,4]. However, the difficulty of investigation of nasal function lies in the lack of evidence-based methods of dysosmia diagnosis [5,6]. Current diagnostic approaches are based, for the most part, on the qualitative determination of sensory perception.

The most common disadvantage of the available methods of smell testing is that a conclusion about the state of the nasal analyzer is made on the basis of subjective data of the examinees, Also note the methodological peculiarities associated with the fact that odours used for identification in one country are often unfamiliar to residents of another country. To increase the efficiency of sniffer surveys, special equipment is used to minimize data contamination, e.g. by detecting odorant [7, 8]. Thus, considering the peculiarities of a COVID-19 infection, which in most cases is accompanied by disruption of olfactory sensitivity, its evidence-based diagnosis should be carried out with further restoration of sensory perception.

Therefore, it is important to create methods and devices for complex examination of dichal-sniffing function on the basis of combining rhinomanometry and olfactometry data that will prove the impairment of sniff on the basis of examination of characteristics of air flow through the nasal cavity by appropriate odorimeters [9, 10] as well as to determine characteristics of the nasal air flow laminar intersphere and correlation of its thickness to the value of mucous membrane inhomogeneity under different modes of breathing [11].

Objective. The objective was to develop an instrumentally proved diagnostic module permitting to study rhinomanometer parameters of nasal breathing during various donor treatment modes after COVID-19 treatment.

Main results. Quantitative odor identification is performed using olfactometry, which is a method of odor measurement by the degree of its influence on the person.

For this purpose, it is advisable to add an odorimeter of TNDA-PRC type [3] to the odorimeter with a container with a fragrant substance. When using domestic odorants it is recommended to install a particle filter to the odorimeter container.

For the examination of n. trigeminis sensitivities 0.04% of hydrochloric acid is required, for the evaluation of n. glossopharingeus sensitivities 0.004% of ammonia alcohol is required. In this case the limit values of the sniffing disorder criterion are decreased by up to 2 times during the subsequent transitions to the corresponding modalities of the odoriferator.

In addition, the above procedures are followed by a set of different types of odorizers (e.g. water, watermelon, soap, vanillin, aromatic oils (rose, lemon, clove and eucalyptus)), identification of the odorizer with the highest respiratory energy value at its sensation, sorting out the odorizers according to their respiratory energy increase and formulating recommendations for respiratory-sniffing rehabilitative training with the odorizers with the lowest respiratory energy indices of their sensation. This procedure stimulates areas of the brain to restore impaired olfactory sensitivity after COVID-19 disease.

This method was tested positively in the Clinic of Head and Neck Surgery of the Kharkiv Regional Hospital and enables to Improve the efficiency of the process of restoration of sight due to the peculiarities of olfactory sensitivity diagnostics after COVID- disease 19 and carry out effective rehabilitations to restore the sense of smell to a provable level.

The training is carried out twice a day for 4 months. To do this, the subjects are first asked to sniff odorants that are familiar to their region. The list of odorous substances includes a characteristic and easily recognisable smell. You should choose at least 5 strong fragrances (cava, hourglass, mother liquor, aromatic oils (eucalyptus, lemon, cloves), vanillin, citrus and others). And sniff each ingredient for 10-20 seconds, no more than 2 times a day. This is done by breathing in each of the fragrances for 20 seconds on the slit eyes and then with the eyes closed, by all means concentrating on your sensations. An impairment of the sensory system of smell allows the examiner to perceive an odour with open eyes using "inner hearing and imagination", and to detect it with closed eyes. The special feature is the identification of the most sensitive substance, i.e. the substance with the most detectable odour. This procedure, called olfactory training, is used to reconstruct neural connectivity and activate the olfactory receptors. The substance is present in the olfactometer in different concentrations, starting from the highest to the lowest. Using the most sensitive olfactometer, the patient performs a dichotomy in the condition of walking on the walking track. The dyspneal manoeuvres are not focused on the work with support on the visor, but on improvement of ventilation of the IAP due to increased thoracic collapse, excursion of the diaphragm, and stiffening of the dyspneal muscles on the forced dyspnea. A complication in the rehabilitation program is atrophic processes in the nasal epithelium and cortical structures of the brain. The algorithm includes a 6-oxygen flow test, an airflow meter and the corresponding estimations of respiratory effort and energy. Further, a minimum of 6 respiratory energies is determined for the future training.

An example of the results of olfactory sensitivity testing on household odorants is shown in Figure 1.

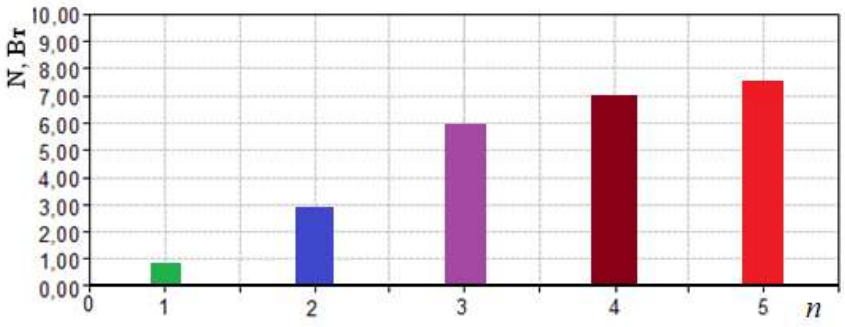

Figure 1 - Sniff test on household odourants

We can see that the patient is most sensitive to the odour of the odourant in terms of breathing power. Each aroma corresponds to its own breathing power when the odoriferous smell detects: hourshine candle - nearly 1 Watt, cava - close to 3 Watt, aromatic oils - 6 Watt, lemon - 7 Watt, peppermint - 7,5 Watt.

Presented results. The algorithm of sensitiveness identification, which includes testing by 5 flow meters, airflow rate, the appropriate estimations of respiratory power and energy and identification of an odorant, which can be used to reach the minimum nasal respiratory energy level. The indication of the odorant can then be used for future dichal-nasal training.

The suggested dichal-sniffing training can be effective not only for respiratory and olfactory disorders, but also for central dysosmia with a sniffing agent as a stimulant.

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LABORATORY PECULIARITIES IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND HYPOTHYROIDISM

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ABSTRACT

Hypothyroidism is more common in patients with type 2 diabetes than in the general population. These are the two most common endocrine disorders in the world. Comorbidity of type 2 diabetes and hypothyroidism will worsen macro-vascular complications, quality of life and mortality. More and more scientists recommend routine determination of thyroid hormone levels in patients with type 2 diabetes, which will help better control these two conditions.

The aim of the study was to establish possible laboratory markers of comorbid course of type 2 diabetes mellitus and hypothyroidism.

A retrospective study of medical records of 538 patients with type 2 diabetes who were treated in the endocrine department of the Municipal Institution of Ternopil regional council Ternopil University Hospital in 2019. Two experimental groups were formed: group 1 (501 patients with type 2 diabetes mellitus (T2DM)) and group 2 (37 patients with comorbid T2DM and hypothyroidism). Laboratory data were evaluated: general blood analysis (hemoglobin - Hb, erythrocytes – RBC and erythrocyte sedimentation rate - ESR), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), remnant cholesterol (RC), non-high-density lipoprotein cholesterol (non- HDL-C), triacylglycerol (TG), thyroid hormones (thyroid-stimulating hormone – TSH, thyroxine – T4) and glycated hemoglobin (HbA1c). Statistical analysis was performed by calculating the median (Me), lower (Lq) and upper (Uq) quartiles, Mann-Whitney U-test.

The study of general blood tests revealed significantly lower Hb and RBC in group T2DM with hypothyroidism compared to T2DM (126 (116;139) and 138 (127;149) p=<0.001; 4.2 (4.0;4.55) and 4.4 (4;4.7) p=0.043), the level of ESR was higher (by 15.4 %, p=0.045), respectively. HbA1c values were 10.0% higher in group T2DM with hypothyroidism (p=0.035) compared to T2DM. The level of HDL-C was significantly lower in T2DM with hypothyroidism compere to T2DM only (1.06 (0.72;1.29) and 0.75 (0.44;1.18) p=0.01), higher levels of non-HDL-C, RC, TG (3.34 (2.64;3.91) and 3.05 (2.4;3.9) p=0.004; 4.5 (3.74;4.88) and 3.92 (3.21;4.68) p=0.008; 2.53 (1.9;2.92) and 1.83 (1.09;2,82) p=0.05), respectively. TSH significantly higher and T4 lower in T2DM patients with hypothyroidism compared to T2DM only (4.56 (2.53;8.37) and 1.94 (1.57;2.84) p=<0.001 and 9.91 (8.82;12.64) and 16.04 (14.95;17.23) p=<0.001), respectively.

Patients with comorbid type 2 diabetes mellitus and hypothyroidism have significantly lower values of hemoglobin and erythrocytes, significantly higher levels of ESR, HbA1c, and progressing dyslipidemia due to HDL-C, RC, non-HDL-C and TG compered to patients with type 2 diabetes mellitus only.

Keywords: type 2 diabetes mellitus, hypothyroidism, laboratory data.

COMORBID OVERWEIGHT/OBESITY INCREASE THE PROGRESSION OF DYSLIPIDAEMIA IN TYPE 2 DIABETIC PATIENTS

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ABSTRACT

Presence of comorbidities affects the type 2 diabetes mellitus (T2DM) patients outcomes, available treatment options and management approaches as well as the associated healthcare expenses. Most people with T2DM have at least one other condition that can affect diabetes progression and management, and up to 40% have at least three. A better understanding of the prevalence and patterns of comorbidities in T2DM patients may provide key insights for primary care of the patients with multiple conditions, facilitate a more patient-centred approach in risk assessment and more tailored therapeutic interventions.

While the hallmark of T2DM is insulin resistance (IR), it is associated with other metabolic disorders, such as obesity and dyslipidaemia. The latter is defined by an abnormal lipid profile characterised by high total cholesterol (TC), high low-density lipoprotein cholesterol (LDL-C), low high-density lipoprotein cholesterol (HDL-C) and high triglycerides (TG). The excessive abdominal fat, adipose tissue dysfunction and inflammation causes increased secretion of diabetogenic adipocytokines. This family of cytokines links dyslipidaemia and obesity to T2DM, since they disrupt insulin action in tissues and organs, including skeletal muscle, the brain and liver.

The aim of this study was to analyse serum lipid profile parameters in type 2 diabetic patients with comorbid overweight/obesity to determine the contribution of this comorbidity to lipid metabolism disorders.

The study involved patients with T2DM hospitalised at the Endocrinology Department of Ternopil University Hospital (Ternopil, Ukraine) in 2018-2019. The patients were divided into the following groups: group 1– patients with normal body weight with T2DM; group 2 – overweight patients with T2DM; group 3 – obese patients with T2DM. There was no significant difference in age and gender between the study groups.

T2DM diagnosis was verified using the recommendations of the American Diabetes Association (2019). Body Mass Index (BMI) was calculated using the following formula: BMI = body weight (kg)/height (m^2). Data were interpreted according to the WHO recommendations: normal weight in the range of 20.0 to 24.9 kg/m^2; excess weight (overweight): 25.0 to29.9 kg/m^2; obesity: > 30.0 kg/m^2.

Fasting venous blood (5 mL) was collected from each individual after an overnight fast of over 10 hours. Serum lipid panel values were determined by the Biochemical Laboratory of Ternopil University Hospital; TC, TG and HDL-C were determined with commercially available kits on a Cobas 6000 analyzer (Roche Hitachi, Germany).

The Kruskal–Wallis rank analysis showed statistically significant differences in the lipid profile values between T2DM patient groups depending on the BMI. In a multiple comparison of TC levels between the groups, it was found to be significantly higher in T2DM patients

with overweight (Group 3, by 17.98%, p<0.001) and obesity (Groups 5, by 20.90%, p<0.001) compared to patients T2DM with normal body weight (Groups 1). HDL-C levels were significantly lower in the patients of Groups 3 and 5 compared to these levels in Group 1: by 16.67% (p<0.001) and 21.43% (p<0.001), respectively. HDL-C levels in T2DM patients with obesity were significantly lower than in overweight patients (p<0.001). LDL-C levels were significantly higher in T2DM patients with overweight and obesity compared to these values in T2DM patients with normal body weight: by 40.30% (p<0.001) and 67.16% (p<0.001), respectively. TG levels were significantly higher in the patients of Groups 3 and 5 compared to this value in Group 1 by 46.15% (p<0.001) and 99.15% (p<0.001), respectively. At the same time, HDL-C levels in T2DM patients with obesity were significantly lower than in overweight patients (p=0.001).

This study suggests that dyslipidaemia in T2DM patients is characterized by unidirectional changes (a significant increase in TC, LDL-C, TG, non-HDL-C, RC levels and decreased in HDL-C levels) regardless of the presence/absence of comorbid overweight/obesity.

Keywords: type 2 diabetes mellitus, overweight, obesity, lipid profile

CO-EXPRESSION OF HORMONAL TYPE (ER; PR), GRADE AND NUCLEAR ATYPIA NON-DIABETICALLY BREAST CANCER

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ABSTRACT

Background: Hormonal activity, nuclear atypia with grade in breast tumor is a great characteristic of tumors, which determines the selection of therapy and patient's prognostics.

Purpose: The main scope of present research was to establish the hormonal expression, grade of differentiation and nuclear atypia in case of breast cancer of NST type at non-diabetically women and possible statistical associations.

Methods: were analyzed morphologically and immunohistochemically 41 primary breast cancers of NST type non-diabetically women, with no chemotherapy before surgery. The immunohistochemistry was made manually by using Sequenza ThermoShandon immunohistochemistry system: Progesterone receptor/16SAN27 antibody (PGR-AB-L-CE, 15 minutes), Estrogen receptor/ 6F11antibody (PA0009, 15 minutes), Bond Epitope Retrieval Solution 2 (AR9640, 20 minutes), Bond Polymer Refine Detection System (DS9800, 15 minutes) (Leica Biosystems) were used. The cut-off for Estrogen receptor positivity was 27, Progesterone receptor positivity was 24. Cronbach's alpha – 0,6; Scott's homogeneity – 0,7. As statistics were M±SD and Pearson correlation (r). Results with $p \leq 0,05$ were considered statistically significant.

Results: The mean age of women was 64,8±6,3. The distribution of cases by grade of differentiation was: G1 – 4 cases; G2 – 21; G3 – 16. The nuclear atypia: 2 – 12 – 29,3%; 3 – 29 – 70,7%. The Estrogen receptor activity was evaluated as positive in 27 (65,9%) cases and negatives in 14(34,1%).

The Progesterone receptor activity was evaluated as positive in 24 (58,5%) cases and negative in 17(41,5%). The Estrogen receptor correlation coefficient by Progesterone receptor, corelated positive (r=0,78; p=0,000); The grade, positively correlated with nuclear atypia (r=0,45; p=0,001).

Conclusions: Nuclear atypia and grade is an important characteristic of tumors in the breast malignancy, which determines the patient's prognostics, for the treatment is it very important the hormonal status. The Breast NST type of cancer is characterized in majority of cases by moderate and high rate of cells proliferation at the patient in adult and old age. The morphological assessments of proliferation correlate statistically with immunohistochemistry results.

Keywords: Breast cancer, grade, nuclear, ER, PR.

SOLID STATE FERMENTATION OF PHYTASE FROM *PENICILLIUM SP* AND ITS PLANT GROWTH PROMOTION STUDIES

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ABSTRACT

Phytase is a complex of naturally occurring antinutrient factor that pointedly influence on the functional and nutritional properties of food. The supplementation or the application of phytase with food help to break these antinutrient factors and release bound food nutrients attached to phytate. A phytase is a type of phosphatase enzyme which hydrolysis phytic acid and indigestible organic form of phosphorous which are found in grains and oil seeds and releases useable form of inanimate phosphate. Phytase is also called myomositolhexakisphosphate phosphohydrolase. Phytase helps in nitrogen retention and utilization of protien and amino acid. It also act as growth factor. As mentioned above phytase enzyme has a great application or use in preventing environmental pollution and it is used in the feeds of many animals as well as fish feed. Thus inorganic phosphates can be utilized by plants for its growth and developmet and reduction phosphate pollution through unused phosphate in animal excreta can be acquired.

Phytase is wide spread in nature,in plant,microorganism as well as in some animals. The phytase activity also takes place in plant kingdom. Its activitiy action is found in various regions in animals such as in the rat, pig and cow intestine. Phytase is one of the many essential enzymes necessary for the digestive process and a key enzyme for bone health.

This studies confrim that the use of this enzyme can help to reduce the need for calcium phosphate and increase digestive health. Suplementing with phytase can significantly increase the body's ability to absorb and assimilate vital minerals such as calcium,magnesium and iron. Phytase help diminish the adverse effects of phytic acid in the body. Several plants that we eat such as corn,grains,seeds, legumes contain elevated amount of phytic acid. Denoted to as an "anto nutritional factor" these phytase decrease our ability to absorb nutrients. Phytic acid has to create insoluble complexes with these mineral through its harmfully charged phytic acid. This acid has the capability to bind to positively charged molecules in these minerals as well as in protiens.

The current study led to the isolation,screening and identification of the potent phytase producing fungi of *Penicillium sp*.along with well studied *Aspergillus niger*. Since the former isolate showed better phytase yield from *Penicillium sp*.so further study was concentrated on *Penicilium sp*. Solid State Fermentation being better and promising technique for enzyme production against submerged fermentation SSF method of phytase production was optimized. Among different solid substrates rice bran+ coconut cake (1:1) gave a good yield of phytase with activity of 242.9825 U/g solid. The enzyme was further scaled up,partially purified and used in plant growth promotion studies. The study releaved that phytase supplementation increased the germination and shoot length of wheat plants (in 5 days and 15 days trails). This supports that better nutrition uptake from the soil takes place in the presence of phytase enzyme and thus it promates plant growth. Phytase thus can be economically used,commercially used for different purpose and also it has medicinal values.

Keywords: Phytase enzyme, Penicilium spp. Solid State Fermentaion,plant growth promotion,rice bran.

THE INFLUENCE OF THE CRYSTALLOGRAPHIC PHASE ON THE TORSIONAL RESISTANCE OF NITI ROTARY INSTRUMENTS DURING DIFFERENT BENDING CONDITION

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ABSTRACT

In recent publish studies it has been investigated the relationship between the flexural stress and the torsional resistance of martensitic NiTi instruments, stating that the torque at fractures values increase when instruments are subjected to flexural stress. Nevertheless, few data are available regarding the torsional behavior of austenitic instruments in presence of bending moment. Moreover, there are aldo few data on the influence of the crystallographic phase on the torsional resistance of Nickel-Titanium (NiTi) rotary instruments while flexural stresses are apllied.

According to this, the aim of this study was to evaluate the role of the crystallographic phase of NiTi rotary instruments in determining their torsional resistance during different bending condition such as different degrees and angle of curvature.

With this purpose 100 austenitic instruments S2 EdgeTaper (EdgeEndo, Albuquerque, NM, USA) (group A) and 100 martensitic instruments S2 EdgeTaper Platinum (EdgeEndo, Albuquerque, NM, USA) (group B). All instruments shared the same characteristics except for the crystallographic phase. Each group was divided in 5 subgroups according to the different bending conditions (straight canal, 60° or 90° of curvature degrees and 5 mm or 3 mm of radius of curvature).

The static torsional test was performed by using a device composed by: an electric motor (Kavo, Biberach, Germany) equipped with a 1:1 handpiece capable of recording torque values (Ncm) every 1/10 of a second; a vice used to firmly secure the instruments at 3mm from the tip; artificial canals, which allow instruments to remain flexed during test procedures. Each artificial canal was tested by freely rotating instruments inside it, with the aim to ensure the absence of any intrinsic ability of the SS canals to generate friction stress during instrument rotation. During this pre-test the motor did not record any values (sensitivity of 0.01 Ncm), thus the torque developed was considered null.

Each instrument was rotated with its tip firmly secured at 3 mm at 300 rpm with a torque limit set to 5.5 Ncm until its fracture and the torque at Fracture (TtF) was registered by the motor. A Scanning Electron Microscopy (SEM) (FEI QUANTA 400, FEI Company, Oregon, USA) observation was conducted with the aim to confirm the fracture due to torsion.

Collected data confirm that an increase in the angle of curvature and a decrease in the radius of curvature of the artificial canals used for the static torsional tests lead to an increase of TtF

values with a statistically significant difference ($p<0.05$), both in the austenitic and martensitic groups.

Regarding the comparison between austenitic and martensitic groups in the same bending condition, a statistically significant difference has been found when the torsional test was performed in the canals with the degrees of curvature of 90° and 60° and the radius of curvature of 3 mm and 5 mm, with the austenitic instruments showing a higher TtF than the martensitic ones.

In conclusion, it could be stated that the crystallographic phase of NiTi endodontic rotary instruments influences their maximum torque at fracture when they are subjected to bending moment and that the radius of curvature significantly influences the torsional resistance of NiTi instruments.

Keywords: Crystallographic phase; Endodontics; Nickel-Titanium; Root canal treatment; Torsional stress.

MANAGEMENT OF RELAPSED MULTIPLE MYELOMA

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ABSTRACT

Introduction: Multiple myeloma (MM) is one the most frequent neoplasms within the structure of morbidity by hematological malignancies with primary bone marrow (BM) involvement, being characterized in the advanced stages by the recurrent evolution, unfavorable socio-economic impact and prognosis. MM accounts for 10% of all hematological neoplasms, with an average onset age of 68 years. The incidence of MM increases steadily with age, with its peak age level of approximately 40–50 cases per 100,000 in males and approximately 25–30 per 100,000 cases in females over 75 years old. About 20% of patients experience an aggressive relapses according to the IMWG criteria, defined on the basis of unfavorable cytogenetics, low plasma albumin and high plasma LDH. The increased rates of morbidity and disability, frequent relapses and complications, negative socio-economic impact designate MM as an actual issue of oncology and public health.
Material and Methods: We performed the clinico-analytical and descriptive study of MM cases, with a narrative review of the contemporary literature concerning the researched subject. These patients were treated and followed up at the Institute of Oncology from Moldova between 2012-2021. The diagnosis was asserted by cytological, immunohistochemical examinations of the BM and ELISA immunological analysis. The morphological type of hematological malignancy was identified according to the Revised 2017 WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues.
The stage of MM in each case was determined according to the Durie-Salmon Staging System and Revised International Staging System.
Results: The diagnosis of stage IIIA MM was proved in one male of 55 years and two females of 49 and 65 years old. The period from the onset of the disease to the diagnosis was 2, 6 and 8 months, respectively. All patients had IgG type and disseminated radiological form of MM. The patients experienced the history of anemic syndrome, bone pain and related decreased mobility, with the ECOG performance status 3-4. X-ray examinations and CT scans detected the multiple osteolytic lesions, predominantly affecting the axial skeleton, and diffuse skeletal osteopenia. Blood analyses revealed moderate anemia, elevated sedimentation rate and hyperproteinemia. The rates of myeloma cells in the BM aspirates accounted for 21%, 30% and 85%, and were represented mostly by proplasmacytes. Two patients underwent the first-line treatment with VAD regimen. The older female patient with concomitant diseases received the first-line chemotherapy with ciclofosfamide, vincristine and prednisolone, followed by thalidomide. Radiotherapy was administered in two younger patients in order to control locally MM sites, and led to the increase of mobility due to the temporary relief of the pain syndrome. Bisphosphonate therapy had been used before radiotherapy, with the moderate improvement in pain and patient functioning. Only partial unstable responses were achieved. MM progression with the appearance of new osteolytic foci occurred in two younger patients after 3 years of treatment. The older patient was diagnosed with symptomatic and biochemical relapse within 1.5 years after the start of treatment. All patients underwent CyBorD and BVD regimens with proteasome inhibitors because of the refractory evolution. The long-lasting very good partial responses were obtained in all patients. Survival rates from the diagnosis were 7, 8.6 and 4 (in the older

patient) years. The ECOG performance status was recovered up to 0 in male and 1 in females.

Conclusions: Regardless the age, gender, first-line treatments and disease span in MM patients, the targeted therapy with proteasome inhibitors may be considered as an efficient management option in cases of relapse due to the long-lasting very good partial responses, recovery of the ECOG performance status and increased survival.

Keywords: multiple myeloma, diagnosis, stage IIIA, relapse, management, survival.

Introduction

Multiple myeloma (MM) is one the most frequent hematological malignancies within the structure of morbidity by the neoplasms of hematopoietic and lymphoid tissues with primary bone marrow (BM) involvement, being characterized in the advanced stages by a recurrent evolution, unfavorable prognosis and negative socio-economic impact. Globally, MM accounts for approximately 0.8% (114,000) of all new cancer cases annually and 0.9% (63,000) of all cancer deaths [1]. MM accounts for 10% of all malignant hematologic neoplasms with an average onset age of 68 years. In Europe, the age-standardized incidence rate per 100,000 persons was estimated at 4.7 for males and 3.1 for females [2]. The increased rates of morbidity and disability, frequent relapses and complications, unfavorable socio-economic impact categorize MM as an actual issue of hematooncology and public health.

Material and Methods

We performed the clinico-analytical and descriptive study of MM cases, with a narrative review of the contemporary literature concerning the researched subject. These patients were treated and followed up at the Institute of Oncology from Moldova between 2012-2021. The diagnosis was proved at the Institute of Oncology of Moldova in the first two patients in 2007 and 2012, in the older patient in December 2017. The diagnosis was asserted by cytological, immunohistochemical examinations of the bones, BM, and ELISA immunological analysis. The morphological type of hematological malignancy was identified according to the Revised 2017 WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues [3]. The stage of MM in each case was determined according to the Durie-Salmon Staging System and Revised International Staging System [4]. More than 50 bibliographic sources of reference have been studied. The most relevant primary sources were identified and selected according to the significance of the impact score, with the scientific, reproducible and transparent approach to the subject under discussion, with the subsequent data extraction and analysis. Intending to minimize errors, a copy of the data extraction sheet was initially produced, listing all the informational elements to be extracted from the primary studies. In order to diversify the conclusions, the results of foreign studies were supplemented by the published research data from the Republic of Moldova.

Results

The incidence of MM increases steadily with age, with age-specific incidence rate of approximately 40–50 cases per 100,000 for males and approximately 25–30 cases per 100,000 for females over 75 years of age [5, 6]. In Germany, 6,500 patients were primarily diagnosed with MM in 2014, and approximately 4,000 deaths were attributed to MM progression in the same year. A recent report in Europe demonstrated that there were 38,928 new MM cases and 24,283 MM-related deaths in 2012.

The disease evolution varies much from case to case, however, and the survival rates may be as high as 20 years. According to the National Cancer Institute's Surveillance, Epidemiology, and End Results Program, 5-year survival rate for patients with MM is 49.6% [7]. Studies in Germany showed a relative overall 5-year survival rate of approximately 50% [6, 8].

Despite the advances in induction and maintenance therapy leading to improved response rates and overall survival, virtually all MM patients eventually relapse and die from disease progression [1]. Approximately 20% of patients have aggressive relapses according to the IMWG criteria, defined on the basis of unfavorable cytogenetics (del17p, t (4; 14), add 1q / del1p, t (14; 16), high-risk gene expression profile, high β-2-M) or low albumin and high plasma LDH [9].

According to the majority references, the goal of the relapse treatment is to relieve symptoms of the disease, prevent the affection of new organs, and achieve a second stable remission. The second and subsequent remissions are usually shorter because the disease can be more aggressive due to the presence of different clones, which represent a refractory tumor. In relapsed or refractory MM (RRMM), treatment is based on immunomodulators (thalidomide, lenalidomide, and pomalidomide), proteasome inhibitors (bortezomib, carfilzomib, ixazomib), and corticosteroids [1,10]. The standard treatment regimens for recurrent multiple myeloma are lenalidomide + dexamethasone (RD) and bortezomi + dexamethasone (VD), but treatment strategies are changing rapidly due to the following reasons [11].

Lenalidomide and bortezomib are currently included in first-line regimens, and in many patients MM becomes refractory to these agents in the early stages of their illness. The recently approved new antineoplastic agents include the monoclonal antibodies daratumumab and elotuzumab, as well as panobinostat, a histone deacetylase inhibitor that has been shown to enhance anti-tumor activity and survival rates when used in combination with the standard therapies [1, 12]. Although these new cancer drugs represent necessary new treatment options, patients with RRMM are more likely to have short responses to treatment and a typical expected survival rate of less than one year.

Randomized trials have been reported in which triple combinations with the addition of one of these new agents (other than pomalidomide) to RD or VD regimens were superior to the dual combinations in terms of remission rates and disease-free survival.

It is of practical interest the evaluation of the response to triple and double combined regimens in 185 patients, performed in Germany in a study of 219 patients with RRMM [7]. In the bortezomib group, 4.8% (n = 4) achieved a complete response (CR), 20.5% (n = 17) achieved VGPR and 67.5% (n = 56) achieved partial response (PR). In the carfilzomib group 10.1% (n = 9) achieved a complete response, 42.7% (n = 38) achieved VGPR and 43.8% (n = 39) achieved partial response, with the frequency of VGPR and complete response differing between patients with KRd and Kd. Only 13 patients treated with ixazomib were assessed for response.

Long-term results were also assessed (Figure 2). At the time of writing the article, 56.5% (n = 52) of patients receiving bortezomib-based regimens, 77.4% (n = 82) of patients with carfilzomib, and 57.1% (n = 11) of patients with ixazomib were still receiving treatment. In the bortezomib group, 82.6% (n = 76) had not yet made progress, compared with 91.5% (n = 97) in the carfilzomib group and 85.7% (n = 18) in the ixazomib group. Median Kaplan-Meier PFS was 14.0 months for patients with bortezomib and was not achieved for carfilzomib and ixazomib. The Kaplan-Meier median overall survival was not achieved in either group.

In the Republic of Moldova the incidence of MM does not show any trend (Figure 1), being lower as compared with the countries from Western Europe and North America.

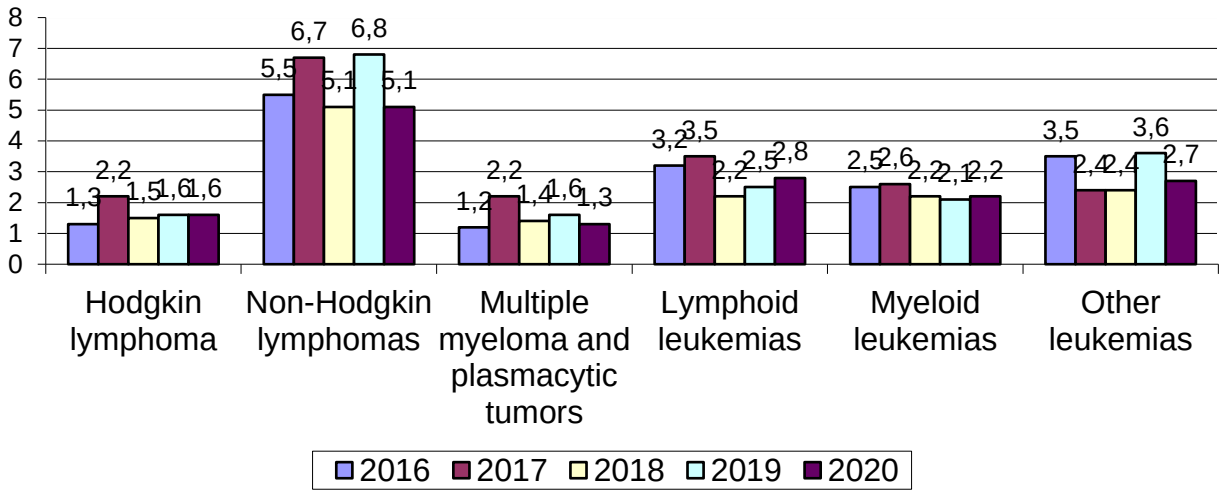

Figure 1. Morbidity by hematologic malignancies (per 100000 of population) in the Republic of Moldova.

In the currently presented study the diagnosis of stage IIIA MM was proved in one male of 55 years and two females of 49 and 65 years old (Table1). The period from the onset of the disease to the diagnosis confirmation was 2, 6 and 8 months, respectively. All patients had IgG type and disseminated radiological form of MM. The patients experienced the history of anemic syndrome, bone pain and related decreased mobility, with the ECOG performance status 3-4. X-ray examinations and CT scans detected the multiple osteolytic lesions, predominantly affecting the skull, axial skeleton, and diffuse skeletal osteopenia (Figure 2). Blood analyses revealed moderate anemia, elevated sedimentation rate and hyperproteinemia. The rates of myeloma cells in the BM aspirates accounted for 21%, 30% and 85%, and were represented mostly by proplasmacytes.

Two patients underwent the first-line treatment with VAD regimen. The older female patient with concomitant diseases received the first-line chemotherapy with ciclofosfamide, vincristine and prednisolone, followed by thalidomide. Radiotherapy was administered in two younger patients in order to control locally MM sites, and led to the increase of mobility due to the temporary relief of the pain syndrome. Bisphosphonate therapy had been used before radiotherapy, with the moderate improvement in pain and patient functioning. Only partial unstable responses were achieved. MM progression with the appearance of new osteolytic foci occurred in two younger patients after 3 years of treatment. The older patient was diagnosed with symptomatic and biochemical relapse within 1.5 years after the start of treatment. All patients underwent CyBorD and BVD regimens with proteasome inhibitors because of the refractory evolution. The long-lasting very good partial responses were obtained in all patients. Survival rates from the diagnosis were 7, 8.6 and 4 (in the older patient) years. The ECOG performance status was recovered up to 0 in male and 1 in females.

Table 1. Basic laboratory parameters of patients with stage IIIA multiple myeloma.

Patient: gender-age (years)	Hemoglobin, g / l	ESR, mm / h	Serum urea, mmol / l	Serum total protein, g / l	Percentage of myeloma cells in bone marrow aspirate	Serum calcium, mmol / l	LDH, U/L	Type of Ig	Proteinuria, g / l
m - 55	127	64	7,8	129	30	2,5	140,6	G	neg
f - 49	70	67	4,4	70	85	2,3	297,1	G	0,301
f - 65	78	68	4,3	84,5	21	2,6	366,30	G	0,35



Figure 2. CT scan of the skull of the female patient with multiple myeloma.

Conclusıons:

1. Targeted chemotherapy with proteasome inhibitors proved to be efficient in the reported advanced RRMM cases.
2. Regardless the age, gender, first-line treatments and disease span in MM patients, the targeted therapy with proteasome inhibitors may be considered as an efficient management option in cases of relapse due to the long-lasting very good partial responses, recovery of the ECOG performance status and increased survival.

3. Randomized trials showed that triple combinations, with the addition of one of the new agents to RD or VD regimens, were superior to double combinations in terms of remission rate and disease-free survival.

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ASSESSMENT OF THE LEVEL OF DAYTIME SLEEPINESS IN PATIENTS WITH ARTERIAL HYPERTENSION

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ABSTRACT

A large number of observational studies link sleep disorders, particularly obstructive sleep apnoea and insomnia, to risk of cardiovascular disease, including hypertension, ischaemic heart disease, stroke and sudden death. Although, there is a need for a better understanding of sleep disorders in patients with arterial hypertension to develop effective care strategies for such patients.

The aim of the study - to assess the level of daytime sleepiness in patients with arterial hypertension.

The study included patients with diagnosed arterial hypertension (study group). The control group consisted of 10 healthy individuals. ESS-Epworth scale was used to screen for sleep apnea syndrome.

In case of arterial hypertension are registered the moderate likelihood of drowsiness in the following poses and actions: sitting and reading, watching TV programs, while driving a passenger in the car for 1 hour without a break, lying down, resting, in the afternoon, when circumstances allow, sitting at rest in the afternoon without drinking alcohol. These patients in study group 1 have little chance of drowsiness when they sit (without activity) in a public place, such as during a meeting or in the theater, sitting with someone talking, sitting in the car behind the wheel, stopping for a few minutes. The data obtained in patients of the study group probably exceed the results obtained in the control group (except for "sitting in the car behind the wheel, stopping for a few minutes" in the comparison group). The data obtained indicate an increase in the level of daytime sleepiness in patients with hypertension.

The results indicate an increased level of daytime sleepiness, which corresponds to moderate drowsiness, in patients with hypertension compared to the normal range of sleepiness in healthy persons.

Keywords: sleep disorders, arterial hypertension, nursing

PREVALENCE OF INSOMNIA AMONG NIGHT-SHIFT NURSING WORKERS

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ABSTRACT

Shift work disorder specifically relates to circadian misalignment related to a work schedule that overlaps with a traditional sleep-wake cycle. Acording to the research data, night-shift workers are at increased risk of workplace accidents, angina pectoris, myocardial infarction, cerebrovascular disease, depression, sleep disorders, peptic ulcers, and breast and prostate cancer. Insomnia, excessive sleepiness while awake, and recurring sleep loss are the defining symptoms of shift work disorder. Important factors associated with insomnia include sex and age, low level of education, depression, environmental factors, such as the presence of partner and children and alcohol consumption before sleep. That is why, there is a need for a better understanding of sleep disorders in night-shift workers to develop effective care strategies for such patients.

The aim of the study - to analyze the prevalence of insomnia among night-shift workers.

The study included nurses with night working hours (study group). The control group consisted of 10 nurses without night working hours. All subjects completed the SDS-CL-17, and were characterized for daytime sleepiness using the Epworth Sleepiness Scale (ESS). Study participants were interviewed about the content and ease-of-use of the SDS-CL-17.

Given the strength of the SDS-CL-17 validation study, the 17-item instrument could be used in practice for diagnosis of sleep disorders in night-shift nursing workers. In general, as age increased, insomnia increased. However, the prevalence of insomnia was highest among workers older than 60 years, followed by those that were younger than 60.

Shift work is a strong risk factor for insomnia (near 8.6 %) and cessation of night-shift work reduces the risk of insomnia. Insomnia in night-shift workers can lead to overweight/obesity, decreased productivity, inefficient work outcomes, and workplace accidents, including injury.

Therefore, measures to prevent insomnia and deterioration in health and quality of life associated with shift work in nurses are required.

Keywords: sleep disorders, shift work, nurse, SDS-CL-17

MAGNETOHYDRODYNAMIC FLOW OF CASSON HYBRID NANOLIQUID ABOVE A SLENDERING SURFACE WITH SLIP EFFECTS

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ABSTRACT

In this paper, we studied the 3D free convection flow of electrically conducting hybrid nanofluid past a slendering surface of non-uniform thickness in the presence of slip effects. We pondered aluminum alloys of AA7072 and AA7072+AA7075 in methanol liquid. The aluminum alloys amalgamated in this study are uniquely manufactured materials, possessing enhanced heat transfer features, AA7072 encompassed with 98% Aluminum and 1% of Zinc with the additives such as Si, Fe and Cu. Similarly, AA7075 comprises 90% Aluminum, 5–6% Zinc, 2–3% Magnesium, 1–2% Copper with the additives such as Si, Fe and Mn. In this study, R-K and Newton's methods are employed to obtain the numerical results. Impact of physical parameters on the distributions of temperature, microrotation and velocity are analyzed with the aid of plots. Results ascertain that, heat transfer rate in methanol based AA7072+AA7075 nanofluid is significantly high as compared with methanol based AA7072 nanofluid. And also, the wall thickness parameter has a tendency to improve heat transfer rate of both the nanofluids.

Keywords: Slendering stretching sheet, hybrid nanoliquid, MHD, Slip effects.

USING BYOD TECHNOLOGY

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ABSTRACT

Currently, the main priority of the country's development and strategy is to improve the quality of education and, above all, the effective implementation of information and communication technologies in the educational process.

With the development of information technology in the modern world, more and more concepts are emerging that will soon become universal. When they appear in one field of activity, they almost immediately adapt to the work of others. One of the directions of development of modern information and communication technologies is the BYOD concept.

The current level of information technology development opens up prospects for users to use fundamentally new tools, including mobile learning. If distance learning has allowed students to study remotely from the school itself, then mobile learning offers the opportunity to learn regardless of place and time, providing continuity and maximum flexibility of the learning process. The uniqueness of mobile learning is that those who learn are not tied to a specific time and place, the learning material is always at hand, it is studied at any time. The search for new approaches to the organization of the educational process and the creation of educational materials and technologies that would take into account the capabilities of mobile devices in the learning process becomes especially relevant. The use of mobile devices and applications in teaching enables students to gain controlled access to teaching materials, teachers - to manage the learning process and monitor its effectiveness. One way to implement mobile learning may be to use BYOD: Bring Your Own Device technology.

Initially, BYOD meant the use of employees of their own mobile devices (smartphones, tablets, laptops). Employees gain access to the company's databases and applications in order to optimize the solution of work issues. In the educational process, BYOD means the use of a mobile phone as an additional source of information when performing various tasks, both classroom and independent. The simplest and most common way to use your own mobile device is to reproduce an electronic version of the textbook, which is freely available, using a distance course.

Smartphones and tablets are the same personal computers that have a touch screen, Wi-Fi and high-speed access using 3G technology to provide Internet access, an operating system with the ability to install various applications, support for removable media, powerful mobile processors and long life without recharging. It is not difficult to notice that these opportunities are quite enough for full-fledged mobile work in the learning process. In addition, there are many mobile applications, platforms and resources that can be used for learning, including Google Forms, Survey Monkey, Plickers, Grand Tools, Kahoot it !, Promt offline translator, Linear X, Quick quadratics, Prezi, PowToon and many others . With these applications, the teacher has the opportunity to create educational materials in electronic form, while taking into account the principle of interactivity. Typically, these programs work with different operating systems, namely: Android, Windows, Linux, BlackBerry, iOS, so you can answer control questions or take tests, solve equations, create presentations, build graphs and charts from your own mobile device, instead of using a desktop personal computer. The use of BYOD technology in teaching

allows you to work online, give quick answers, take tests, get acquainted with the training material, create various bookmarks. Due to the implementation of the above mobile platforms and applications of time-consuming logical operations, the teacher will spend more time working directly with students (discussions, round tables, etc.). Then an important aspect will be the effective, rational use of study time in the classroom. Problems can arise when using BYOD technology, so teachers need to look for solutions, not abandon this technology.

Mobile technologies are becoming an integral educational tool, opening wide opportunities for the use of information and communication technologies in education. Therefore, teachers need to develop new ways to present information to students using mobile devices and combine them with traditional teaching methods.

The purpose of BYOD in education is that the teacher does not prohibit, but allows and motivates in every way that they bring their devices and perform tasks with their help. The use of BYOD technology in education provides an opportunity to solve several important problems that are relevant in modern education. The use of modern information technology in the educational process becomes an important part of the teacher's profession. The use of BYOD technology in terms of solving problems that may arise when using mobile technology in the educational process is an appropriate means to improve learning and increase students' interest in subjects.

Keywords: BYOD technology, mobile device, mobile learning.

INFLUENCE OF VISCOUS DISSIPATION AND THERMAL RADIATION ON LIQUID THIN FILM FLOW OF DISSIPATIVE MAGNETIC-NANOFLUIDS OVER A STRETCHING SHEET

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ABSTRACT

In recent days, external magnetic fields are very effective to set the thermal and physical properties of magnetic-nanofluids and regulate the flow and heat transfer characteristics. The strength of the applied magnetic field affects the thermal conductivity of magnetic-nanofluids and makes it aeolotropic. With this incentive, we investigate the flow and heat transfer characteristics of electrically conducting liquid film flow of magnetic-nanofluids over a stretching sheet by considering the aligned magnetic field, variable heat source/sink, viscous dissipation and thermal radiation effects in account. For this study, we considered Fe_3O_4 and $CoFe_2O_4$ nanoparticles embedded in water. Numerical results are determined by adopting Runge-Kutta based shooting technique. Graphs are exhibited and explained for various parameters of interest. The influence of pertinent parameters on reduced local Nusselt number, friction factor, flow and heat transfer is discussed with the assistance of graphs and tables. It is found that aligned magnetic field regulates the momentum boundary layer and heat transfer rate. It is also observed that increasing the volume fraction of nanoparticles effectively enhances the thermal conductivity of Fe_3O_4-water nanofluid when compared with $CoFe_2O_4$-water nanofluid.

Keywords: film flow, inclined magnetic field, viscous dissipation, radiation, non-uniform heat source/sink.

IMPACT OF THERMOPHORESIS AND BROWNIAN MOTION ON MHD FLOW OF CASSON NANOFLUID PAST A STRETCHING SHEET WITH CONVECTIVE BOUNDARY CONDITIONS

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ABSTRACT

In this study, we analyzed the three-dimensional magnetohydrodynamic flow of Newtonian/non-Newtonian fluid past a stretching sheet in the presence of thermophoresis and Brownian motion effects. The flow governing equations of the physical model are transformed into dimensionless ordinary differential equations and further they are solved numerically via Runge-Kutta based shooting technique. The influence of dimensionless parameters on velocity, temperature and concentration profiles along with the friction factor, local Nusselt and Sherwood numbers are discussed with the aid of plots and tables. It is found that an increase in the stretching ratio parameter enhances the rate heat and mass transfer. Also, the rate heat and mass transfer in non-Newtonian fluid is moderately high than the Newtonian fluid.

Keywords: Newtonian and Non-Newtonian fluids, Thermophoresis, Brownian motion, Stretching sheet.

EVALUATION OF CHROMIUM CONTAMINATION ON AGRICULTURAL SOIL AND ON DURUM WHEAT

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ABSTRACT

Accumulation of heavy metals in soils from different sources (atmospheric deposition, industrial activities and urban, agricultural practices...) should be studied and followed because of persistent and potentially toxic to these chemical compounds. Determining the bioavailability of heavy metals the chemical form in which they find themselves is a necessary step to determine the ecotoxicological risks for organisms in contaminated soil.

Soil pollution by chromium (Cr), a metal which is potentially toxic to humans because of its high mobility in soil, bioavailability through the food chain, and its impact on kidney in case of chronic exposure through the diet.

In this study an assessment is done concerning the impact of soils on chromium contamination of durum wheat.

In this work, we have studied the distribution and migration of lead in different soil horizons it was applied on a site widely cultivated with in Algeria.

The soil was subjected to chemical characterisation, total metal quantification (Cr) extraction as well metal in 2018.

Chromium concentrations exceeded the acceptable limits in soils, with strong surface accumulations and a rapid decrease of the pollution with depth.

As for the plants grown, the study indicates a potential ecological risk of contamination by lead.

Keywords: Durum wheat, chromium, soil contamination and extraction.

1-Introduction

Contamination of soils with heavy metals is a common problem throughout the world.

The presence of heavy metals can lead to risks of water contamination, soil, transfers in the chain food, or reduce the biological activity of the soil (Sterckeman and al., 2008).

It is known that serious systemic health problems can be developed as a result of excessive accumulation of dietary heavy metals such as Cd, Cr, and Pb in the human body (Oliver, 1997) ... Heavy metals are extremely persistent in the environment; they are nonbio-degradable and nonthermodegradable and thus readily accumulate at toxic levels (Goulding and al.,1998). Heavy metals can be accumulated in the soil at toxic levels due to the long-term

application of wastewater (Bohn et al., 1985) [4]. One important dietary uptake pathway could be irrigated through crops with contaminated wastewater.

Soils irrigated by wastewater accumulate heavy metals such as Cd, Zn, Cr, Ni, Pb, and Mn in surface soil (Baize et al., 2002).

Zinc and cadmium are generally considered as mobile metals, migrating to depth in soil as free ions solution (Citeau and al., 2003) but easily intercepted in subsurface horizons by clay-iron fabrics (Van Oort and al., 2006). Lead is considered as a low- or non-mobile element (Semlali and al., 2004), strongly accumulating at the soil's surface due to complexation with organic matter.

For these reasons, it is necessary to understand the impact of chromium in soils and develop techniques to determine the potential risks related to contaminated soils.

Thus it is proposed in the present work to evaluate both the contamination and the risk of metal contamination by chromium in agriculture in the soil near urban areas, road and river Tafna city of Hammam Boughrara and a food plant of durum wheat in according to the reference values.

Whether these soils will play a capital role of chromium or they will transfer these metals to plants and animals (bioavailability) then to man.

Then to highlight the role of vegetation in the interception, distribution and accumulation of chromium and finally confirm or deny the negative impact of irrigated land in the region by such wastewater.

2- Materials and Methods

2.1- Soil and plant samples

Soil samples: Soils (S) [0-30cm] were collected in triplicate two sampling stations in Hammam-Boughrara, Tlemcen (Algeria) at 100 m from each other. The samples were air-dried, crushed, passed through 2-mm sieve and stored at ambient temperature.

Afterwards, the soil properties and the concentrations of the heavy metals were determined (Allison and al, 1986).

Wheat samples: Plant samples (durum wheat) were taken in triplicate from the same field simultaneously. Replicate samples were washed using distilled water and then separately oven-dried at 80°C till constant weight was achieved. The samples were then crushed separately through a steel grinder and the crushed material was passed through 2-mm sieve (Allen and al, 1986).

2.2- Chemical characterization of the soils

Three replicates of each sample (S) were analysed. The pH was measured in water (1:2,5 w/v) using a pH meter (Allison,1986) (HM-50V, Toadkk, Tokyo, Japan). The organic carbon has been determined using the Allison (1986) method, The total concentration of $CaCO_3$ was measured in an acidic medium using a Bernard calcimeter (Allison and al, 1986).

2.3- Metal analysis

The concentrations of lead in both soil and plant (durum wheat) were determined by using the atomic absorption spectrometry (Aurora Instruments Ltd-AI 1200).

2.4-Metal extraction of durum wheat

Pepper samples weighing approximately 10 g were carbonized on an electrothermal plate and ashed at 500°C in a furnace for 3 h. A 0,1 g of ash was digested with 2 mL of a mixture of

concentrated HCl (37,5%) and HNO3 (65%) in 3:1 ratio at 80°C until a transparent solution was obtained **(**Allen and al, 1986). The solution was filtered through Whatman No. 42 filter paper and diluted to 50 mL with distilled water to estimate the amount of metals absorbed from the soil.

3-Results

a-Soil

A table 1 summarizes the results of the different physicochemical parameters of the soil.

Table 1: Physico-chemical properties of soil horizon (0-30cm) supporting pepper at Different seasons of the year 2018.

Seasons / Properties	Autumn	Spring	Summer
pH	8,12	8,31	8,44
Total amount of calcium	38,22	38,64	38,77
Organics Matter (%)	3,45	3,37	3,30
Total carbon	2	1,95	1,91

In the absence of standards relating to Algerian reference levels in the soil, we adopted a comparative approach identified by references to reports in the literature and supplemented by European standards (Alloway, 1990) (Table 2).

Table.2 : Different French standards and references for total heavy metal content in soils expressed in mg / Kg / MS.

	Draft revision of the European directive (2000)		
	5< pH<6	6<pH<7	PH> 7
Cr	30	60	100

A table 3 summarizes the results of the total concentrations of Cr (mg/ Kg dry weight) in the soil during the different seasons.

Table 3: The total contents of Cr (mg/ Kg dry weight) in the soil during the different seasons.

	Autumn	Spring	Summer
Cr	101,67	110,55	102,65

b-Plant

To verify the accumulation of chromium in the durum wheat, extraction of chromium by aqua regia in the roots and aerial parts was performed. This assay was performed on these samples of plants collected in 2018. The results of these extractions are listed in table 4.

Therefore the values of lead were within the range of normal levels (Fageria and al, 2002) and (Prasad and al., 2003) for heavy metals in plants defined in Table 5.

Table 4: The total contents of Cr (mg / kg MS) in the roots and grain of the durum wheat the different seasons (extracted by aqua regia).

	The total contents (mg / kg MS)	
	Grain	Roots
Autumn	8,44	17
Spring	9,80	19,90
Summer	7,45	17,66

Table 5: Critical and normal levels (mg Kg-1 dry weight) of heavy metals in plants (Fageria and al, 2002) and (Prasad and al., 2003)

	Deficiency	Toxicity	Normal Content
Cr	-	3	0,2

4-Discussion

4.1- Chemical characterization

We note from these results that all soils were alkaline and there were no significant changes in pH different s.

The uptake of heavy metals by plants tends to increase when the sunlight rises (in our case in the seasons of spring and summer). The results show that soils of durum wheat are calcareous soils.

4.2- Metal content in the soil

Slightly exceeded the limits defined in Table 3 in 0-30 cm soil horizon, so there is possibility of chromium contamination, with strong surface accumulations and a rapid decrease of the pollution with depth and it appears that a significant proportion of this pollution is theoretically releasable.

Thus, following these results, the soil may be contaminated by chromium, this contamination varied with seasons.

4.3- Metal content in the plant

In contrast, chromium, levels were higher in aerial part than the roots of durum wheat.

The chromium content exceeded of plant toxicity in the roots and grain.

From these results, a significant accumulation of chromium was observed in the roots then followed for grain.

Comparing the results between the roots and the aerial parts of our plants, we can notice that the chromium are transferred to the roots continue to migrate to the aerial parts and are therefore enriched in the aerial parts.

5-Conclusion

This research has allowed access to detailed knowledge about the future of metal pollutants such as lead in agricultural soil.

The extraction performed on soil showed that the source of contamination by chromium is not a potential threat to the environment despite high levels because they are mobile.

From eco toxicological point of view, the transfer of metals to the aerial parts of a plant is not desirable since heavy metals can accumulate in the food chain passing through herbivores. And in durum wheat, though translocation of chromium to the aerial parts appears to be limited, it may contaminate the animals fed by its forage or grain especially with chromium.

At the end, the study of the localization of chromium has also to follow the evolution of this metal as a function of depth. This could inform us about the potential risks associated with the contamination of the soil and the food chain in Hammam Boughrara.

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List of symbols and Abbreviations

cm = centimeter
m = meter
mm= millimeter
S1=soil 1
W= water
V= bulk
°C= degree(s) CelsiusC
h=hours
ml= milliliter
mol L−1=mole liter-1
M= mole liter-1
%=percentage
g= gram
No=numero
mg Kg-1= milligram kilogram-1
Fig=figure

APLICATION OF BIOTECHNOLOGICAL METHODS IN THE CONSERVATION OF PLANT GENETIC RESOURCES

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ABSTRACT

In the last years of our century, scientists have alerted that the loss of biodiversity is increasing. This requires the collection and storage of plant species. The Institute of Plant Genetic Resources "Konstantin Malkov", Sadovo, is registered as the coordinator for plant genetic resources for Bulgaria. The Institute is the National Coordinator of the Plant Genetic Resources Program, which is part of the European Plant Genetic Resources Program (ECPGR). On the territory of IPGR "Konstantin Malkov " is the National Seed Gene Bank, which stores 57,684 seed samples out of a total of 62,131 registered as a gene pool in the country. Long-term storage of seed samples is performed at subzero temperatures (-18 ° C) in a special chamber. Vegetatively propagated species of cultivated and wild flora are cultivated under in vitro conditions. The Laboratory of Tissue Crops aims to develop methods and technologies for clonal propagation and storage of vegetatively propagated cultivated and wild plant species. The main task of the research work is aimed at introduction in vitro conditions, micropropagation, adaptation and cultivation of the species under natural conditions. For four decades, the largest collection in Bulgaria of the species Solanum tuberosum L has been built, maintained and renewed. The obtained virus-free material is stored for a long time under controlled conditions. With the development of methods for induction of callus tissues and the production of cell suspension cultures, the extraction of valuable chemical compounds from valuable plant species from the Bulgarian flora can be achieved. In vitro culture specific to Bulgaria medicinal and flowering plant species have been introduced - rare, endangered, endemic and endangered species, as well as wild relatives of the cultivated plants. Species with low germination to the reaction of the nutrient medium have been studied. A collection of valuable medicinal and flower species has been created. The research work on the study and introduction of foreign germplasm with different origins and various types of material is also significant. The upgrading of the collections is achieved through expeditions in separate regions according to the tasks of the implemented projects and through international exchange. The wheat selection program aims to create varieties with high productive potential, having a complex of biological and economic qualities, resistant to biotic and abiotic stress factors and suitable for cultivation with reduced production costs. The available gene pool is annually enriched, its preservation is controlled and provided to our and international research centers.

Keyword: plant genetic resources, in vitro, conservation status

The Bulgarian flora is a source of plant species, rich in a large set of chemical components - specific substances or groups of compounds that are in limited populations. Insufficient amounts of plant material cannot be the basis for satisfying the demand and production of their metabolites by traditional technologies. In the last years of our century, scientists have warned that the loss of biodiversity is increasing. This requires the collection and storage of plant species. Plant genetic resources unite plant species that provide humanity with everything it needs for life: food, raw materials, and energy. Conserving them is a priority on a global scale.

The Institute of Plant Genetic Resources "Konstantin Malkov", town of Sadovo is registered as a coordinator for plant genetic resources for Bulgaria. The institute is located 20 km east of

Plovdiv. It was established in 1902 as an experimental agricultural station, which in 1977 expanded to the Institute of Plant Genetic Resources, which is the National Coordinator of the Plant Genetic Resources Program, which is part of the European Plant Genetic Resources Program (ECPGR). The National Gene Bank is located on the territory, which stores 57,684 seed samples out of a total of 62,131 registered as a gene pool in the country (http://eurisco.ecpgr.org). The main research areas at the Institute of Plant Genetic Resources "K. Malkov "- Sadovo are focused on the collection, study, storage, documentation and use of plant genetic resources (Koeva,2002; Krasteva, 2008; Varbanova, 2011). The groups of crops included in ex situ collections are: cereals, legumes, technical, cereals and legumes fodder grasses, vegetable, ornamental and medicinal species (Stoyanova, 2002; Krasteva, 2008). These collections provide opportunities for versatile use, which is determined by the available genetic diversity: wild species, native populations, primitive varieties, breeding materials and modern varieties originating from the country and the world. Long-term storage of seed samples is performed at subzero temperatures (-18 ° C) in a special chamber. Vegetatively propagated species of cultivated and wild flora are cultivated under in vitro conditions.

The Laboratory of Plant Biotechnology at IPGR "Konstantin Malkov" in Sadovo was established in 1977 by Assoc. Prof. Dr. Chavdar Chavdarov. The scientific activity is focused on in vitro vegetative propagation, storage and application of selection methods. In vitro assortments are important for practical use in the creation of new and maintenance of old varieties (Fay,1996; Rout, 2000; Shibli, 2006). The aim is to be able to preserve plant plasma for a long period of time under controlled conditions. The main task of the research work is aimed at introduction in vitro conditions, micropropagation, adaptation and cultivation of the species under natural conditions.

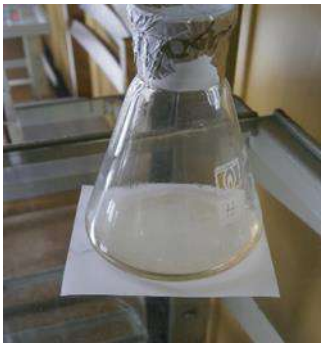
For four decades the largest collection in Bulgaria of the species Solanum tuberosum L. has been built, maintained and renewed (picture 1). Preservation of the old varieties, populations and forms, created through long-term selection and national selection is of utmost importance. The resulting virus-free material is stored for a long time under controlled conditions. The advantages of the method is the preservation of the species for a longer period of time and the possibility, if necessary, of extremely fast reproduction. Various techniques for slow growth and reduction of an intercultural subculture leading to genetic stability have been studied in order to maximize species conservation. The scientific activity for the species is focused on vegetative propagation, storage and application of the selection methods.



picture 1. Long-term storage of Solanum tuberosum L.

With the development of methods for induction of callus tissues and the production of cell suspension cultures, the extraction of valuable chemical compounds from valuable plant species from the Bulgarian flora can be achieved. Through cell suspension cultures, it allows to search

for and extract alkaloids, flavonoids, glucosides, steroids, saponins, and others. The laboratory has developed a method for processing plant tissues to the state of obtaining callus tissues and suspension cultures of Althaea officinalis L., Glycyrrhiza glabra L, Hyssopus officinalis L. and Leaecojum aestivum L. (picture 2).



picture 2. Suspended culture of Leaecojum aestivum L.

Based on the activities related to the conservation of Vitis vinifera L. (picture 3) and the use of the cultivated species and its wild precursor, a collection was formed for long-term storage using growth inhibitors. The viability of long-term crops depends on the genotype and storage time. This is important in practical use in the creation of new and maintenance of old vine varieties.



picture 3. Long-term storage of Vitis vinifera L.

The research work on the study and introduction of foreign germplasm with different origins and various types of material is also significant. The upgrading of the collections is achieved through expeditions in separate regions according to the tasks of the implemented projects and through international exchange. The in vitro method makes it possible to test the methods for long-term storage of samples from the tested cultures without the need for reproduction, which allows long-term maintenance of the collections (picture 4 and 5).



picture 4. Long-term storage of Glycyrrhiza glabra L.



picture 5. Long-term storage of Asclepias tuberoza L.

In vitro culture specific for Bulgaria medicinal and flowering plant species have been introduced into culture - rare, endangered, endemic and endangered species, as well as wild relatives of the cultivated plants. Species with low germination to the reaction of the nutrient medium have been studied. A collection of valuable medical (picture 6 and 7) and flower species has been created.



picture 6. Storage of Chrysanthemum carinatum L.



picture 7. Storage of Petunia hybrida L.

The wheat selection program is aimed at creating varieties with high productive potential, having a complex of biological and economic qualities, resistant to biotic and abiotic stress factors and suitable for growing while reducing production costs. Under the leadership of Prof. Petar Boyadzhiev a variety "Zdravko" was created (picture 8). It has good cold resistance and drought resistance thanks to a highly developed and deep root system. It is resistant to the causes of powdery mildew, yellow and brown rust, fusarium and powdery mildew. Applying the methods of antenna crops to rice, the Mariana variety was created.



picture 8. variety "Zdravko"

The technique of microclonal propagation provides great opportunities for the obtained healthy plants to be maintained for an indefinite period of time and to serve as a source of producing healthy planting material. The combination of traditional selection methods with modern biotechnological achievements is an opportunity to expand the selection of major crops.

The Plant Genetic Resources Program is the executor of the implementation of the Convention on Biological Diversity (1993), the pan-European biodiversity policy 2010-2011 and the Global Strategy for Plant Protection 2011-2020.

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NEOCOLONIALISM AND THE SOVIET SOCIALIST BLOC IN THE '60S

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ABSTRACT

Cuba was the prime center of the focus in 1966 due to its mega event organized by over five hundred representatives from three continents; Asia, Africa, and Latin America for a drive to raise voice against imperialism and neocolonialism. The movement was called tri-continental movement under the realm of the Soviet Union's program, called peaceful coexistence with the West Bloc. It was a moment when the Vietnam war was a hot issue and Che Guevara on the other side was showing his armed rebellion against the imperialism in Bolivia and his ideology was spreading worldwide as a suggestion to create many Vietnams against the devil forces. Global leaders were confused about whether forceful movement or a nonviolent struggle over oppression? During the Havana conference, the role of the Soviet Union on communism and anti-imperialism was in question and it had been concerned by the leaders of the delegate countries. The ideology of anti-imperialism was a core issue by the third world leaders and developing Eastern European Left, while it was almost abandoned by Stalin. After Stalin's death, the Twentieth Congress of the Communist Party of the Soviet Union decided to hold the ideology of anti-imperialism and support all developing countries under a Soviet shadow. The objective of the paper is to explore the Soviet role against imperialism and to spread Soviet Bloc globally. The purpose and the outcome of the paper are to understanding the Soviet Union and its follower countries, groups. The methodology of the paper is a documentary analysis. The importance of the paper is to understand those Soviet ideologies that helped to keep a balance in the world and some knowledge to explore myths for the current global crisis. The

feature question is how the Soviet Union managed to create a Communist Bloc for a global balance?

Keywords: Ryszard Kapuscinski, Communism, Socialist Bloc, Imperial Power, Guerilla Army, Havana Conference, Bolivian Diary, Theory of Foquismo, Vietnam Flyer, Che Guevara, Union of Soviet Socialist Republics (U.S.S.R.), Eastern Europe, Second World and Third World, Value of Law, Self-Determination, Internationalism.

Introduction: Under a threat shadow of neo-colonialism developing countries met in Havana for their protection from capitalism and to protect their socialist ideological images led by the Soviet Union. The Soviet role was in confusion among the socialist blocs. Che Guevara was raising his voice for self-determination and value of law and against the Soviet policies. In this scenario in socialist politics and idealism, there was another side through the Soviet Union was spreading "Internationalism"[i] which was a new ideology or an idea for a global friendship. The term of Soviet Internationalism had much understood by many scholars. According to few scholars that it was an approach for the decolonization of [ii]Global South in the period of Cold War (Lehmann, 2020). It was a Soviet–Czechoslovak cultural, people-to-people relations through which a message by the Soviet Union had gone to the entire socialist blocs that it was not just party planning and conferences for the ideological balances but there was something beyond everything which was a friendly cultural relation for brotherhood and goodwill to the entire Socialist countries through this Soviet-Czechoslovak relations. However, the ideological war between the Soviet Union and the United States of America was increasing the conflict. The term neocolonialism was a flashing point on ideological strength through which Western countries were able to regain their colonial status over third world countries through commercialization. The term of Soviet internationalization was not working as a universal idealism. Soviet Satellites states were accusing each other of their influence over neocolonialism. [iii]In this context in 1960 under the leadership of Mehdi Ben Barka, the Cuban tricontinental conference (Wikipedia Contributors, 2019) declared a motion for the self-determination of all developing countries of Asia, Africa, and Latin America. Chairman Barka was also the head of the Commission of Neocolonialism for dealing with the resolve of the issue of colonial power in the developing countries and their co-existence.

Literature Review: The paper has discussed the Soviet Union's fragmented role during the neocolonialism agenda in the socialist blocs. It has been critically discussed about Soviet romanticism policy over the socialist blocs and a careless attitude over imperialism through the shadow of neocolonialism. It had focused on the anger and confusion of Soviet satellite states and their weaknesses. The paper widely discussed Che Guevara and his rule of law and self0determination policy through his far and strong Leftist image as an alternative to Soviet policies. Confusion among the socialist countries rose and they were not also happy over Soviet hegemony in Poland and Hungary which was also a reflection of anti-Soviet phenomena. The weaknesses and corruption of political leadership of Latin American Countries helped to enter the CIA and to establish CIA backed government. It made a way for a division of socialist blocs in the context of acceptance of neocolonialism and demolition of the guerrilla movement against imperialism. The greatest example was Che Guevara's arrest and his execution.

Methodology: The paper has been assumed through subordinate sources of data. Subordinate sources of data include academic articles, websites etc. The methodology to write the paper has been taken by the description of sources, by reading, gathering in-depth insights on topics, focuses on exploring ideas, summarising, and interpreting and mainly expressed in words (documentary analysis through qualitative approach). Many terms have been illustrated such as internationalism, neocolonialism, socialist blocs, Bolivian Diary etc. for the realization of the

situation of cold-warm and many ideologies of the Soviet Union such as internationalism and neocolonialism by the West.

Result and Discussion: From the late 1960s to the 1970s a Polish journalist [iv]Ryszard Kapuscinski reported constantly on guerrilla warfare against the leaderships of Central and South American countries who were backed by the United States against the Soviet Bloc due to an idealistic phenomenon. It was an idealism between capitalism versus socialism. It was though not his original report as his career assignment about Latin and South America but his translation from Bolivian Diary which was written by Che Guevara (Zubel, 2019). Bolivian Diary was one of the best [v]New Left Readership which had been published in Cuba, Poland in those days. Kapuscinski's translated assignment had been also published by Polish publishing house Książka I Wiedza in 1969 in the name of Dziennik z Boliwii. Kapuscinski's translated book is now the only polish translation about the Bolivian Diary against the imperialist power. He translated the Bolivian Diary as a work of literary coverage on a definition of [vi]Umberto Eco is semi-logical guerrilla warfare (Zubel, 2019). It was a paper about the history of global socialism when Cuba and Che Guevara rise for the concern of national liberation struggles globally to show a light to Proletariats class. The report of [vii]Kapuscinski helped those guerillas with a broadcast, about their warfare strategies etc. and the report was a canopy of the Socialist Bloc dissertation (Zubel, 2019). In 1966 there was a big conference among third world countries from Asia, South America and Africa which was called as [viii]Solidarity Conference under the leadership of the then Soviet Socialist Republic (U.S.S.R). The Soviet Union was asking the group to make a peaceful co-existence with the Western world. [ix]In 1965 "In Neo-Colonialism – The Last State of Imperialism" was published for the protection of self-determination of all developing countries in three continents. Leaders were argued that the relations between the Western countries and post-colonial countries through international banking institutions will help Western countries for control over developing countries, which was according to the leaders an imperial relation rather than a fair relation (Zubel, 2019). [x]Leaders of the developing countries and Eastern European new Left leaders were asking questions on Soviet stance over the Havana conference and over few misconceptions such as the Soviet definition of communism and imperialism. Anti-imperialism was one of the idealistic issues in the South American revolution against the CIA-backed government, but it has been undermined under Stalin (Zubel, 2019). [xi]In the 20th Congress of the Communist Party of the Soviet Union in 1956, the decolonizing world had been declared as a peaceful region and aid had been increased in African and Asian countries. Therefore, many revolutionary leaders such as Che Guevara was asking for the establishment of a new reconciliation method between the West and the developing countries in the context of the law of value[xii]. The role of the Soviet Union in the forum of the developing world was in question due to its soft and peaceful co-existence with the Western World. [xiii]Guevara was asking in the Algiers conference (1965) that the return of capitalism in socialist countries will be return due to the soft Soviet pattern of dealings with the capitalist world. Che was one of the delegates of the Cuban delegation tour of the socialist bloc and he found more things to admire but in the mid-1960's he was disappointed on Soviet policies on its management to run socialist regimes, or in the context of Soviet-style socialism (Zubel, 2019). [xiv]Che was expressing after reading the 14th Congress of the Polish Communist Party resolution (1964) "The solution that they are proposing for these problems [of economic stagnation] in Poland is the complete freedom of the law of value; that is to say, a return to capitalism. . . they have forgotten Marx" (Zubel, 2019). [xv]Guevara lived for several months in 1966 on the border of Prague during the defeat of his guerrilla mission in the Congo. From Prague, he was starting to analyze the concept of socialist changes, and he was starting criticism on the Soviet socialist model in the socialist world. Guevara's motto was to establish [xvi]"law of value" (Zubel, 2019) but it was going another way due to Soviet policy on socialism according to Che; he was a problem for the socialist group of countries. In 1964 Kuron and Moszelewski's

published in the Polish People's Republic on few policies of socialist groups, called "Open Letter to the Party"[xvii], a manifesto, where some criticism about the Marxist and Leninist concepts of bureaucratization and reification had been analyzed.[xviii] "According to official doctrine, we live in a socialist country. . ." they wrote, but "in reality, an element fundamentally alien to Marxist theory has been introduced: the formal, legal meaning of ownership" (Zubel, 2019). National self-determination was one of the primary agendas in the socialist world, especially for Leftists and Guerrillas like the law of value. Open Letter to the Party[xix] did not say anything over those ideologic terms of socialism. This manifesto had therefore influenced the young generation for a fight against the current system. [xx]A group of student militants (The commandos) built for the reconciliation of those terms like self-determination and value of law in socialist idealism against Capitalism. [xxi]"The Group of Komandosi (Commando)" started their views for the protection of developing countries and their ideas against Soviet policies. [xxii]They delivered the "Vietnam Flyer" (Zubel, 2019) to the University of Warsaw. The flyer reading was[xxiii] "Vietnamese fighters are fighting for a cause that is also our cause: the right to a revolution abolishing social slavery and its consequences— national slavery; for freedom from exploitation, internal dictatorship and the dictatorship of the great powers over small nations. In this situation we, the Polish left, cannot be silent. . . because the cause for which Che Guevara gave his life, for which thousands of people in Latin America and Vietnam die every day, is the cause of freedom for every small country that clashes with great power; by fighting for a sovereign and socialist Vietnam we fight for a sovereign and socialist Poland. . . All those who want to tread on the sovereignty of the working people of any country will be met with the slogan of the Spanish anti-fascists "NO PASARAN [sic]." (Qtd. in Friszke 2010, 493). Che Guevara declared many Vietnams for ideological revolution against Capitalism. The flyer was criticizing Soviet domination of Poland, Eastern European policies along with a focus on Vietcong Guerrilla's wins against imperialism. For a long time, [xxiv]Soviet domination over its satellite states had been criticized which had turned into a big issue among socialist blocs (Zubel,2019). Soviet dominance in Poland and Hungary had been turned into an anti-imperialist image to their citizens. They were demanding for [xxv]destalinization and peace against repression. Students and Group of Commandos were preparing for reformation in Eastern Europe and against Soviet repression. Che Guevara became a famous leftist leader among young generations and students because of his antagonism about Soviet policies in the second and third world countries. He was the main criticizer of Soviet socialist policies. His speeches thus made a platform to give a voice to political friction between the second and third world countries and flamed far-left warning within socialist blocs. Che Guevara Guerrilla lifestyle in the mountain of Andes was not a document of revolutionary strategy but according to Regis Debray[xxvi] his life as a guerrilla was "becoming a material force of symbolic forms" (Zubel, 2019). Bolivian Government found his diary (Bolivian Diary) and prioritized it as a valuable political and economic document. The diary was translating and publishing worldwide. [xxvii]Bolivian Minister of Interior and Chief of Intelligence trafficked this document and provided to Cuban supporter; later Fidel Castro received a copy of Bolivian Diary (March 1968). On July 1st, 1968, the Cuban Government published the Bolivian Diary and distributed it to Cuban people at no cost. The diary was translated into French, Chinese, English, Portuguese, at the same time as Cuban publication. [xxviii]Ryszard Kapuscinski's polish publication is a textual document of global historical implication. He started his publication by saying at the beginning that [xxix]"Today begins a new phase." This first sentence of the diary is at the same time a commentary on the political philosophy of Guevara. Che treated the Bolivia campaign as one stage in the great revolutionary process, which is taking place in Latin America and more widely in the countries of the Third World. (1969, 5). According to Kapuscinski when the Left parties of Latin America were not in apposition to struggle and fight against imperialism forces due to divide and weaknesses, he was explaining [xxx]Guevara's theory of foquismo through which

Guevara left bourgeois cities and took shelter in the maintenance areas and made a group of peasants struggle against imperialism by force (Zubel, 2019). Many Leftists said that the theory of foquismo is not only the strategy for the building of armed force but there are other ways as well. Kapuscinski also criticized Castro's attack on the Bolivian Communist Party who was against Guevara's guerrilla movement. According to Kapuscinski, the Bolivian communist part was broken, they had no unity, therefore valuing them is nothing but a waste of time and a leader such as Castro was wasting his time by criticizing Bolivian Communist Party. [xxxi]Kapuscinski was preferring softness and romanticism instead of strict rationalistic ideas, therefore he was criticizing Che's policies as well. Kapuscinski then published another valuable document called "Guevara and Allende"[xxxii] through which he corrected a few of his personal political views on his polish translation of Bolivian Diary. In his second publication [xxxiii]"Guevara and Allende (Chilean President Salvador Allende) audience were asking him to compare both socialist leaders for the socialist struggle against imperialism. He was expressing that "At some point in his life Guevara quits his position as a cabinet minister, leaves his desk and departs for Bolivia, where he organizes a band of guerrillas. He dies leading these guerrillas. Allende is the opposite: Allende dies defending his desk, defending his presidential office, from which—as he always said— [xxxiv]"they will have to carry me out in wooden pyjamas," which is to say—in a coffin. On the outside, these deaths seem very different, but in reality, the difference is only in the place, time, and external circumstances. Allende and Guevara gave their lives for the power of the people. The first—defending it, the second—fighting for it" (Zubel, 2019). [xxxv]Kapuściński was expressing about both leaders that; [xxxvi]"a kind of absolute determination, a kind of the consciously chosen point of no return, a kind of crazy dignity" (Zubel, 2019). In another publication [xxxvii]"Christ with a Rifle on His Shoulder" Kapuscinski expressed about Guillermo Veliz, a student movement leader in La Paz (Mexico) and made a guerilla army as well like Che. Kapuściński expressed after listening to a recorded tape on Guillermo Veliz and his guerrilla journey in the Andes; [xxxviii]"In the morning we set off for Teo Ponte, three hundred kilometres to the north of La Paz. . . No one knew the terrain. . . In his writings, Che had indicated that at all costs we must engage the peasants. But we couldn't go into the villages because the army was stationed in the villages. Moreover, no one lived in this area. It was a world without people. The jungle is like a desert, only green. There was nothing to eat, nothing to drink" (2007,64). It was another Guerrillas Group lead by Guillermo Veliz, who was inspired by Che Guevara, along with the faith of Jesus Christ was dictating his group for the delf-determination and struggle against the imperialists. Those Guerrillas movement according to Kapuściński was a third-world socialist struggle.

Conclusion: The feature question is how the Soviet Union managed to create a Communist Bloc for a global balance? The article does not mention the rational role of the Soviet Union against capitalism. It was about Soviet romantic policies in the socialist blocks for the counterpart and it criticized Soviet role in the socialist blocs. Therefore, the role of the Soviet Union and a global balance was a subject of confusion. [xxxix]Kapuściński's interpretation of Bolivian Diary and his other published papers about Latin American political struggle reflected more ethical and authentic forms of socialism and in both the Third World and the Socialist Bloc. Therefore, his explanation on guerrillas' reportage is difficult to understand about the conflicts of the Cold War and opened a new way to realize the 20th centuries socialism and its actors and factors. Guevara's inheritance is controversial in post-socialist Poland. In 2009 Polish Government amended the constitution as a part of its decommunization[xl] . Through the amendment, the country has a ban [xli]"fascist, communist or other totalitarian symbols"—among them the iconic image of Che that often appears on T-shirts and dorm room posters (Heuler 2010). In 2011 ban was overturned as a violation of freedom of rights and opinion, but in 2016 a similar decommunization bill has been passed by Poland's parliament which bans names, organizations, and symbols associated with communism from public places (Zubel, 2019).

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[v] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Paragraph 2nd pp. 126.

[vi] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Paragraph 2nd pp. 126.

[vii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Paragraph 2nd pp. 126.

[viii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 1st. pp. 127.

[ix] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 1st. pp. 127.

[x] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 2nd. pp. 127.

[xi] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 2nd. pp. 128.

[xii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 2nd. pp. 128.

[xiii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 3rd. pp. 128.

[xiv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 3rd. pp. 128.

[xv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 3rd. pp. 128.

[xvi] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 3rd. pp. 128.

[xvii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 4th. pp. 128.

[xviii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 4th. pp. 128.

[xix] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 4th. pp. 128.

[xx] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 5th. pp. 128.

[xxi] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 5th. pp. 128-129

[xxii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 5th. pp. 128-129.

[xxiii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 5th. pp.129.

[xxiv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 7th. pp.129.

[xxv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Neocolonialism and the socialist bloc 60/s. Paragraph 7th. pp.129.

[xxvi] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 1st. pp. 130.

[xxvii]Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 1st. pp. 130.

[xxviii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 3rd. pp. 131.

[xxix] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 3rd. pp. 131.

[xxx] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 4th. pp. 131.

[xxxi]Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 6th. pp. 132.

[xxxii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 7th. pp. 132.

[xxxiii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 7th. pp. 132-133.

[xxxiv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 7th. pp. 133.

[xxxv] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. Translating Guevarism Paragraph 8th. pp. 133.

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[xxxvii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. he Guerrilla Diary as Socialist Literary Form. Paragraph 4th. pp. 135.

[xxxviii] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. he Guerrilla Diary as Socialist Literary Form. Paragraph 4th. pp. 135.

[xxxix] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. he Guerrilla Diary as Socialist Literary Form. pp. 140.

[xl] Translating Che in the Socialist Bloc: Ryszard Kapuściński's Guerrilla Reportage. he Guerrilla Diary as Socialist Literary Form. pp. 140.

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SURVEYING THE IMPACT OF COVID-19 ON LEARNERS' GROUPING IN TEACHING WRITING SKILL IN BENINESE EFL INTERMEDIATE CLASSES

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ABSTRACT

English is used all over the world as the lingua franca among people from different cultures, ethnics and social background (Dewi, 2015). To be skilled in it, one has to perform very well the four language skills. The writing skills are major components in the teaching English as foreign language. The present study evaluates the impacts of Covid-19 on learners' grouping in teaching writing skill in EFL intermediate classes. It aims at showing that group work can be a best pedagogical strategy to improve learners writing skill. To reach the goal, mixed method has been used through questionnaires, interview and classroom observation to get reliable data. The findings reveal that learners' grouping is an important pedagogical strategy in enhancing the skill of writing but due to Covid-19, learners are facing some challenges in this field. Teachers also encounter difficulties in teaching writing skill to grouped learners in this context of Covid-19. To overcome all these challenges, the study not only suggests the need for new language teaching approaches but also the need for enrichment programs to empower both educators and learners to improve the writing skills.

Key-words: Covid-19, group work, writing skill, EFL learners.

IS WRITING IN A SECOND LANGUAGE A JOY OR A BOGEY? THE ROLE OF PERSONAL TRAITS

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ABSTRACT

The purpose of this study was to investigate the role of personality traits (self-esteem, writing motivation, attitudes towards writing, emotional intelligence, and extroversion/ introversion) in predicting writing apprehension and writing self-efficacy. To this end, a sample of 166 English major participants were selected. The participants' proficiency level was determined using a Michigan Test of English Language Proficiency (MTELP). Then, seven questionnaires including the Writing Apprehension Test (WAT), the Self-Efficacy in writing Scale (SWS), Attitude-Towards Writing questionnaire (WAQ), Rosenberg Self-Esteem Scale (RSES), Eysenck Personality Questionnaire (EPQ), Schutte Self Report Emotional Intelligence Test (SSEIT), and Academic Writing Motivation Questionnaire (AWMQ) were administered. The collected data were analyzed through multiple regression procedure. The findings revealed that attitudes towards writing, emotional intelligence, and writing motivation predicted writing apprehension and self-efficacy in writing. The results of this study may be helpful for teachers, materials developers, syllabus designers and learners.

Keywords: Emotional Intelligence, Self-Efficacy, Self-Esteem, Writing, Writing Apprehension, Writing Motivation.

1. Introduction

Writing, despite its wide range of use in foreign language and academic contexts, has often been considered the least developed and the most difficult skill among EFL leaners (Hashemnejad, Zoghi, & Amini, 2014). Since writing is one of the essential skills that are vital for academic success, numerous studies have been carried out to find the probable sources of learners' problems in writing. According to Lee (2005), the difficulty that EFL learners face when writing may lie in both cognitive and affective aspects of writing. Researchers believe that one main cause of students' problems in writing is affect. Previous research shows the importance of affective factors in the learning process (Deb, 2018; Gardner & MacIntyre, 1993; Horwitz, horwitz & Cope, 1986; Samimy & Tabuse, 1992; Young, 1990; Zabihi, 2018). Affective factors play a dominant role in learning, depending on the context; they may either facilitate or impede language learning.

Regarding the fact that anxiety is one of the factors affecting the process of learning, many students, even university students who have a good command of English, find the mere thought of writing anxiety-inducing. Zhang (2001) as well as Kusumaningputri1, Ningsih and Wisasongko (2018) state that when students are engaged in activities that require productive skills, they experience a considerable amount of anxiety.

Apart from apprehension, which is believed to be correlated with students' writing performance, a considerable body of research has been devoted to examining personality traits (Qanwal & Ghani, 2019; Sharp, 2008). According to Myers and Myers (1980), personality types of extravert, introvert, sensing, intuitive, thinking, feeling, judging, and perceiving can vary across individuals. Accordingly, personality type can affect the way they perform, focus, make decisions, and comprehend information.

Since research on foreign language anxiety and personality traits including self-esteem, motivation, extroversion/introversion, emotional intelligence, and attitude has focused on classroom speaking and listening situations and very little attention has been paid to personality traits relating to L2 writing, this study seeks to provide answers to the following research questions:

1. Are there any significant differences among selected personality traits as predictors of writing apprehension?
2. Are there any significant differences among selected personality traits as predictors of writing self-efficacy?

2. Literature Review

First language acquisition is an innate human ability which has always proved to be successful among normal individuals. However, the same is not always true in the case of second or foreign language learning. Not all foreign or second language learners are successful language learners. Foreign language learners may be able to use all language skills proficiently, but they would never be mistaken for native speakers. Adult learners have already developed a strong identity; this might be the reason behind the difficulty of learning a second language and developing a new identity and culture. Despite all the effort language learners put into language learning, they achieve various degrees of success; some even fail in the learning process. The success and failure of foreign language learners are usually attributed to cognitive ability as well as affective factors (Deb, 2018; Noels, Pelletier, Clément & Vallerand, 2000; Qanwal & Ghani, 2019).

One of the affective factors of interest in this study is writing motivation. Generally speaking, individuals are not always inherently motivated to learn a new language. Therefore, there should exist some motivating factors to inspire and stimulate language learners and to sustain the learning process. According to Dornyei and Csizer (1998), second or foreign language motivation is one of the most crucial factors that determine EFL/ESL learners' level of educational attainment. They also state that motivation builds up the momentum towards learning a foreign or second language.

The term motivation has been viewed from several perspectives. Gardner (2006) believes that motivation is a complex multi-faceted phenomenon. That is why providing a simple definition for it is not an easy task. According to Brown (2000), from the behavioristic perspective, motivation is defined as "the anticipation of reward" (p. 160). Brown maintains that cognitivists view the term motivation as "the choices people make as to what experiences or goals they will approach or avoid, and the degree of effort they exert in that respect" (p.160). In the constructivists' view, on the other hand, further emphasis is placed on social contexts as well as the individual's decisions.

A large body of research has been devoted to investigating the role of motivation in language learning. Noels, et al. (2000) found that second-language achievement was equally correlated with two factors; an intellectual or aptitude factor, and a motivational factor. In a study concerning the role of instructional practices and motivation in writing performance, Lam and Law (2007) worked on 209 secondary-school students in Hong Kong. They discovered that when teachers employed more motivating teaching strategies, the students were more motivated and had better performance in their writing.

Another affective variable is self-esteem, or self-confidence, which is regarded as a primary need in human life. In Branden's (2001) words, self-esteem is defined as "the experience of being competent to cope with the basic challenges of life and being worthy of happiness." (p.252). According to Brown (2000), different dimensions of self-esteem include global self-

esteem, which is defined as a person's general assessment of one's self; situational self-esteem, which refers to a particular situation such as foreign language context; and task self-esteem, which is concerned with a specific task within a situation, e.g., writing in an EFL context. According to O'Mara and Marsch (2006), improving students' self-esteem should be seen as one of the central goals of education. Previous studies have shown that self-esteem is associated with many educational gains, such as better academic achievement, perseverance, coursework choice (Aryana, 2010; Delugach, Bracken, Bracken & Schicke, 1992; Denissen, Zarrett & Eccles, 2007; Marsh & Craven, 2006; Soureshjani & Naseri, 2011; Valentine, DuBois & Cooper, 2004), and attitudes to learning (Burnett, Pillay, & Dart, 2003).

Furthermore, various aspects of language learning are influenced by self-esteem. A large and growing body of literature (Mandokhail, Rehman Khan & Malghani, 2018; Marsh & Yeung, 1998; Nourelahi, Ghafoori & Nabifar, 2017; Pajares & Schunk, 2005; Timothy et al., 2001) has been conducted on self-esteem, suggesting that self-esteem is strongly correlated with oral communicative proficiency, and that low self-esteem students are not able to express themselves confidently. Similar results have been reported about the prominent role of self-esteem in second language reading skill (Bagheri & Faghih, 2012). In addition, some other studies (Fahim & Khojaste Rad, 2012; Hassan, 2001; Nourelahi, et al., 2017) have shown that students' writing success is affected by their level of self-esteem, and that low self-esteem students may suffer from writing apprehension as well.

A closely related factor to self-esteem is anxiety. Foreign language learning anxiety was first proposed as a separate phenomenon by Horwitz et al. (1986). They defined it as a distinct set of feelings, behaviours and self-perceptions that had to do with the process of language learning. Since the framework suggested by Horwitz et al. (1986) was primarily made up of components related to the communication skills, the literature is mostly around the negative relationships between language anxiety and students' performance in speaking (Phillips, 1992).

According to Lee (2005), second or foreign language writing is a recognized difficulty for a great majority of English as a foreign language (EFL) and English as a second language (ESL) learners at all levels of proficiency. This difficulty may arise from both cognitive and affective dimensions. Since apprehension is categorized as an affective factor, it is assumed that writing apprehension might be the reason behind EFL learners' deficiency in writing. For example, Daud et al. (2005) found that low apprehensive students had a tendency to obtain higher scores in writing courses than high apprehensive students. Moreover, low apprehensive students were found to write three times more words than high apprehensive students.

Additionally, research into writing apprehension has identified other sources of writing apprehension ranging from an individual's ability to write, the amount of cooperation the learner puts in to accomplish the writing task, the fear of being examined on the basis of writing tasks, to the integrated messages students receive from their teachers via different kinds of feedback in their class (Pajares & Johnson, 1994). Ismail, Maulan and Hasan (2008) noted that all of the negative feedback written by teachers on their students' compositions resulted in diminished confidence, development and satisfaction. In contrast, Daly and Wilson (1983) discovered that teachers who wrote positive feedback on their students' essays motivated their students to develop positive views towards writing. Raisman (1982) also found a result similar to that of Daly and Wilson (1983). Meanwhile,Tahernezhad, Behjat and Kargar (2014) reported a negative relationship between anxiety level and motivation to learn.

In another study conducted by Daud, Daud, and Abu Kassim (2005), the relationship between anxiety and writing performance was investigated. 186 third year university students participated in this study. The researchers concluded that students with low proficiency were

more anxious, and their anxiety resulted from their lack of vocabulary knowledge and experience of language use.

Both self-esteem and anxiety may be rooted in self-efficacy. Educators have long believed that students' self-beliefs about their academic capabilities play a large part in helping them achieve their academic goals (Pajares, 1996). Therefore, it was in 1970s that self-beliefs in a more task-specific way were initiated by many scholars. Bandura (1977) carried out one of the most important studies with his concern specifically on self-efficacy as one of the primary components of self-beliefs.

Based on Bandura's (1977, 1997) extensive research, people create their self-efficacy beliefs by interpreting information from four sources. The most important source is the interpreted result of one's performance, or mastery experience. Results interpreted as successful raise self-efficacy; those interpreted as failures lower self-efficacy level. Another source of self-efficacy is the vicarious experiences individuals undergo when they observe others performing tasks. Part of one's vicarious experience includes the social analogies made with other people. These analogies, along with peer modeling, could have strong effects on improving self-perceptions of competence. Individuals also enhance self-efficacy beliefs due to the verbal messages and social persuasions they receive from others.

Regarding the relationship between self-efficacy and writing, Öztürk and Saydam (2014) explored two affective factors of anxiety and self-efficacy in foreign language writing in an EFL context. Both qualitative and quantitative research methods were utilized to measure the anxiety and self-efficacy levels of the participants. The results were indicative of the participants' moderate level of foreign language writing anxiety and self-efficacy as well as a negative relationship between anxiety and self-efficacy. In addition, the qualitative data showed that lack of vocabulary knowledge, inability to generate and organize ideas, fear of negative evaluation and topic unfamiliarity were the major sources of foreign language writing anxiety. It was also found that linguistic knowledge, writing competence, and teachers were among the determining factors in the self-efficacy level of the participants.

Another affective variable to be considered in this study is attitude towards writing. Gardner (1980) defines attitude as an individual's feelings, fears, bias, threats, and convictions about anything. In another definition, Baker (1992) points out that attitudes, as a hypothetical construct, determine the direction of human behavior.

A large body of literature has investigated learners' attitudes towards the English language. One of the most relevant studies was that of Benson (1991), who worked on 300 freshmen to assess their motivation and attitude towards learning English. The findings were indicative of the importance of integrative and personal reasons as motivational factors among Japanese college students.

Based on the contemporary views of motivation (Anderman & Wolters, 2006), attitude is viewed as an affective motivational state. Accordingly, Gardner (1985) holds that motivation is the combination of effort and desire to achieve the goal of language learning, on the one hand, and favorable and positive attitudes toward learning that language, on the other. Three different levels of affect that have been identified by Rosenberg (1998) are as follows: (a) traits, which refer to personality-like mannerisms that build up a person's general temperament; (b) moods, which are considered as impermanent affective states; and (c) emotions, which are transitory, situation-specific affective states (Anderman & Wolters, 2006). Further, Perkun, Goetz, Titz, and Perry (2002) state that affective states occur when an individual ponders over doing a specific task, while doing the task, or retrospectively.

From a theoretical point of view, writing ability is believed to be influenced by attitude, through its impact on factors such as cognitive engagement (McKenna, Kear, & Ellsworth, 1995). For instance, students who hold positive attitudes towards writing are more likely to make all their efforts to deliver a high quality piece of writing while students with more or less negative attitudes, are less likely to be involved in tasks requiring writing skills. Additionally, Anderman and Wolters (2006) believe that even the types of strategies students employ while writing might be affected by their affective states and attitudes. Perkun (1992) refers to the fact that positive affect requires less cognitive resources than a negative one. Consequently, less efficient processing during writing may arise due to possessing negative attitudes towards writing.

Still another affective trait to be considered here is emotional intelligence. The term intelligence has had a variety of definitions ranging from intelligence as a uni-dimensional concept to intelligence as a multi-faceted concept (Gardner, 1983), to intelligence as an emotional notion (Salovey & Mayer, 1990). The conceptions of intelligence have also undergone massive changes from the 1900s to now. According to Berenji (2010), in 1905, Binet conducted a study in a French public school to design an intelligence test that could identify children who were at risk of falling behind their peers in academic achievement. Despite the great deal of attention that has always been on academic intelligence, Bar-On (1997) believes that emotional and social intelligences can better predict one's success in life. In addition, Emotional Quotient (EQ) represents a set of social and emotional abilities that aid individuals in dealing with the challenges of daily life. With this thought in mind, Bar-On (1988) coined and used the term EQ as a counterpart to IQ and cognitive ability. A few years later, Salovey and Mayer (1990) introduced the term Emotional Intelligence (EI), which is rooted in the concept of 'social intelligence', first proposed by Thorndike in 1920 (as cited in Salovey & Mayer, 1990).

Salovey and Mayer (1990) were among the first scholars who introduced the concept of emotional intelligence about three decades ago. Since then, emotional intelligence has received special attention among scholars such as Parker, Taylor, and Bagby (2001), Shakarami (2015), Shahivand and Moradkhani (2019). Salovey and Mayer (1990) defined emotional intelligence as the ability to monitor not only one's own but also others' feelings, to be able to discriminate among them, and to make use of this information to direct one's actions and thinking. According to Parker, Taylor and Bagby (2001), this definition contains two subcategories of personal intelligence, namely intrapersonal intelligence and interpersonal intelligence. Gardner (1983) has proposed a model of at least eight types of intelligence including spatial, musical, intrapersonal, interpersonal, bodily-kinesthetic, naturalistic, linguistic, and logical-mathematical, suggesting that intrapersonal intelligence and interpersonal intelligence should be considered as distinct types of intelligence.

The last personality trait to be considered in this study is introversion/extroversion. Several researchers have studied the personality traits associated with introverts and extroverts. In this regard, Oxford and Anderson (1995) believe that extroverts tend to interact with people and enjoy group work. They get energy from other people and are usually the ones who never want to leave the party (Adamopoulas, 2004). On the other hand, introverts tend to spend their time alone and enjoy group activities with a few intimate friends. Introverted personality types are known to be more cautious, conservative and serious than extroverts (Adamopoulas, 2004).

Some scholars believe that when it comes to second or foreign language learning, extroverts are better language learners than introverts (Noprianto, 2017). Therefore, extroverts, who tend to be sociable, are more likely to join groups, and more motivated to be involved in conversations both inside and outside the classroom (Ahmadi Safa, 2017). Accordingly, they

can make good use of any language-use opportunities. Zafar and Meenakshi (2012) believe that since extroverts are good at making contact with other L2 users, they will acquire more input.

However, several studies have reported that introversion or extroversion does not have a significantly differential effect on second language learning (Adamopolas, 2004). For instance, Özbay, Aydemir and Atasoy (2017) found that both extrovert and introvert learners had equal opportunities for achievement in language learning.

In another study, Carell, Prince, and Astika (1996) analyzed the relationships between the personality types of a group of 76 EFL students in Indonesia and various measures of academic performance. Extroversion scores did not correlate with test scores for reading comprehension, grammar, and writing, but a weak negative correlation was found between vocabulary test performance and extroversion.

As the above review suggests, various aspects of personality traits and different aspects of the writing skill have been investigated. However, there seems to be a paucity of research on the personality traits as predictors of writing apprehension and writing self-efficacy. This study is aimed to address this issue.

3. Method

3.1. Participants

The participants of the present study included 187 male and female university students studying English Language Teaching, Translation, and English Literature. However, after homogenization and administration of the questionnaires, the final number of the participants was reduced to 166. All the participants were BA level students at Imam Khomeini International University in Qazvin, and their age ranged from 19 to 30.

3.2. Instruments

In this study, data were collected through the following instruments:

3.2.1. Michigan Test of English Language Proficiency (MTELP)

MTELP was utilized to measure the level of students' English proficiency and to homogenize them. This test consists of 100 items in three parts comprising of 40 grammar items, 40 vocabulary items in each of which students have to complete a sentence or select either a synonym or an antonym, and 4 reading passages followed by 20 comprehension questions.

3.2.2. Academic Writing Motivation Questionnaire (AWMQ)

AWMQ, developed by Payne (2012), consists of a total number of 37 statements which are scored on a five -point Likert type scale with choices from (1) strongly disagree to (5) strongly agree.

3.2.3. Rosenberg Self-esteem Test (RSET)

RSET is a 10-item questionnaire, developed by Rosenberg in 1965, with a Likert type scale with four choices; half of the items are scored from strongly agree to strongly disagree and the other half are scored from strongly disagree to strongly agree.

3.2.4. Eysenck Personality Questionnaire (EPQ)

In order to determine whether the participants were extrovert or introvert, Eysenck Personality Questionnaire for adult (EPQ), developed by Eysenck and Eysenck (1975), was used. This questionnaire consists of 57 yes/no question items.

3.2.5. Schutte Self Report Emotional Intelligence Test (SSEIT)

The Participants' level of emotional intelligence was measured with the EI questionnaire titled 'Assessing Emotions Scale' developed by Schutte et al. (1998). This questionnaire is a one-factor scale, consisting of 33 items and scores from 33 to 165.

3.2.6. Writing Apprehension Test (WAT)

WAT, developed by Daly and Miller (1975a), includes 26 statements dealing with students' tendencies not to write, attitudes towards writing tasks and feelings as they write. These statements are scored on a five–point Likert type scale with choices ranging from strongly agree to strongly disagree.

3.2.7. Self-Efficacy in Writing Scale (SWS)

SWS is a 21-item writing self-efficacy scale developed by Yavuz-Erkan (2004). The items of this scale are coded on a four-tier system with choices ranging from strongly disagree to strongly agree.

3.2.8. Attitude-Towards-Writing Questionnaire (WAQ)

The Participants' attitude towards writing was measured with a 24-item questionnaire developed by Rose (1984). The items are graded on a Likert type scale with choices ranging from 'Almost Always' to 'Almost Never'.

3.3. Procedure

Initially, 187 participants with the afore-mentioned characteristics were selected through convenience sampling based on availability to take the MTELP. Then, all the participants were asked to fill out the required questionnaires. To remove any ambiguity or misunderstanding, questions were answered during the administration of the questionnaires. To ensure maximum cooperation, the questionnaires were administered across several sessions. Each session, an average of 25 minutes were allocated to data collection. Since 21 of the participants did not complete the questionnaires and were excluded from the study, only 166 sets of completed questionnaires were processed.

3.4. Data Analysis

To analyze the obtained data and answer the research questions, multiple regression analysis was used.

4. Results and Discussion

4.1. Results

4.1.1. The First Research Question

The first research question aimed to investigate personality traits as predictors of writing apprehension. To this end, a stepwise multiple regression analysis was used. Prior to running the analysis, all the assumptions of multiple regression were checked, and there was no violation of the assumptions. Based on model summary (Table 1), it can be seen that attitude towards writing shares 15 % of variance with writing apprehension. Attitude towards writing and emotional intelligence together account for around 21% of the total variance with writing apprehension, and, together, attitude towards writing, emotional intelligence, and writing motivation explain over 22% of the total variance in writing apprehension.

Table 1
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.398[a]	.158	.153	8.757	.158	31.15	1	166	.000
2	.470[b]	.221	.212	8.447	.063	13.38	1	165	.000
3	.490[c]	.240	.226	8.370	.019	4.072	1	164	.045

a. Predictors: (Constant), attitude
b. Predictors: (Constant), attitude, intelligence
c. Predictors: (Constant), attitude, intelligence, motivation
d. Dependent Variable: apprehension

The result of the ANOVA procedure (Table 2), shows that all the F-values are statistically significant (F (1, 166) = 31.15, p < .01; F (2, 165) = 23.43, p< .01; F (3, 164) = 17.27 p < .05). These results show that the predictive power of all these models is significant.

Table 2
ANOVA on Writing Apprehension

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2389.605	1	2389.605	31.157	.000[a]
	Residual	12731.271	166	76.694		
	Total	15120.876	167			
2	Regression	3345.157	2	1672.578	23.436	.000[b]
	Residual	11775.719	165	71.368		
	Total	15120.876	167			
3	Regression	3630.436	3	1210.145	17.272	.000[c]
	Residual	11490.440	164	70.064		
	Total	15120.876	167			

a. Predictors: (Constant), attitude
b. Predictors: (Constant), attitude, intelligence
c. Predictors: (Constant), attitude, intelligence, motivation
d. Dependent Variable: apprehension

Based on Table 3, attitude towards writing, emotional intelligence, and writing motivation account for a statistically significant portion of the variance in writing apprehension. The first model shows that for every one standard deviation of change in one's attitude towards writing, there will be about .39 of a standard deviation change in one's writing apprehension. The second model shows that when attitude towards writing and emotional intelligence are taken together, for every one standard deviation change in one's attitude towards writing and emotional intelligence, there will be .34 and .25 of a standard deviation change in one's writing apprehension, respectively. The third model shows that when attitude towards writing is accompanied by emotional intelligence and writing motivation, for every one standard deviation increase in one's attitude towards writing, emotional intelligence, and writing motivation scores, there will be .29, .18, and .16 of a standard deviation increase in one's writing apprehension score, respectively.

Table 3
Coefficients on Writing Apprehension

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	77.809	4.928		15.790	.000
	attitude	.259	.046	.398	5.582	.000
2	(Constant)	51.788	8.554		6.054	.000
	attitude	.287	.045	.341	6.322	.000
	intelligence	.172	.047	.255	3.659	.000
3	(Constant)	44.475	9.218		4.825	.000
	attitude	.319	.048	.290	6.688	.000
	intelligence	.121	.053	.180	2.299	.023
	motivation	.083	.041	.168	2.018	.045

a. Dependent Variable: apprehension

4.1.2. The Second Research Question

The second research question attempted to investigate personality traits as predictors of self-efficacy in writing. To this end, another stepwise multiple regression analysis was used. As the model summary in Table 4 shows, writing motivation shares 21 % of variance with self-efficacy in writing. Writing motivation and attitude towards writing together account for around 28% of the total variance with self-efficacy in writing.

Table 4
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.471[a]	.222	.217	18.473	.222	47.39	1	166	.000
2	.540[b]	.291	.283	17.688	.069	16.06	1	165	.000

a. Predictors: (Constant), motivation
b. Predictors: (Constant), motivation, attitude
c. Dependent Variable: self-efficacy

The result of ANOVA procedure (Table 5), shows that both F-values are statistically significant ($F_{(1, 166)} = 47.39$, $p < .05$; $F_{(2, 165)} = 33.88$, $p < .05$). These results show that the predictive power of both models is significant.

Table 5
ANOVA on Self-Efficacy in Writing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16175.639	1	16175.639	47.397	.000[a]
	Residual	56652.014	166	341.277		
	Total	72827.653	167			
2	Regression	21202.882	2	10601.441	33.884	.000[b]
	Residual	51624.771	165	312.877		
	Total	72827.653	167			

a. Predictors: (Constant), motivation
b. Predictors: (Constant), motivation, attitude
c. Dependent Variable: self-efficacy

In Table 6, the first model shows that for every one standard deviation change in one's writing motivation, there will be about -.47 of a standard deviation change in one's self-efficacy in writing. The second model shows that when attitude towards writing and writing motivation are taken together, for every one standard deviation change in one's attitude towards writing and writing motivation, there will be .36 and -.28 of a standard deviation change in one's self-efficacy in writing, respectively.

Table 6

Coefficients on Self-Efficacy in Writing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	167.715	9.676		17.334	.000
	motivation	-.510	.074	-.471	-6.885	.000
2	(Constant)	110.541	17.008		6.499	.000
	motivation	-.397	.076	-.367	-5.196	.000
	attitude	.404	.101	.283	4.008	.000

a. Dependent Variable: self-efficacy

4.2. Discussion

As the first finding of the present study showed, from among seven personality traits, three of them including attitudes towards writing, emotional intelligence, and motivation could best predict Iranian EFL learners' writing apprehension. Taking attitudes towards writing into account, this finding is in line with that of Erkan and Saban (2011), who found a positive correlation between writing apprehension and attitudes towards writing. However, it does not support Atkinson's (2011) results, which showed a low negative relationship between writing apprehension and rational academic beliefs. On the other hand, this finding is different from that of Latif (2012), who found linguistic knowledge level, perceived language competence, writing performance level, perceived writing competence, instructional practices, and fear of criticism as sources of writing apprehension. Likewise, Rezaei and Jafari (2014) found preoccupation with performance and high expectations, fear of teacher's negative feedback, low self-confidence, and poor linguistic knowledge as the main sources of writing anxiety. Additionally, some other sources of writing apprehension include the absence of confidence in second language writing (Cheng, 2002), lack of ability to express ideas in appropriate English (Hyland, 2003), large number of writing assignments (Claypool, 1980), and fear of receiving negative comments by teachers (Horwitz et al., 1986). Furthermore, previous studies have reported a negative relationship between general language anxiety and motivational strength (Tahernezhad, et al., 2014). In the same vein, Takahashi et al. (2007) found a negative relationship between writing anxiety and motivational intensity; this is partially in accordance with the above-mentioned finding of the present study.

Another finding of this study was that from among the seven personality traits, attitudes towards writing and writing motivation were predictors of self-efficacy in writing. This finding is partially in accordance with those of Reio et al. (2014) and Sarkhoush (2013), who reported the same result. In addition, this finding lends support to that of Akram and Ghani (2013), who found no significant differences between the motivation of male and female students, while significant differences were reported in their integrativeness; their desire to and their attitude towards learning the English language.

A number of factors could possibly account for the discrepancies found between the findings of the present study and those of the above-mentioned studies. One of the reasons may be related to social and cultural differences in the educational setting, which may have brought about such findings.

The other possible reason for such findings might be attributable to the number and willingness of participants. A relatively small sample of participants took part in this study (N=166), while Akram and Ghani (2013), Zubairi and Sarudin (2009) Law and Lam (2007), Troia et al. (2013), Sinagh and Rajalingam (2012), Öztürk and Saydam (2014), who studied motivation, self-esteem, writing apprehension, and self-efficacy, respectively, worked with much bigger samples of participants. Furthermore, since administering questionnaires may have had some deficiencies, the participants of the present study might not have been fully cooperative filling out the questionnaires at the time of data collection.

The other possible reason for these discrepancies might be related to gender differences, which were not taken into account in the present study. However, studies such as Akram and Ghani (2013), Pajares and Miller (1994), Troia et al. (2013), and Karahan (2007), emphasized the prominent role of gender differences in language learning, self-efficacy, writing performance, and attitudes towards language learning, respectively.

5. Conclusion and Implications

As the findings of the present study showed, the only variables predicting writing apprehension were attitudes towards writing, writing motivation, and emotional intelligence. Therefore, it can be concluded that language teachers can provide learners with more positive attitudes towards writing and enhance their motivation in writing in order to eradicate their writing apprehension. This could happen through more exciting materials designed by syllabus designers.

The findings of the present study suggest that affective factors play a vital role in students' written products. Therefore, teachers and lecturers should take care to lower learners' affective filter. To do so, teachers should bear in mind that their teaching strategies directly address students' motivation, anxiety, attitudes, and self-confidence. Accordingly, they ought to make use of more exciting and motivating classroom activities.

Another conclusion drawn from this study is that students feel less apprehensive and more motivated when they are placed in cooperative learning situations, an idea which has also been supported by Slavin (1995). Therefore, instructors can establish a collaborative learning environment in which students do not feel bad about making mistakes.

The continuous string of research on writing will help increase the understanding of what is commonly known as 'affective filter' in language learning. Recognition of ups and downs in the teaching and learning of writing may and can result in more precise interventions to develop the writing skill of EFL learners. We need to continue doing research to improve our understanding of the writing process. Regarding the learning hindrances, if learners themselves acknowledge their own affective barriers, they may strive for higher levels of learning. Therefore, the findings of the present study may have implications for teachers, materials developers, syllabus designers, and learners.

This study helps teachers to become familiar with different affective factors such as apprehension, attitude, and efficacy, the extent to which these factors may influence learners' writing ability, and the kind of relationship that exists between these factors. This study may also be helpful for materials developers and syllabus designers in that it may help syllabus designers to develop materials that can improve learners' self-efficacy, motivation, and attitudes towards writing, and by so doing, lower their level of anxiety and apprehension.

Finally, this study can be useful for language learners in that they can be aware of their affective states while doing writing tasks. This helps them identify and eradicate the probable sources of their negative attitudes towards writing, anxiety, and in some cases low levels of self-efficacy.

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LEXICO-GRAMMATICAL ANALYSIS OF THREE EXCERPTS SELECTED FROM TONI MORRISON'S *PARADISE*: FOCUS ON EXPERIENTIAL MEANING

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ABSTRACT

Drawing on Halliday's Systemic Functional Linguistic (SFL), this study scrutinizes the grammar of experiential meaning, one of the three metafunctions which contribute to the functions of the clause. It aims at explaining how processes are used to make meaning in the novel under investigation. Using sampling method, three extracts have been selected from Toni Morrison's *Paradise*. The findings show that material process has the highest frequency of occurrence in the novel. This implies that the participants have performed physical, real and tangible actions. Thus, material processes as the highest frequency of occurrence in the novel are used to show that the main characters physically do something in which denote concrete and tangible actions that can be gathered in various categories: some of them specify movement whereas others denote determination, recklessness, and exploitation. The findings also reveal how Toni Morrison makes her message more impressive to the readers on the one hand, and how the context can greatly influence the process types and the interpretation of the literary discourse on the other.

Key words: functional structuralism, experiential meaning, transitivity, process

THE UNCANNY OTHERNESS: THE UNCONSCIOUS, FREUD AND KRISTEVA

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ABSTRACT

Although the concept of the unconscious can be found even before Freud in the works of various writers, artists, etc., unlike the others, the importance of his vision stems from the fact that he considers the unconscious as an independent, yet dynamic entity or a void in the structure of the human mind. This shows that the unconscious is something like an 'alterity' that is rooted in the *coherent* structure of the subject's mind. And contrary to what rationality supposes, a large part of human identity is formed not by conscious self-awareness, but by this inner otherness. Julia Kristeva believes that we can consider 'the unconsciousness' as an 'inner strangeness' that can undermine or better, dismantle the human perceptual normative patterns. Furthermore, by moving from the inner paradigm of otherness to its external one, she tries to raise this issue at the political level and in the case of a stranger in the face of a homogeneous society. It is a deconstructive approach that manifests itself not only in the concept of unconsciousness, but also in the concept of the 'uncanny' as a sort of a forgotten memory of our inner strangeness. In the following text, we try to outline this movement from 'the self' to 'the outsider' through the concepts of unconsciousness and the uncanny.

Keywords: The Unconscious, Sigmund Freud, The uncanny, Foreignness, Julia Kristeva

Introduction

Apart from all the cautious and innovative theoretical concepts that philosophers have put forward in their efforts to approach the problem of otherness (and to avoid reducing it to the *logic of sameness*), it is not wrong to say that, Freud's 'the unconscious' makes it possible to fundamentally reverse the structure of any encounter with the other. If many thinkers regarded 'the other' as a conceptual *object* that can be explored and categorized in a symbolic context thanks to a thinking and rational *subject*, or, in any case, it has been spoken of as a philosophical-logical category, Freud's unconscious, however, shows that this otherness is always located within us, and that the idea of wholeness, coherence and selfhood is an illusion that does not correspond to the reality of the internal disintegration of subjectivity. On the one hand, there is an 'external' approach in which, we can place the alterity we want to consider under the conceptual vocabulary that operates essentially through a phenomenological distance, to keep this alterity outside the boundaries of the thinking 'self'; But on the other hand, we can take a different approach that internalizes otherness and places it at the heart of the 'pre-linguistic' realm, which does not conform with the symbolic structure, thus transcends the prefabricated identity of the subject (1). From this perspective, the unconscious is not a totally definable 'concept', but, according to the "first topography" (which hypothesizes that, the apparatus of mind is composed of *Conscious*, *Preconscious*, and *Unconscious*), forms an important but *unknown* part of the subject's mental processes. Even more importantly, Freud himself does not demonstrate the unconscious as a positive categorical object. Without going into Freud's discussion about this mental dimension here, we can consider two considerations that make it clear that Freud does not speak of the unconscious with a logical argument: First,

his indirect and negative method of inferring the unconscious, and second, the specific characteristics of the unconscious itself that reveal a 'different language'.

In the first case, Freud formulates the unconscious in a different way from a conventional linguistic concept. This important formula in his *Interpretation of Dreams* (1900) that "the interpretation of dreams is the royal road to a knowledge of the unconscious activities of the mind" (Freud, 1900, 608), specifies that the unconscious is manifested more than anywhere else, in dreams and night imaginations, and this path certainly goes against for example, the 'methodical skepticism' in Descartes' philosophy which presupposes already an unquestionable and enlightened being, by refraining from deceptive sensations. In this sense the dreams which are no longer irregular neuro-physiological products or messages from the unknown powers (Ibid, 588) indicate a hidden mental realm, which can be called unconscious, In addition to this work, in *The Psychopathology of Everyday Life* (1901b) and *Jokes and Their Relation to the Unconscious* (1905a), Freud tries to explores other ways of justification for the unconscious mechanism, through manifestations such as slip of the tongue (*das Versprechen*), forgetting (*das Vergessen*), and in general, parapraxis (*Fehlleistung*), as well as jokes. Dreams and all these unusual and seemingly insignificant phenomena show that the meaning of our desires and thoughts must be sought elsewhere, and for that very reason, they all become a gateway to the discovery of the unconscious. This discovery occurs when Freud declares, for example, that dreams represent primarily "a (disguised) fulfillment of a (repressed) wish" (Ibid, 160). In fact, they are the explosion and embodiment of desires or truths that the consciousness cannot encounter, and therefore repress them in 'somewhere'. The idea of repression which Freud considered to be one of the important concepts in psychoanalysis (2) project, allows him to validate 'the unconscious' in an indirect and negative way (and therefore not as a clear and rational concept), because there is no doubt that, if the patient or dreamer has a thought, idea or desire that he is unaware of, and in fact, represses it from his conscious mind, that appears only in the form of dreams or slips and bungled actions, it indicates that we can assume a sort of gap or *fold-ness* in which the repressed things are hidden and sometimes emerge (3). In his meta-psychological essay, "The Unconscious" (1915), Freud makes it clear that "the essence of the process of repression lies, not in putting an end to, in annihilating, the idea which represents an instinct, but in preventing it from becoming conscious. When this happens we say of the idea that it is in a state of being 'unconscious'" (Freud, 1953, 166). But the unconscious itself is beyond any positive description or definition, because it does not give in to a symbolic knowledge and we can say only that, "processes in the one system, the *Ucs.*, show characteristics which are not met with again in the system immediately above it" (Ibid, 186), that is, the consciousness. Therefore, although Freud considers the unconscious the "true psychical reality", he does not regard it as something recognizable and believes that, it is "*as much unknown to us as the reality of the external world, and it is as incompletely presented by the data of consciousness as is the external world by the communications of our sense organs*" (Freud, 1900, 613). Secondly, in an indirect way and through manifestations of the unconscious, Freud indicates the characteristics that are in opposition to the external world and 'reality': The unconscious is a realm of the free flow of energy and primary processes (versus bound and non-free energies or in fact the secondary processes), that is free from repression or prohibition. On the other hand, this free flow of energy is timeless, or lacks a conscious time order. Likewise, the primary processes are indifferent to the requirements of reality, and operate only according to the principle of pleasure. And finally, they do not follow the logical requirements of the non-contradiction, and two opposing ideas may exist together at the same time: thus, as he summarizes, "*exemption from mutual contradiction, primary process* (mobility of cathexes), *timelessness*, and *replacement of external by psychical reality* – these are the characteristics which we may expect to find in processes belonging to the system *Ucs*" (Freud, 1953, 187). These qualities reveal that in addition to the fact that the unconscious does not submit to reason

and grammatical rules, and always appears in disguise, its order and structure are also different from the order and structure of consciousness. And thus, not only does 'the unconscious' exist outside the channels of time and space, but also, we can experience it only through the channels of timelessness and placeless-ness (that is in dreams), through dysphasia (in the *language* of psychosis, neurosis, etc.), in the form of something mysterious and incomprehensible, and like a break in the regular and normal order. In short, all of its productions, "can be deciphered according to the grammar of unconscious work" (Assoun, 2002, 40). Accordingly, it can be said that, the unconscious resembles a radical otherness which is rooted in the heart of a multi-dimensional subject and reveals a different language than the symbolic normal grammar.

Strangers to Ourselves

But if we are to suppose that the 'unconscious' has such a potential in the discussion of otherness, we must know that Freud himself never made such a link, and in fact we owe this interpretation most of all to Julia Kristeva (1941-), a poststructuralist psychoanalyst and philosopher who regards Freud's discovery something like a "Copernican revolution", and in the background of a large part of her reflections, especially in the final chapters of *Strangers to Ourselves* (1991), tries to make a dynamic and creative connection between the unconscious and the problem of otherness. Based on her description of this Freudian discovery, we all are human subjects made up of the conscious (that is, 'the self') and the unconscious ('the other') and for that very reason one can say that Freud discusses alterity immanently and regards it something always present in us, or, to be more precise, creates 'us' before the formation of ego; something more internal than 'ourselves' (if we take ourselves to be merely a self-awareness). He radically shows that the Cartesian image of a coherent and autonomous subject ignores the dark side of reality. Hence, this internal otherness can in fact disrupt "the tranquility of reason", and order of our integrated and cohesive subjectivity: "With Freud indeed, foreignness, an uncanny one, creeps into the tranquility of reason itself, and, without being restricted to madness, beauty, or faith … irrigates our very speaking-being, estranged by other logics, including the heterogeneity of biology…" (Kristeva, 1991, 170). In short, the first otherness we must recognize is the unconscious within, which forms a large part of the "Iceberg" of our identity (4), and in the same way, acceptance of this strangeness is a necessary precondition of, or the "sole support", to live with the strangers. As Kristeva says Freud does not speak in an analytical, technical way, of foreigners, but, to be sure, "he teaches us how to detect foreignness in ourselves. That is perhaps the only way not to hound it outside of us". And therefore, "After Stoic cosmopolitanism, after religious universalist integration" he "brings us the courage to call ourselves disintegrated in order not to integrate foreigners and even less so to hunt them down, but rather to welcome them to that uncanny strangeness, which is as much theirs as it is ours" (Ibid, 191-2). But beyond the concept of the unconscious, Kristeva attributes this feature to psychoanalysis itself. By reinterpreting the rational agents that we think we are, and exploring the reality of desires that contradict our stereotyped and established behaviors, psychoanalysis tries to change the borders of our being in the analytical scene itself, between the patient and the psychoanalyst. This happens for example, through the process of 'transference' (5), which is a central moment in the psychoanalytic procedure, as a representative of a new kind of ethical guideline: "Psychoanalysis is then experienced as a journey into the strangeness of the other and of oneself, toward an ethics of respect for the irreconcilable" (Ibid, 182). In this way, one can think of 'analysand' as a creature that eventually acquires the ability to consider itself a multifaceted and polyphonic subject. Because, by weakening the resistance of the subject under psychoanalysis and returning him to the childhood, and showing the necessity of examining the past or self-examination the psychoanalytic therapy has a power to provide the opportunity to create a new 'who' that will certainly shape new societies.

The Uncanny

The concept of the unconscious is just a starting point for Kristeva and she briefly pays attention to another essay that has a special place in Freud's thought, and of course, has an important connection with the unconscious: that is, the *non*-concept of 'the uncanny'. In his seminal essay, "Das Unheimliche" (1919), Freud discusses a feeling that disrupts the normal order of our mental life and causes us an experience, which we do not have indeed a logical tool or a mental concept to understand, and therefore we get into the abnormal state of bewilderment and disorientation. He argues that the German word, *heimlich* means 'homely' and is related to *heimich* or 'native', and thus expresses something familiar which belongs to the home, to us. At the same time, however, the word also refers to an unfamiliar or far-sighted thing, and so the first sense is summed up in its opposite, *unheimlich*. It, therefore, refers to something familiar as well as strange, the experience of home and away from home at the same time. In his essay, Freud lists various experiences that can create an uncanny awe-inspiring affect in our consciousness, from corpses and magic to death and castration anxiety. But they all have one thing in common, and this is what brings us back to the unconscious; the fact that the uncanny is created by the *return of the repressed*, something that is repressed and pushed into the unconscious, but returns and interferes with the tranquility of consciousness, frightens us or disrupts our ordinary and daily existence in a different way from an *objective* fear or horror. Freud says, "This uncanny is in reality nothing new or alien, but something which is familiar and old-established in the mind and which has become alienated from it only through the process of repression" (Freud, 1919, 241). Given this insight, the unconscious dynamics reveals a relationship between the strange and the familiar. This return of the unconscious element revives in us the memory of alterity that we have suppressed. Freud shows that everything which is strange to us was familiar once upon a time, and is, in fact, a part of our own past that now seems strange. Kristeva uses this feature of uncanniness to re-establish and redefine it in relation to our otherness; the strangeness that is within us, but is hidden from the eyes of a rational and symbolic subject, or is rejected by a homogeneous society. Thus, in the final analysis, this Freudian uncanny leads her to the main manifesto of her book, that is, "Strangely, the foreigner lives within us: he is the hidden face of our identity, the space that wrecks our abode, the time in which understanding and affinity founder. By recognizing him within ourselves, we are spared detesting him in himself. A symptom that precisely turns 'we' into a problem, perhaps makes it impossible, The foreigner comes in when the consciousness of my difference arises" (Kristeva, 1991, 1). It can be said that the uncanny reveals a dialectic between the strange and the familiar, a dialectic between forgetting and remembering, or staying and returning. And if we look closely at the logic of this dialectic, we find that its synthesis is to distance ourselves from the limited mental space which we have imagined for ourselves in the symbolic and self-conscious realm, and helps us to create an open space that is large enough to house ourselves and others at the same time.

If Freud believes that [the interpretation of] "dreams is the royal road" to a knowledge of the unconscious (Freud, 1900, 608), according to Kristeva, the uncanny also is "the royal way … by means of which Freud introduced the fascinated rejection of the other at the heart of that 'our self'" (Kristeva, 1991, 191). It is through Freud' thought that the rejection of alterity means the rejection of a part of oneself. But by drawing a comparison between the rejection of internal otherness and external alienation, Kristeva draws a comparison between the fear of *unheimlich* and the "political feelings of xenophobia". She claims that the uncanny is perhaps just what the Greeks called simply "*xenos*", "foreign". The distance we take from our childhood desires, from drives, or the return of an unconscious element, all can show that we are fleeing from our internal *xenos* whose existence we do not want to accept in ourselves. Conversely,

> The foreigner is which us. And when we flee from or struggle against the foreigner, we are fighting out unconscious – that "improper" facet of our impossible "own and proper". … Freud does not speak of foreigners: he teaches us how to detect foreignness in ourselves. That is perhaps the only way not to hound it outside of us. After Stoic cosmopolitanism, after religious universalist integration, Freud bring us the courage to call ourselves disintegrated in order not to integrate foreigners and even less so to haunt them down, but rather to welcome them to that uncanny strangeness, which is as much theirs as it is ours (Ibid, 191-2).

Although Freud does not speak of foreigners (6), his psychoanalytic ethics reveal a politics embodied in a new kind of cosmopolitanism, which builds the unity and solidarity of the individual on "the consciousness of the unconscious". Recognition of the uncanny is not possible either by those who "suffer from it" or even "enjoy it from outside" from a safe or *remote* location. As Sjoholm declares, "the subject of alterity can never be fully foreclosed; it is traversed by desires and drives produced in a politically motivated construction of communal bonds" (Sjoholm, 2005, 52). Freud places the difference and otherness within us, whether in the form of drives or the unconscious, hence "If I am a foreigner there are no foreigners". And last but not least, this difference is our "ultimate condition of being *with* others". Freud's psychoanalysis is therefore "a journey into the strangeness of the other and of oneself" and leads us to the "ethics of respect for the irreconcilable". (7) This is what can be found in the concept of *Einfühlung* (Kristeva, 1991, 181) that originates from a hollow universalism as cosmopolitanism, "a tie of not-belonging rather than belonging"; because "bonds are necessarily found through difference not commonality. The encounter with the foreign in the midst of our community opens the uncanny experience of non-belonging" (Sjoholm, 2005, 52).

Conclusion

Kristeva's reading of this Freudian study, allows us to clarify that the concept of the unconscious and its disturbing logic, the uncanny, can dismantle the logic of the sameness and provide a new perspective on the problem of otherness. She infers the central idea of *Strangers to Ourselves* (1991) from the heart of Freud's essay, and reveals an individual, partial, and psychical otherness within us, that finally transforms all of us into a general and universal society of aliens. The uncanny, in Kristeva's thought, becomes the main characteristic of the subjectivity and we can consider it to be her psychoanalytic and philosophical strategy for "*destructuration of the self*" (Ibid, 188) that contrary to the one-dimensional structure of modern subject who is not compatible with any kind of difference or innovation, it can be a kind of "*opening* toward the new" (Ibid, 188). Kristeva outlines this discussion in the final sections of her book, and in the prior chapters, she first pursues the issue throughout the history of the foreigners, from the Greeks to the Enlightenment. However, it may be better to reverse this path, which means a movement from the inside to the outside. The reason for this is firstly the assumption that two main paradigms for otherness can be distinguished. First, the internal paradigm that examines the problem of otherness at the psychological, psychoanalytic, or ontological level, and second, the external paradigm, which likens our encounter with our inner otherness, to the encounter of a homogenous society with the foreigners, and puts forward it on the very political level. Kristeva has repeatedly emphasized that psychical politics has precedence over social external politics, and as noted it is only by accepting otherness within ourselves that we can recognize the otherness of outsiders. In this respect, in one of her next books on the political movements and crisis of national depression, *Revolt, she said* (2000), she says "by recognizing this strangeness intrinsic to each of us, we have more opportunities to tolerate the foreignness of others. And subsequently more opportunities to try to create less monolithic, more polyphonic communities" (Kristeva, 2002, 64).

But there is another reason to move from the inner strangeness to the outer one. Officially, in Kristeva's works we find only one book for which she has chosen the title strangeness, but the purpose we have to pursue here, is to show that the *L'inquiétante étrangeté* acts like a driving force that can be found in different parts of her thought. Her initial focus in the 1960s and 1970s on linguistics and semiotics was an attempt to depict the revolution that twentieth-century avant-garde writers had created in the poetic language. If general theories of language consider meaning only as the product of explicit signification, and as a tenacious connection between signifier and signified, Kristeva argues for dispersion that can disturb the usual ways of meaningfulness, a disturbing uncanniness that results from the invasion of emotional and instinctive drives to the symbolic structure. Theoretical and conceptual tools, such as 'signifying process', *the symbolic* and *the semiotic*, '*signifiance*', intertextuality … all serve what we can call 'textual strangeness'. In the 1980s, she pursues this movement in psychoanalysis and writes the trilogy of *Power of Horror* (1980), *Tales of Love* (1983) and *Black Sun: Depression and Melancholy* (1987). In these works, in a sense, one can follow the dynamics of signs and meaning through the psychological realm. Throughout these works, however there is no clear distinction between language and the theory of subjectivity, or between text and mind, and Oliver rightly states that, according to Kristeva "any theory of language is a theory of the subject" (Oliver, 1997, xviii)). Finally this dynamism continues in the micro-politics to which Kristeva gives more prominence in works of the 1970s. From the books like *Strangers to Ourselves* (1989) and *Nations Without Nationalism* (1993) *to The sense and Non-sense of Revolt* (1996) and *Revolt, she said* (1998), all of them are in opposition to the ideology of stability of meaning and the order of things and try to introduce a subject that always oscillates on the thin line between the 'self' and the 'other'. Therefore in all of her works, Kristeva always seeks to weaken the linkage between the signifier and the signified (8) that realizes by the politics of the uncanny. We must also keep in mind that this policy of strangeness does not only exist at the psychoanalytic, linguistic or political level but also can be related to Kristeva's own personal experiences, as an exiled thinker and a foreigner (9).

Notes:

1. Among the many works written about philosophers' attempts to approach the issue of otherness, see Todd May's book, *Reconsidering Difference: Nancy, Derrida, Levinas and Deleuze* (1997). Addressing this problem under the heading of "difference" he believes that the common concern of these continental thinkers is "how to avoid reducing difference to the logic of the same" (May, 1997, 2). However, he does not think that these thinkers' efforts to prioritize difference in society (Nancy), language (Derrida), ethics (Levinas), and ontology (Deleuze) have been entirely successful. According to him, all of these suffer from a kind of categorical or conceptual totalitarianism that cannot maintain difference.

2. As Jean-Michel Quinodoz says about the relationship between the unconscious and repression, "The existence of the unconscious was known well before Freud, but not in the dynamic sense in which he understands it. Indeed, since the philosophers of Antiquity and probably well before that, it had been recognized that a large part of our mental activity occurs without our knowing it, so the idea of an unconscious was already present. But the unconscious of which Freud speaks is indissoluble from this repression: by unconscious he means a virtual psychic place to which ideas that are incompatible for the conscious mind are relegated, thereby escaping consciousness. It is a "dynamic unconscious", to be distinguished from the unconscious in general." (*Sigmund Freud: An Introduction*, 2018, 24).

3. Alasdair MacIntyre believes that "The Unconscious is 'a place', 'a realm' (my terms). That is, in asserting the role of the Unconscious Freud is making an existential claim. He is not merely offering us an instructive diagram, a model in terms of which to envisage conscious thought and behaviour. He is propounding a hypothesis, asserting that the world includes an

entity hitherto undiscovered. Freud himself and many of his expositors, talk of 'spatial metaphors'… . So that even if we allow his spatial language to be metaphorical, we must not therefore see him as doing less than offering a hypothesis about some sort of existent reality". (*The Unconscious: A conceptual analysis*, 2004, 66-67). However, much of Freud's description shows that what he means by "the unconscious" is more like a kind of 'fold' in consciousness than a 'place'.

4. In the first topography, Freud uses the allegory of the iceberg, to distinguish three parts of the mind ('conscious', 'preconscious' and 'unconscious'), only a small part of which is outside the water (conscious), and a large part of it (unconscious) is underwater. While, in second topography, or 'structural model', he presents a different tripartite description of mental apparatus, including Id, Ego and Superego, which is a complement to the first model, not its revision. For more details, see, his 1923, 'The Ego and The Id', in *Complete Works: Standard Edition*, Vol. 19. London: Hograth, pp. 12-66.

5. In his *Studies on Hysteria* (1895), Freud first considered transference to be an obstacle to the work of treatment and sort of resistance by the analysand. But later in 1905, during the therapy of Dora, he attached great importance to it. Transference means the transfer of past emotions from the patient to the psychoanalyst, which the psychoanalyst should not focus on. On the other hand, counter-transference is an emotion that may enter the talking cure process by the psychoanalyst. This concept is so important that it has been addressed in every work written about Freud. See, For example, a simple and concise description of it in, Jean-Michel Quinodoz, *Sigmund Freud: An Introduction*, 2018, 63-69.

6. Contrary to Kristeva's claim, Ewa Ziarek says, there are several political references to foreigners in Freud's text. She means the sentences and phrases that Freud has collected in his lexical section in the first part of the essay, from various dictionaries. However, it is clear that Kristeva means that Freud did not discuss the otherness in the *main theoretical-psychoanalytical part* of his *own* article. For more details, see, Ewa Ziarek. *The Uncanny Style of Kristeva's Critique of Nationalism*. Postmodern Culture. V5. N2. January, 1995. N7.

7. This ethical approach certainly contrasts with what Freud called "civilized morality", which is the source of nervous diseases and operates through the superego who is seeking to reject unconscious rebellions. See, (1908d) '"Civilized" Sexual Morality and Modern Nervous Illness', SE IX, 179.

8. In a review of her first book, *Semeiotik*, Roland Barthes writes, "… Kristeva changes the order of things: she always destroys the latest preconception, the one we thought we could be comforted by, the one of which we could be proud: what she displaces is the *already-said*, that is to say, the insistence of the signified; what she subverts is the authority of monologic science and of filiation (p. 19)" (cited in Moi, 1986, 1).

9. Kristeva, who arrived in France at the age of twenty-five from Sofia, has repeatedly described herself as a stranger and someone in exile in many interviews, a French woman of Bulgarian descent with European citizenship and living in the United States. He considers this personal experience and the feeling of 'not belonging' and homelessness, to be a necessary factor for thinking. See for example Birgitte Huitfeldt Midttun, *Crossing the borders: an interview with Julia Kristeva*. Hypatia, 22 – sep – 06. Indiana University Press.

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UTILIZATON OF DIGITAL MODE OF EDUCATION DURING COVID 19 PANDEMIC

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ABSTRACT

Covid19 has dramatically changed the educational system and 1.2 billion children are affected worldwide. During this situation education is completely transferred to online mode in almost all countries around the world. In the developing countries digital way of learning is in progress before the pandemic. But covid19 forced the world to co-operate with this method. This research work was done through case study and received the information how the digital mode of learning applicable in the fast advances in technology. They need to learn at any time, and any place was in its way to be achieved. According to school students, online classes held through Whatsapp and sometimes teachers conduct live classes for better understand. Live classes held by Zoom meet, Google meet and other Microsoft platforms. The college students utilize the advantages of all kinds of digital platforms during the Covid pandemic situation. Like school students, Professors also used Whatsapp, Zoom meet, Google meet and other Microsoft platforms to conduct classes. Whatsapp was used to send and receive homework's, Zoom meet and Google meet were used for conducting live classes and similarly Google classroom and Microsoft team were used to perform the assigned tasks. Through online education new technical and communication skills, and knowledge of technology were improved among students and teachers. The conclusion of this study stated that a quick change from classroom to a digital platform of education emerged during pandemic and also some are already existed. Online learning was the best and only solution for continuing education during current pandemic situation.

Key words: Covid19, Information, Microsoft platforms, technology

THE CONCEPT OF KARMA (ACTION) IN RELIGIOUS CONTEXT

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ABSTRACT

Karma means any action. Kar means organs of action and ma means producing or creating. Karma, Reincarnation is the major concept of Hinduism where human's pain and suffering exist based on their karmic life in the past and at present, it is not created by the Lord himself or herself but by the human being. Release from all kinds of sin is achievable through the path of devotion, in which a devotee will submit himself or herself to the will of the Lord, through devotional practices, such as prayer, chanting, kirtan etc. Aims to become attached with the God or the Supreme Lord, Sri Rama, Sri Vishnu and attain spiritual liberation, freedom, the path of ethical action, in which an individual chooses to, perform work without attachment to its effects or its outcomes for individual gain. Self should be attached to the Lord instead of a materialistic world. Hindu traditions hold that all things are manifestations of the Supreme Lord, so nothing is good or bad, but the Lord Sri Rama, Lord Vishnu, Lord Krishna. Sri Krishna encompasses everything, including pain and suffering, which is given by the Supreme Decider for the experiment of the human being, a unique creation of the universe. Suffering can be positive if it leads to progress on a spiritual path such as through chanting, ashram life (temple life), yoga, be sanyasi(worshiper) it is an integral part of life, the purpose of religious practice. Various schools of Hinduism such as ancient ashram life is to resolve human suffering that arises from samsara(family) from the bound of relatives, from this dramatic world, the world where the human comes for acting, when it is over, they return to their destination; they are

coming to the world and to return is the cycle of birth, re-birth and death in a general sense. The Bhagavad-Gita identifies the instability of the mind as the chief cause of suffering, mental instability is desire, which arises out of the repeated contact of the senses with their sense objects. For moksha, devotion to the Supreme Lord is the ultimatum of a human being according to Hinduism.

Keywords: Devotion, Karma, Dharma, Stages of the Universe, Hinduism, Reincarnation, Moksha, Deity, Suffer, Sanyas, Samsara, Naraka, Puranas, Upanishad, Veda, Vishnu, The Mahabharata.

Introduction: The Journey of Hindu tradition starts with those concepts like Karma, Reincarnation. Devotion to the Supreme Lord for the moksha exists from the avoiding of physical enjoyment, sex, desire, aspiration and to achieve the Lord, to reside with the almighty, Sri Vishnu through his worship. The path of devotion aims to become attached to God or the Supreme Lord, the path of ethical action, and spiritual devotion are different ways or paths to achieve life goals, this attitude purifies human's mind, body to attain a sense of the God-vision, it can open their third eye through which they can view the Lord of all. The dharma is for a pain practitioner would be the best practice possible, while accepting all outcomes which is spirituality. As the focus of one's life should be on the Supreme Decider, priority is given to this inner journey, with less focus on the materialistic world but on the Lord of all by chanting, by kirtan, Hare Krishna, Hare Rama and it can be achieved according to the Hindu tradition. Spiritual assistance and support are also to be found in the Lord, a way to know the Creator of the Universe is through devotion, the way of bhakti and the complete surrender to him. Bhakti implies that the Lord is accessible and knowable, in personal terms. Ageing, sickness, and death are the reminders of the nature of samsara (family life) and our existence in it, it is absolute. Every teacher's tradition, school of thought and ascetic movement in Hinduism focuses on them to convey the urgency and the importance of liberation, a freedom from suffering. These are the three afflictions of human life from which humankind finds no escape except by way of liberation or freedom; it could be through sanyas or ashram life, leaving the family and the Maya of all. Karma is made by humans physical and psychological activities such as physically he or she makes things by hands, and by various parts of bodies, he or she thinks a lot mentally for reward, these are all the example of karma, karma is human's cycle of birth and death for repeating pain and suffering that he or she deserves through karma. Karma arises by human action, inaction arises by the action of others for which he or she is the cause, arises by the action of collective group, communities, through several events, it arises through the acts of God. Karma has two phases, good karma and bad karma, good karma is arising due to virtual activities and bad karma arises due to sinful activities, obviously sacrificing for the wellbeing and devoting to the Lord are virtuous activities, deserves good karma and materialistic enjoyment, self-gain, desire is a sinful act. and deserves bad karma. Nature of karma whether sinful or virtuous or neutral decides the ultimate journey of a human being for moksha from all kinds of pain and suffer according to Hindu tradition through the message of Veda, Upanishad, Puranas.

Literature Review: Hindu Karmic concept has been criticized by the scholar Dr. A.G. Hogg. According to him, Karma is fatalistic, it reflects on individualism and selfishness of individualism, he showed his logic by saying that according to karma, the self can modify his or her life from misery to happiness and it comes from through meritorious deeds, so it is for individualistic gain, not for the development community, it is not like the pluralistic way, where pluralism should be encouraged by everyone. Dr. S. Radhakrisnan, former President of India and as a modern philosopher also gave importance to the material world, how do humans react to philosophic ideas as norms of the society, how does past life activities relate with present life and karma exists on that? It has issues. According to Dr. Hogg, the punishment of sin is death,

but Karma mentions it as a finite penalty, which is not acceptable because an infinite penalty can bring changes in society as a whole for peace and prosperity. However, Dr. Hogg did not horrendously criticize the myth of the Karmic life of Hindu tradition, he added the Christian principles of redemption and wrote a novel name, Karma and Redemption.

Methodology: Collection of Journals, Papers, getting comments from folks upon setting logic of Karmic life and Reincarnation were my activities to write this article. I wrote, re-wrote, edited various times and thus made the final draft of the article for the simplification of its narratives and my understanding. I read three to four times and finally write this article based on my understanding of Karma and Reincarnation, Detachment and Attachment as forms of pain and suffer in human life according to Hindu myth. Therefore, The paper has been assumed through subordinate sources of data. Subordinate sources of data include academic articles, websites etc. The methodology to write the paper has been taken by the description of sources, by reading, gathering in-depth insights on topics, focuses on exploring ideas, summarising, and interpreting and mainly expressed in words (documentary analysis through qualitative approach).

Result and Discussion: Hinduism is India's main religion, yet a religious-secular country estimated 86% of the entire population's practitioners, as the third-largest religious group on Earth. They are located primarily in India, Nepal, and Bali, Indonesia; an estimated 2% live outside India, and an estimated 1.5 million live in the United States. As the oldest form of tradition Hinduism mainly gives importance to dharma and karma, which is causally related with reincarnation based on good and bad activities during the past or the present life, a premise in Hindu thought. Karma and Dharma are related and obvious for every human being, good and bad are related and obvious according to Hinduism, so people must be prepared for his or her good and bad times, which is the cycle of life decided, by the Supreme Lord, Sri Rama, and Sri Krishna. Several concepts are central to Hinduism to address pain and suffering. The principle of Karma governs the extension of events (unfolded) that are based for a person on his or her integrity, obeying with which he or she lived his or her past lives. Karma is not imposed by an outside, or by the Hindu Lord, but is an exercise of the moral law in the universe, these laws exist within the universe. The God, who is the ultimate decider of the university, Sri Vishnu, encompasses karma and he is in each person's soul. Both Karma and Souls are part of the Supreme Lord, Sri Rama, Sri Vishnu, and Sri Krishna; therefore, they are not outside to the individual, but a part of a big hole of the universe. Hindus believe in a single creator who makes this universe that is the Lord Jesus, Buddha, Allah, Sri Vishnu, are all one and single entity, the Lord of all humankind. Hindus may use different words, such as The Ultimate, the Supreme for a non-deity force or unknown mystery or spirit such as the demon king of Ravana who the part of the Hindu Mythology is. The tradition of Hinduism promotes living with integrity, discipline, which is a teaching of no harm to any human being, and it is progressing spiritually by living according to dharma, honesty, and spirituality. Human life's work, which is completely detached from the involvement of any kinds of the universe, that is apparent or visible to us, which is seen as illusory and temporary such as enjoyment of life, attachment with relatives, but to turning toward the Supreme Lord, Sri Rama and to devote fully. The principle of sacrifices is similar to other eastern religions, such as Buddhism, Sikhism, Jainism etc. different paths to achieve life goals are present, they are the path of devotion, in which a devotee will submit himself or herself to the will of the Lord, through devotional practices, such as prayer, chanting, kirtan etc. Aims to become attached with the God or the Supreme Lord, Sri Rama and attain spiritual liberation, freedom, the path of ethical action, in which an individual chooses to, perform work without attachment to its effects or its outcomes for individual gain or self-interest. This attitude purifies his or her mind, body so that he or she can attain a sense of the God-vision, it can open his or her third eye, through which in the Mahabharata, Arjuna viewed

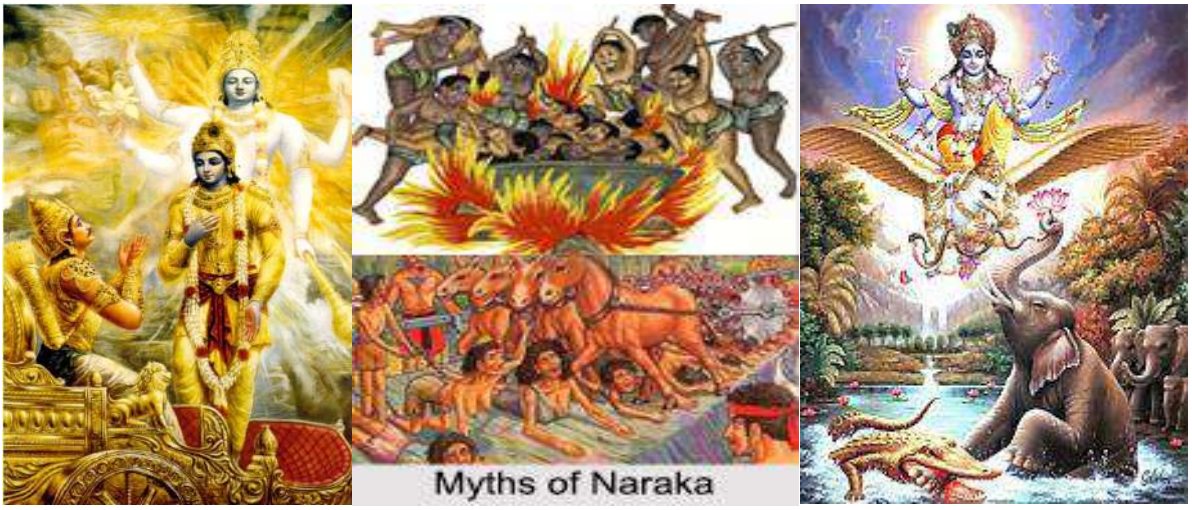
Lord Krishna, he achieved his third eye through his true wisdom, honesty, and love for the Lord. Through the reading of Karmic concepts, humans will gain the path of knowledge, in which man or woman dedicates himself or herself that reveals the impermanence and ineffectual of things in the world, and thereby frees the self from the bondage of ignorance, leading to spiritual liberation or freedom, and the path of mental concentration, in which they will practice disciplinary measures that involve physiological and psychological restraints to free themselves from all impurities so that the divine self of the person can then manifest itself, leading to spiritual liberation or freedom and thus they all become a part of the Lord of all. Suffering, both mental and physical, is part of the extension of karma and is the consequence of the past inappropriate action that occurred in either one's current life or a past life, reincarnation depends on active whether it was in the past or the present life, it is not seen as a punishment but as a natural consequence of the moral laws of the universe in response to past negative behaviour. Hindu tradition promotes coping with suffering by its acceptance. Suffering is seen as a part of living until, finally, reaching moksha and until reaching this state, suffering is always present in life's way. We are in human form on earth, we are bound by the laws of our world and will experience physical pain, mental pain. Pain is truly felt in our current physical bodies; it is not illusory in the sense of not being felt. But while the body may be in pain, the soul is not affected or harmed. Lord Arjuna of Mahabharata, a seeker of wisdom in The Bhagavad-Gita, was told that the self embodied in the body of every being was indestructible, human dies but their soul is immortal, the soul leaves their bodies after death and then moves in the air, it finally enters another human body as a newborn man or woman creates by the Supreme Lord, Sri Rama. According to the Lord Arjuna, Weapon does cut the human body, but it can’t soul, fire does not burn soul but the body, water does not wet the human soul but the body, the wind does not wither it but the body, it is enduring, all-pervasive, fixed, immovable, and timeless, it is unique and universal. The Self is not affected, there need be no concern over temporary suffering, victims may gain comfort by viewing the pain as only a temporary condition and one that does not affect their inner self. Pain and suffering are not seen as solely bad but as experiences that need to be viewed from multiple perspectives. Hindu traditions hold that all things are manifestations of the Supreme Lord, so nothing is only good or bad, but the Lord Sri Rama. Sri Krishna encompasses everything, including pain and suffering, which is given by the Supreme Decider for the experiment of the human being, a unique creation of the universe. Suffering can be positive if it leads to progress on a spiritual path such as through chanting, ashram life (temple life), during chanting through unconscious mind if an animal comes and kill the devotee, he or she will go to heaven, will get moksha, it is temporary pain or suffers by the killing of an animal but because of the chanting to achieve the Lord, the virtue has been gained for moksha. Suffering is a way to progress on his spiritual path, to be tested and learn from a difficult experience. Attachment to the Lord and detachment from the samsara are concepts that in Hindu traditions relate to one's level of involvement in this world and the power, this world holds over one’s state of mind. Only through recognition that the self or an individual is not bound to this world of suffering can release be achieved in full. It cannot be simply an intellectual understanding that the self is part of the Supreme Lord, Sri Rama, not for us or self-development. In Mahabharata, The Lord Arjuna was told that, be intent on action, not on the fruits of action, avoided attraction to the fruits and attachment to inaction, perform actions, firm in discipline, relinquishing attachment, be impartial to failure and success this equanimity is called discipline, attachment with spirituality. The ultimate goal would be to become neutral in the face of whatever outcome occurs, not to desperately strive for pain relief. Lack of immediate success in treating victims can be frustrating, however, an approach based on Hindu traditions would suggest the continuation of trying one's utmost to heal patients but not becoming upset by failure. The dharma for a pain practitioner would be the best practice possible while accepting all outcomes, which is spirituality. As the focus of one’s life should

be on the Supreme Decider, priority is given to this inner journey, with less focus on the materialistic world but on the Lord of all by chanting, by kirtan, Hare Krishna, Hare Rama and it can be achieved according to the Hindu tradition. Spiritual assistance and support are also to be found in the Lord, a way to know the Creator of the Universe is through devotion, the way of bhakti and the complete surrender to him. Bhakti implies that the Lord is accessible and knowable, in personal terms. A practice of Hindus is to pray to the Lord, Hare Krishna Hare Rama, to ask for spiritual support in facing problems, believing that their suffering will be relieved, support will be provided, and it will come as the order of the Lord for his or her devotees. In Hinduism suffering or dukkha means the physical, mental, and emotional instability that arises from the dualities and up-gradation of the mind and body, these modifications, dualities manifest variously in human life as pain and suffering, attraction and aversion, union and separation, desires, passions, emotions, ageing, sickness, death, rebirth, etc. In Hinduism, suffering is an integral part of life, the purpose of religious practice and various schools of Hinduism such as ancient ashram life is to resolve human suffering that arises from samsara, from the bound of relatives, from this dramatic world, the world where the human comes for acting, when it is over, they return to their destination; their coming to the world and to return is the cycle of births and deaths and in a general sense. If a man is caught in the phenomenal world of transient objects and appearances and becomes attached to them, he and she have no escape from suffering which has come from ancient Adam and Eve. The history of spiritual Hinduism is largely the history of man's yearning for a lasting solution to the problem of human suffering. The quest continues even today, as the dynamics of human suffering keep changing with the progress of civilization, human as a refugee, beggar, stateless person and in various ways are suffering, due to the misuse of power by the authority of the states, these are examples of karma, it is absolute that has to be fulfilled in life because of bad work either in the past or in the present, the human does not need to go heaven or hell, they are the victims in such a way in this universe and thus will be punished for their karma. The Vedic religion did not focus on suffering initially, but on securing peace and happiness in the mortal world with the help of gods and goddesses in heaven and patrons on earth through rituals and sacrifices, the happiness was behind the knowledge of the Vedas, virtuous conduct, and obligatory duty. The Upanishad approached the problem differently, through focusing upon the hidden causes of suffering and tried to resolve it internally by cultivating purity, fortitude, sameness, equanimity, stability, balance, detachment and indifference through austerities, restraint and renunciation, early Upanishads such as the Brihadaranyaka and Chandogya Upanishads refer to the concept of karma and illustrates that human's who perform sacrifices and live virtuously, they go to ancestral heaven for a peaceful life and achieve liberation or freedom from all and thus moksha they gain moksha, on the other side who acts sinfully and neglect their duties, their reincarnation continues and it depends whether they will bear as the best creatures like human again during rebirth or will bear as an animal, basically Upanishad describes sinful human through their past activities go to the subterranean worlds from where they return and take birth as insects. Veda and Upanishad are two great epics of Hinduism thus discuss the source of grief, suffering, pain based on human’s karmic features. Ageing, sickness, and death are the reminders of the nature of samsara (family life) and our existence in it, it is absolute. Every teacher's tradition, school of thought and ascetic movement in Hinduism focuses on them to convey the urgency and the importance of liberation, a freedom from suffering. These are the three afflictions of human life from which humankind finds no escape except by way of liberation or freedom; it could be through Sanyas or ashram life, leaving the family and the Maya of all. Hinduism identifies the desire's nature as the root cause of human suffering, resulting in the cycle of births and deaths as the ultimate suffering, human desire is limitless and the key to be suffered longer or shorter. According to the Upanishads, demonic nature means selfish actions done for the sole purpose of selfish enjoyment, human desire is limitless,

when organs are put to selfish use, a person becomes impure and thus he or she starts suffering. Because of the involvement of selfish action, resulting vulnerability. Pleasure is not a solution to avoid pain; the same pairs of opposites cause pain and pleasure. Liberation means freedom from all kinds of desires and attachments so that one is not motivated by self-interest in performing obligatory actions but rather by the pure intention to serve God and His or Her creation. This is the transformation, which Hinduism aims to accomplish through various spiritual practices such as chanting, kirtan, spiritual dancing, and yoga and different ashrams, activities, like re-paying to Guru for ashram's teaching, called Gurudakshina. The Bhagavad-Gita identifies the instability of the mind as the chief cause of suffering; at the root of the mental instability is desire, which arises out of the repeated contact of the senses with their sense objects. Suffering is an abnormal state, which arises from our ignorant and desire-ridden actions, human, is unconscious about it, they do not know about their demands. The human purpose on earth is to know how to return to their original state of enjoyment, their empirical experience suggests that enjoyment comes from having things such as physical enjoyment, sex, desire, aspiration about the dramatic world, their scriptures suggest that true enjoyment comes from not having the desire to own things and enjoy them, enjoyment and freedom are synonymous. True enjoyment arises from freedom; freedom arises from desires and attachment with the Lord of all, Sri Rama, Sri Ramakrishna Paramhansa Dev. The true solution to suffering is possible through self-restraint, mental stability, detachment, renunciation, and the absence of desires. The first step in the journey of liberation is the withdrawal and restraint of the senses because they are the ones who perpetrate human's interaction and dependence on the world, then when the senses are controlled and the mind is disciplined, a person overcomes his or her desires and attains peace and inner stability, then with practice, he or she overcomes their attachment to name and form, then he or she recognizes their spiritual nature, thus cultivates purity and sameness. Therefore, the causes of suffering according to Hinduism are desires and attachment with personal objectives, which lead to karma and bondage, delusion and ignorance caused by Maya, repeated births and deaths through reincarnation. The triple qualities, namely Satya, Raja and Tama, influence our thinking and actions, demonic qualities and evil nature characterized by pride, lust, anger, greed and envy, lack of faith in God and self, lack of discretion or judgment. No matter what one may do, some suffering is inevitable in human life because of its natural practices yet knowing of its results, because the human being is made by blood and meat. The aim of spiritual practice is not to end suffering, which is impossible because of Kali Yogh, but to learning to deal with it by reconditioning our minds and bodies. Satya, Treta, Draper and Kali Yogh, four stages of the universe according to Hinduism, Satya was the best decades lead by honesty, integrity to the Lord, Treta when Sri Rama incarnated as the deity of the Lord Vishnu to preserve human beings on earth from the demon king Ravana and thus the Hindu epic Ramayana created by Rishi Balmiki, then Draper Yogh of Mahabharata when Sri Krishna incarnated, as the deity of the Lord Vishnu to preserve Pandava brothers from the Kourava brothers and to escape the kingdom of Hastinapur of the Indian empire, created the great epic of Mahabharata, and the current decades is Kali Yogh, the worst of all stages of the universe, which is full of lie, crime and many worse things, it has been said in Purana, Veda that the Lord Kalki will incarnate as the deity of Sri Vishnu to destroy this sinful world and for the continuation of the recycling process. The spiritual practices can fresh our inner mind and give us peace for while, it is possible through spiritual music as well such as chanting, kirtan of current Kali Yogh, is given by the Lord for the release, for moksha, Hare Krishna, Hare Rama, against of sin. Yoga also works for a fresh mind and to create inner peace of joy. Therefore, while working for liberation or freedom, an individual must learn to endure suffering from detachment and attachment and its acceptance, by keeping faith in the Lord of all, Sri Rama, and Sri Krishna, and performing actions as an obligatory duty and sacrificial offering to the God. Hinduism accepts karma as unavoidable; it acknowledges the importance of virtuous self-

effort in shaping one's destiny and correcting the wrongs of the past. Suffering also gives us all an opportunity to think about our existence and redeem ourselves through selfless actions, God's intervention, surrender and devotion. It needs to be always reminded that from suffering knowledge creates, from the knowledge of the suffering solution creates, and from the solution to suffering ultimate freedom creates which release human from all, called moksha. Suffering, therefore, is the teacher and the cause in which the effect, liberation, freedom is hidden. A human being can find out ultimate moksha from an artificial family, from the stage of a unique dramatic universe. In Mahabharata, Ancient India's war between brothers', one of the honest and religious brothers Arjuna was asking the Lord of all, Sri Krishna, the way of release from all artificial objects, suffering from this dramatic universe, exists full of lies and worse things, the Lord of all replied; Yada yada hi dharmasya glanirbhavati bharata, Abhythanamadharmasya tadatmanam srijamyaham, means whoever necessity occurs I come to fulfill it. Paritranaya sadhunang vinashay cha dushkritam, Dharmasangsthapanarthay sambhabami yuge yuge, means the Lord will come age to age for the preservation of Dharma and to release humans from pain and suffering from evil.

Conclusion: Karma is a communication with the Lord by work, a divine, omnipotent, omniscient Power This is a philosophic ideology to protect a community from social crime. Ancient monks and writers understood the features of the future universe where crime will be the main character to control the society, so it was their effort how to protect the Hindu community and their future generation from crime. They wrote various myths like Ramayana, Mahabharata, Veda, Purana, as a novel for guidance, using past incidents and then solutions of those incidents in the ancient Indian empire. A human can follow those rules and control them from the dark world. Karma is a precaution from generation to generation of the Hindu community for the protection of life. They can learn and think before doing bad things in life. If it is a fault, they can correct it by following their ideological myths. A human can do anything if they have strong morals, wisdom and respect for their myths, values, and their traditional path. Prayers can take humans closer to the solutions that they need to resolve problems and the suffering that arises from them; their experiences are products of their awareness, thinking, attitude and beliefs. If it honestly believes that humans can learn from their suffering, they will resolve it. Karma is not fate, it is based on human performance, and God has nothing to do with it because of his/her selfless activity, such as creation according to Santana Dharma. God-vision is possible by the production of karma that humans accumulate, it could be collected with other's performance as well. Therefore, Karma is the most important concept of Hindu tradition to judge quantities of suffering and pain in human life. A human can do anything if they have strong morals, wisdom and respect on their myths, values, and over their traditional path, human indeed believe in a materialistic world where they can get success but if an amalgamation of modernism and traditionalism affiliates, it would the best approach for the human to achieve their goal, that is the goal of their spirituality and success.



Lord Vishnu and Arjuna Hell according to Puranas for bad karma Moksha- God-vision for good karma, help from suffering & surrender to Lord

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SEMIOTICS OF IRANIAN PHILOSOPHY

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ABSTRACT

Suhrawardi is considered the founder of an Iranian philosophy, i.e., illuminationist school. However, the semiotics of Iranian philosophy is traceable in Avicenna's works. Because Suhrawardi is crucially affected by Avicenna both in form and in content. In his nine/ten symbolic treatises, Suhrawardi fleshes out some philosophical issues of Avicenna by allegories. The number of his treatises would be nine, if you exclude the *Birds* and consider the *Birds* a Persian rendering of Avicenna's treatise. If you include the *Birds* and consider the *Birds* a dependent treatise, the number would be ten. Related to these treatises, I'm centering around two points. First, you find Suhrawardi a storyteller like Avicenna in the *Treatise of Birds*. Second, his allegorical views are Avicennian through and through. In brief, you see in Suhrawardi a storyteller who tells the story of Avicenna, even in the *Red Intellect*, for example. I hint at three issues of sense perception, emanation, and cosmology for which one sees allegories as diverse as ten towers, ten graves, ten flyers, ten straps, ten wardens, five chambers versus five gates, ten old men, nine shells, eleven layers, eleven mountains, and so forth. All of these allegories allude to Avicenna's views. That is, Suhrawrdi encrypts Avicenna's stance by allegory, in lieu of his own illumationist views. So, the story of Iranian philosophy extends to Suhrawardi from Avicenna.

Keywords: Semiotics, Avicenna, Suhrawrdi, illumationist.

Introduction

Speaking of art, Farabi gives an account of art including its function in utopia (Farabi, 1998, 13, 19- 24, 554, 555, 559, 2004, 55). The utopian artist represents intelligible truth through the use of imaginary forms. Imagination is able to portray the sensible and the intelligible. It can even depict the intelligible truths of utter perfection, such as the prime cause and abstract beings. Of course, it embodies these truths using the most exalted and most perfect sensible forms, beautiful and stunning things. It also embodies the imperfect intelligible affairs through the use of ugly and imperfect sensible forms (Farabi, 2003, 84, 95, 106-107).

Sohrevardi who is acknowledged as the founder of the School of Illumination as an Iranian philosophy does this way in his allegorical treatises (Sohrevardi, 1999). In this paper, I will explicate the semiotics of most profound philosophical issues in Sohrevardi's allegories: sense perception, emanation, and cosmology.

Semiotics of the Most Profound Philosophical Issues for Sohrevardi

Sohrevardi has repeated attempts to allegorize philosophical issues and intelligible happiness. In his allegorical treatises, some wayfarer has journeys to the heaven spheres and the ten Separate Intellects, pursuing intelligible happiness. There are three profound philosophical issues, Sohrevardi deals with: sense perception, emanation, and cosmology.

The first issue I focus on is sense perception. Avicenna is the first major thinker holding five exterior senses as well as five interior senses (Ibn Sina, 1997a, 308-404; 1983, 33-171; 1986,

321-330; 1953, 82-100; 1937, 7-10). The latter consists of the sensus communis or sensorium that intermingles what it receives from the five exterior perceptions; the imagination that keeps these forms deposited; the imaginative power or active imagination that mingles and separates forms kept in the imagination; the estimative faculty that figures out the specific significances, like the fear of one particular snake; the memory that stores the specific significances.[1] Sohrevardi criticizes Avicenna's stance on five interior senses, reasoning that there is at most one faculty for all internal perceptions. Of the foundations of Sohrevardi's disposition of the theory of imagination, the most prominent is the principle of seeing, which he has developed in multiple positions, and based on which he has accounted for imagination as the illumination of the soul (Sohrevardi, 2002a, 150, 214). Apart from intuitive proofs, Sohrevardi's major argument for illumationist imagination is the refutation of manifold cognitive faculties.[2] Notwithstanding all this, he indicates the faculties of ten sense perceptions in allegory. The allegories of ten sense perceptions comprise ten towers, ten straps, ten graves, ten flyers, ten wardens, five chambers and five gates. In "Treatise on Towers" the towers are ten in number with the five external towers, allegorizing the five traditionally recognized methods of perception, and the internal towers the five parts of the brain reputed to be the seat of our mental capacities (Sohrevardi, 2002b, 462-471). In "The Language of the Ants" we find the following allegory of the ten senses. And so begins the story: "Key-Khosrow had a cup that showed the whole world: in it he could see whatever he wanted, be informed of all things and gain access to hidden things. It is said that it had a sheath of leather made in the shape of a cone, and there were ten wide straps placed around it." (Sohrevardi, 1999, 81) It is a long shot that we can justifiably regard the ten wide straps as distinct from the ten senses. "A Tale of Occidental Exile" implies the allegory of ten graves, where the wayfarer utters: "And I cast the sphere of spheres onto the heavens until the sun and moon and stars were crushed, then I was rescued from fourteen coffins and ten graves." (Sohrevardi, 1999, 117-118) "The Simurgh's Shrill Cry" includes the allegory of ten flyers: "Those who wish to tear down the spider's web must expel nineteen pincers from themselves: of these, five are visible flyers and five are concealed." (Sohrevardi, 1999, 104-105) In "The Red Intellect" is amplified the allegory of ten wardens. One day the hunters, Fate and Destiny, laid the trap of Fore-ordination and filled it with the grain of Will, and in this manner, they caught the wayfarer and appointed ten wardens to watch over him. Five of them faced him with their backs towards the outside. These five refer to the five external senses. The other five wardens faced him representing five internal senses. (Sohrevardi, 1999, 20-2)

Sohrevardi fleshes out the last allegory of senses, five chambers and five gates in "On the Reality of Love". On his way, seeks the wayfarer the inhabited quarter and reaches the city, catching sight of a three-storied pavilion. The first story is fitted with two chambers. In the first is someone extremely clever but his dominant trait is forgetfulness. "He can solve any problem in a flash, but he never remembers anything." This first chamber alludes to sensus communis. The faculty of imagination is epitomized by the next camber. "It takes him a long time to discover allusions, but once he understands he never forgets." (Sohrevardi, 1999, 64-65) Then the wayfarer goes to the second story. There are two chambers representing the estimative faculty and the imaginative power. The memorizing faculty exists in the third story,

[1]. The internal towers, for Reichert, undertake these activities: "In Sohrevardi's scheme, the first of the interior towers corresponds to the sensorium, the second to the representative imagination, the third to the estimative capacity of the brain, the ninth (the fourth interior sense) to the active imagination and the tenth (the fifth interior sense) to the function of memory." (Reichert, 2014, 108)

[2]. It is based on this refutation that he devotes an echelon of the universe to suspended archetypes or incorporeal forms. (Sohrevardi, 2002a, 209-215)

storing specific significances. “He is absorbed in thought. The many things left to him in trust are piled around him, and he never betrays anyone’s faith in him. Whatever profit is made from these things is entrusted to him so that they may be put to use again.” (Sohrevardi, 1999, 65) On the way, confronts the wayfarer with five gates. By the five gates, Sohrevardi alludes to the five exterior senses. At first, the faculty of seeing is depicted: “The first has two doorways, in each of which is an oblong, almond-shaped. Throne with two curtains, one black and the other white, hung before. There are many ropes fastened to the gate. On both of the thrones reclines someone who serves as a look-out.” (Sohrevardi, 1999, 65)

The faculty of perceiving sounds is the next. The power of smelling is represented by the third gate having two doorways from each one the seeker will go through a long corridor until he emerges in a chamber in which there are two seats, on which someone sits. “He has a servant called Air who goes around the world every day and brings a bit of every good and foul thing he sees.” (Sohrevardi, 1999, 65-66) The fourth gate illustrates the mouth and teeth and the power of tasting. “This one is wider than the other three. Inside is a pleasant spring surrounded by a wall of pearl. In the middle of the spring is a divan that moves and on it sits someone who is called the Taster.” (Sohrevardi, 1999, 66-67) The faculty of touching is the last gate which surrounds the city. Everything that is in the city is within the scope of this gate, around about which a carpet is spread, and on the carpet sits someone ruling over eight different things and distinguishes among the eight. (Sohrevardi, 1999, 67) The eight different things hint at the eight tastes, usually enumerated as: sweet, greasy, bitter, salty, sharp, harsh, salty like the sea, and vinegary. (Freedman, 2007, 168)

Emanation is the second issue I pointed it out. The Peripatetic philosophers believed in ten separate intellects emanate from the First Being. The tenth one, the Active Intellect, generates the sublunary realm. (Ibn Sina, 1983, 386-393) The philosophers did not assert that they were acquainted with the manner in which all the other numerous existents emanated, but concerned themselves only with the nine spheres. They have claimed ten intellects, only because it is unfeasible for there to be less than that in view of the nine universal spheres and the sublunary realm. In traditional cosmology, the nine spheres and the sublunary realm managed by ten intellects are on the well known descending route of the Origin.[3]

Nevertheless, in the book of *Hikmah al-Ishraq* Sohrevardi concentrates on the manifold of planets located on the sphere of the Fixed Stars, arguing that’s not feasible just one intellect emanate all of them. And this begged the question how many are the intellects. Sohrevardi holds that the intellects are more than ten, twenty, and two hundred (Sohrevardi, 2002a, 139-140). In *Alvah Emadi*, he also emphasizes that there are too many intellects, quoting Quran’s verse: “None knows the armies of your Lord save Himself”, yet in his allegorical treatises, Sohrevardi symbolizes the theory of the ten intellects and the nine spheres in which Avicenna believes (Sohrevardi, 2002b, 148-149; Ibn Sina, 1997b, 165-166; 1983, 401; 1986, 648; and 1985, 67-68). Sohrevardi briefly hints at ten intellects by ten old men in “Treatise on Towers” (Sohrevardi, 2002b, 470).

In “The Sound of Gabriel’s Wing”, ten intellects are symbolized by ten old men again. The wayfarer says of them, “When I looked I saw ten old men of beautiful countenance seated on a bench. I was so amazed by their magnificence and splendor and so staggered by the sight of their throne, their beauty, their white hair, their garments and trappings that I could not speak.” (Sohrevardi, 1999, 9-10)

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[3]. As Chittick holds: “The basic outline is the same as that already present in the Arabic Plotinus: intellect, soul, heavenly spheres, four elements…. Some of the philosophers have developed it into several degrees as did Farabi and Avicenna, who spoke not of one intellect and one soul, but of ten intellects and ten souls.” (Chittick, 2001, 57)

The old man who was on the end of the bench greeted the wayfarer in a most kindly-disposed manner, saying, “We are a group of abstracted ones, come from the direction of Nowheresville.” that denotes the ten intellects are not from material world but are Separate Intellects.

“Why do the elders seated above you keep silent?” asked the wayfarer. “Because the likes of you are unworthy to approach them,” responded the tenth and last of them, the Active Intellect, “I serve as their tongue, for they will never deign to address the likes of you.”

In some cases just the tenth intellect is mentioned. In “A Tale of Occidental Exile” the Active Intellect is allegorized by the father: “I ascended the mountain and saw our father, an old man from the brilliance of whose light the heavens and earth were nearly split open.” narrates the wayfarer (Sohrevardi, 1999, 120).

The luminous elder, the first child of creation, and the Red Intellect are other allegories of the tenth intellect brought in the treatise of “The Red Intellect”. Here is a short conversation the wayfarer struck up with him:

> I said, “Young man, where do you come from?”
>
> “My son,” he replied, “you have addressed me mistakenly. I am the first child of creation. You call me young?!”
>
> “Why are your features not white?” I asked. “My features are white,” said the Red Intellect. “I am a luminous elder (Sohrevardi, 1999, 21).

And in “On the Reality of Love” the tenth intellect is a young old man called Eternal Wisdom.

Above this nine-storied pavilion is a vault called the City of the Soul. ... At the gate to that city is stationed a young old man whose name is Eternal Wisdom... He is old in years but has never seen the passage of time. He is very, very old but is still untouched by decrepitude.” (Sohrevardi, 1999, 64)

The Active Intellect has never seen the passage of time because he is the tenth Separate Intellect and there is no time in their world. Consequently, he is young.

The nine-storied pavilion above which is the City of the Soul hints at Sohrevardi’s cosmology I will develop it in the next section.

The Red Intellect describes that every white thing that is connected to light appears red when admixed with black, like the sunset at the beginning of evening or the end of dawn, which is white where it is connected to the Sun’s light. One side of it is toward the light, which is white, while the other side is toward the night, which is black. Therefore it appears red. When the crescent moon rises, although its light is borrowed, it is nonetheless described as light. Since one side of it is toward day and the other side toward night, it appears red. A flame has the same quality (Sohrevardi, 1999, 21-22).

The white side is the allegory of the Separate Intellects while the black side is the allegory of the sublunary world. For the Active Intellect is the last Separate Intellect and is responsible for the sublunary realm, he has located between the white and the black sides.

Sohrevardi explains the relation between the intellects and the spheres as well as the relation between the intellects themselves. In “The sound of Gabriel’s Wing”, when the wayfarer asks the old man about a basin with eleven layers, he explains the relation between the intellects and the spheres. The first layer whose body is greater than any of the others, was arranged and put together by the old man who is seated at the highest level.

> The second was done by the second one, the third by the third, and so on down to me. These nine comrades and companions produced the nine layers by their own labor and handicraft. The two bottom levels, along with the bit of water and sand, were produced by me. Since their foundation is stronger, their handiwork cannot be rent or pierced, but what I have made can be (Sohrevardi, 1999, 11-12).

Then the old man explains the relation between the intellects themselves. The elder who is in the highest place is the master teacher and tutor of the second elder, who sits beside him. He has signed the second elder's order of investiture, the second has signed the third's order, the third the fourth's order, and so on down to the tenth (Sohrevardi, 1999, 11-12).

As I remarked, the idea of the ten Separate Intellects results in that of the nine spheres. In "A Day with a Group of Sufis" Sohrevardi himself has decoded his allegories about nine spheres. At first, he mentions the theory in allegorical form. Then he explains his own allegories. Given that Sohrevardi is clear about his cosmology, we are allowed to decode his cosmology, corresponding the allegories to the nine and eleven spheres.

The master says, "There is a well-known tale in their craft, but no one tells it fully, and no one knows the meaning of it." "What is this tale?" asks the wayfarer. His master goes through the story:

> Once, an engraver had a jewel. He wanted to display his skill on it. So from it he made a round shell like a ball. Then, from the residue left in the middle of the shell he made another shell inside the first. Again, from the residue of the second he made a third, and so on until he had made nine shells.

The engraver then polished the first shell and engraved a few medallions on the second shell and gilded it. On the third, fourth, and so on to the ninth shells he engraved one medallion each.

After the allegorical tale, Sohrevardi starts decoding it. "When the Creator created these spheres, he sent a light to the first sphere." For a sphere is an intermediary between being and non-being, the first sphere was too subtle to bear it. It borders on existence. Then again, it is continuous with nonexistence. As a consequence, the light reached the second sphere, which was able to bear it.

> The light was broken up against the second sphere, and every part became a star. What was left over from these stars, came to the third sphere, and from that residue Saturn came into being. Again, what was left over from Saturn reached the fourth sphere, and the body of Jupiter came into being. And so on, Mars from residue of Jupiter, the Sun from the residue of Mars, Venus from the residue of the Sun, Mercury from the residue of Venus, and from the residue of Mercury, the Moon (Sohrevardi, 1999, 34-35).

Sometimes Sohrevardi speaks of the eleven spheres, adding two spheres of *zamharir* and *ether*.[4] In "A Day with a Group of Sufis", asked the wayfarer, "Why is the body of the Sun bigger and brighter than the other stars?" His master said "Because it is in the middle. The Sun is in the middle, provided you count the seven planets. And just as there are two spheres

[4]. The eleven spheres system is attributed to Ptolemy and his disciples. See more details in: Cachey, 2015, 221-240.

above the seven, there are two other spheres below them, *ether* and *zamharir*. Therefore, by any reckoning the Sun is in the middle." (Sohrevardi, 1999, 36)

The eleven spheres, in "The Red Intellect", are symbolized by the eleven mountains (Sohrevardi, 1999, 22). And in "The Sound of Gabriel's Wing" there are eleven layers of a basin which the wayfarer saw in the courtyard (Sohrevardi, 1999, 11). The first level had no button at all, whereas the second level had many luminous buttons on it. Because the first level of the basin is allegory of the Sphere of the spheres and the second level is the allegory of the sphere of the Fixed Stars. "On each of the remaining seven of the upper nine levels of the basin a bright button was fastened." These buttons represent Saturn, Jupiter, Mars, Sun, Venus, Mercury, and Moon (Sohrevardi, 1999, 10-12).

The wayfarer seeks the intelligible happiness, getting away from sublunary realm and these spheres to the Separate world.

Conclusion

Sohrevardi elaborates philosophical views of Ibn Sina upon allegories. In the issue of sense perception, he allegorizes ten interior and exterior senses by ten towers, ten wide straps, ten graves, ten flyers, ten wardens, five chambers and five gates. In the theory of emanation, the ten Separate Intellects are allegorized by the ten old men, whereas the Active Intellect by the father, the master, and the Red Intellect. In cosmology, the spheres are symbolized by nine shells, eleven layers of a basin, eleven mountains, sons, and mills. On his way, seeks the wayfarer intelligible happiness, getting away from sublunary realm to the Separate world. Indeed, Suhrawrdi depicts Avicenna's stance by allegory, in lieu of his own illumationist views. So, the story of Iranian philosophy extends to Suhrawardi from Avicenna.

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THE IMPLICATIONS OF SECTIONS 7 AND 162 ON LOCAL GOVERNMENT FINANCE IN NIGERIA

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ABSTRACT

The renewed interests in fiscal decentralisation throughout the world have rekindled interests in the role of local governments. Local governments are vitally crucial in providing essential services to the local populace and their participation, especially on matters that directly affect their lives and the general wellbeing of the entire society. However, local governments in Nigeria have failed to live up to expectations most significantly since the return to civil rule in 1999. Drawing insights from official documents and interviews conducted with government officials purposively selected from the Federal, State and Local governments, the paper identified the various sources of local government finance and examined the extent of the fiscal imbalance among levels of government in Nigeria. Whilst the existing literature had explained the myriad challenges bedevilling local governments, this paper specifically examined the implication of sections 7 (1), (6) (a) and (b), and 162 (3), (4), (5), (6), (7) and (8) of the 1999 Constitution, on local government finance in Nigeria. Because, without commiserate financing, local governments will not be capable of discharging their assigned responsibilities, as well as emerging governmental responsibilities. Thus, the paper established the obstacles local governments in Nigeria are going through in accessing their share of statutory revenues and raising internal revenues. Therefore, it recommends far-reaching reforms and constitutional amendments that will ensure appropriate assigning of responsibilities with commiserate financing system in order for local governments to discharge their assigned functions.

Keywords: Local governments; Fiscal decentralisation; Fiscal imbalance; The 1999 Constitution

FAST AND SUSTAINABLE DEVELOPMENT SPACE AT INTERNATIONAL INTEGRATION: EVIDENCE FROM VIETNAM ECONOMY

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ABSTRACT

Objective:

The paper investigates the fast and sustainable development of Vietnam economy, then, discusses some policy implications to enhance the development process in the future. The fast development is based on the economic growth rate, while the sustainable development focuses on the social and environmental aspect of economic growth process.

Methodology:

The research method employs both a qualitative and quantitative analysis. The qualitative method investigates the recent literature on the fast and sustainable development. Then, the quantitative method examines the evidence in the Vietnam economy by one cross-section data sample of 172 economies over the 1992-2016 period.

Findings:

The Vietnam economy attains higher economic growth rate than the world averaged value. Thus, it has achieved a fast economic development. Its genuine savings are positive, then, confirming the weak sustainable development. But its biocapacity is deficit, thus, this economy does not attain the strong sustainable development. Therefore, this economy has just only achieved a fast and weak sustainable development path.

Implications:

The results suggest that the prioritied public policy can be the increase of research and development investment so that the economy can achieve both a higher economic growth rate and also sustaine the improvement of typical social-environmental development indicators.

Keywords: Vietnam Economy; Fast and Sustainable Development; International Integration.

INTRODUCTION

The fast and sustainable development is crucial for the convergence of living standards across economies at the international integration. The fast development ensures the increase of income over time, then, enhancing the catch-up process. Moreover, the sustainable development embeds the improvement of social and environment aspect to each an increase of economic growth rate (United Nations, 1987). Thus, the combination of fast development and sustainable development needs to be carefully investigated for not only the advanced economies but also the emerging and developing economies. This also opens a research gap in the current literature on the sustainable development. And the paper aims to fill in this gap.

The current paper analyzes the fast and sustainable development of Vietnam economy in comparision with other economies in the world economy.

The paper investigates the fast and sustainable development of Vietnam economy, then, discusses some policy implications to enhance the development process in the future. The fast development is based on the economic growth rate, while the sustainable development is based on the genuine savings per GDP and by the biocapacity reserve. Then, an economy achieves a fast and weak sustainable development when its economic growth rate being higher than the world average combined with positive genuine savings per GDP. And an economy attaines a fast and strong sustainable development when its economic growth rate being higher than the world average combined with biocapacity reserve.

The research method employs both a qualitative and quantitative analysis. The qualitative method investigates the recent literature on the fast and sustainable development. The results are analyzed by the interaction of the economic of exhaustible resources and the ecology theory. Then, the quantitative method examines the evidence in the Vietnam economy by one cross-section data sample of 172 economies over the 1992-2016 period. The empirical model stresses the association of sustainable development indicators, including the genuine savings per GDP and biocapacity reserve, for an incremental increase of economic growth rate.

The empirical evidence records that the Vietnam economy has achieved a higher economic growth rate than the world averaged value. Thus, it has achieved a fast economic development. Its genuine savings are positive, then, confirming the weak sustainable development. But its biocapacity is deficit, thus, this economy does not attain the strong sustainable development. In comparision with the predicted value by the empirical model, the Vietnam economy still has an additional space for fast and weak sustainable development but limited space for fast and strong sustainable development.

The paper is structured as following. The first section on Introduction discusses the main ideas of the paper. The second section on Literature review analyzes the current results on the fast and sustainable development literature. Then, the third section on Analysis framework shows the data description and associated empirical model. The fourth section on Empirical evidence investigates the fast and sustainable development space, then, is followed by the fifth section on Conclusion.

LITERATURE REVIEW

The fast and sustainable development can be considered as an optimal point which combines the economic growth rate with the socio-economic development. In particular, the economic development includes economic growth equipped with income distribution (Rauniyar & Kanbur, 2010). Specifically, the growth process focuses on the income level, while the development pays attention to the welfare, such as the health services, education quality and income distribution. Thus, the fast development can be decomposed into a high economic growth with an improvement or stability of the income distribution.

Moreover, when placing an economy in the world economy, the fast growth can be understood in two dimensions, including the state of being fast in time and being fast in space. In which, the fast growth rate over time means that an economy has a faster growth rate than the growth rate of the same economy in the past; and the spatially fast growth rate is faster than other economies at the time of comparison. For example, the growth rate of Vietnam's gross domestic product (GDP) in 2020 reach 2.9% (Vietnam General Statistic Office, 2021). Compared to 2019's growth rate of 7.02%, the economic growth has not been fast over time. If compared with the average growth rate of the world economy reaching (-3.5%) (World Bank, 2021), the economic growth is fast in space.

The economic growth has been studied extensively in the theories and experiments of growth. According to neoclassical growth theory (Solow, 1956; Swan, 1956), the ratio of total

output to total units of labor efficiency (measured by the level of technology and the labor force) will be constant at the long-run equilibrium. So the total output will grow at the rate of technological progress plus the rate of population growth. Later endogenous growth theories clarified the origins of technological progress, which can be attributed to the accumulation of capital under the AK model (Frankel, 1962), the diversification of product categories according to the Product variety model (Romer, 1992) and the creative destruction (Aghion and Howitt, 1992). According to the creative destruction, the technological progress is determined by research and development activities, which result in new technology being created, and completely replacing old technology (Schumpeter, 1947).

The theory and practice of sustainable development are developed based on the intersection of two branches of research, including the environmental economics and the ecological science. The original principle of sustainable development is originated on the a seminal paper by Hotelling (1931) on "Economics of Exhaustible Resources". Accordingly, Hotelling's rule states that the price of a depleted resource must rise at a rate equal to the interest rate, under conditions of efficient exploitation and a perfectly competitive resource market. This rule is based on the substitution of natural and capital capital, thus starting the discussion of weak sustainable development that many economists then go on to study, such as Solow (1974). The science of economic ecology has expanded the connotation of weak sustainable development with the view that natural capital has not been completely replaced by human-made capital (Daly, 1990). Accordingly, the strong sustainable development focuses on the allocation of total capital between natural capital and physical capital in the process of economic development. This point makes a fundamental difference compared to the weak sustainable development, when only the stability of the total capital is taken into account in the development process. Currently, the concept of strong sustainable development has been integrated in the index on the genuine savings that the World Bank (2021), for which the aggregate savings eliminates the environmental damage caused by the economic process. Currently, the weak sustainable development continues to be used, directly reflected in the Sustainable Development Goals (SDGs) of the United Nations (Shi et al., 2019).

Corresponding to the lively discussion at the international level, rapid and sustainable development has also been carefully studied in Vietnam. Pham Van Linh (2011) analyzed the perspective of rapid and sustainable development in the 10-year socio-economic development strategy 2011-2020. Accordingly, the fast and sustainable development is defined as stable economic development associated with ensuring social security and protecting the ecological environment. And Nguyen Hong Son (2018), based on the classification of high and low sustainable development of international studies, thinks that the fast and sustainable development will become reasonable when looking at the economy, society and environment as an unified framework. In particular, an economy lies in society, and society lies in the environment. Then, the technological and institutional progress together promote the fast economic development. When each step of economic development is closely and rationally combined with social justice and environmental conservation, the fast and sustainable development will also be achieved.

Phung Huu Phu (2019) mentioned that it is necessary to have the most comprehensive and comprehensive theoretical thinking about rapid and sustainable development. And among the three strategic breakthroughs, including institutions, human resources and infrastructure, institutions create the only and most important space to create new impetus for the country's development in the new period. This point of view has also been further analyzed by author Tran Quoc Toan (2018), pointing out that a fast and sustainable development institution needs to ensure eight important criteria, of which the first characteristic is high compatibility. Recently, author Ta Ngoc Tan (2021) discussed that institutions for sustainable development

are an important condition for the realization of rapid and sustainable development in Vietnam. In particular, in Vietnam's new development orientation, political institutions play the role of the central, decisive and dominant factor for the institutions of the remaining fields.

In summary, the fast and sustainable development reflects the combination of economic growth rate with various stage of development, including the weak and strong sustainable development path.

ANALYSIS FRAMEWORK

Data Description

The dataset is a cross-section sample of 172 economies. Each variable has a value averaged over the years for the period 1990-2019. The averaged value over time is convenient to capture the long-run equilibrium value, since a long time period of the sample, about 30 years, is enough to absorb the fluctuation of variables over time.

The central variable is the economic growth rate, denoted by *(GDPgrowth)*, which is measured by the growth rate of gross national product (GDP) at constant prices for 2011, in US dollars. In addition, the economic growth rate is also measured by the growth rate of GDP per capita in constant 2011 prices, in US dollars. This variable is calculated as the GDP divided by the total population. The GDP is taken from the Penn World Table (PWT) 9.1 dataset, published in 2019, of the University of Groningen, while the total population is taken from the World Development Indicators (WDI) dataset. of the World Bank.

The representative indicators of sustainable development includes two key variables. First, the genuine savings, denoted by *(GenSav)*, is the ratio of aggregate savings over GDP on percentage, in which the savings excluding the cost of environment damange induced by the economic activities. This variable is taken from the World Bank's dataset of World Development Indicators (WDI).

Second, the biology capacity, denoted by *(BioCap)*, accounts for the relative comparision of the demand by human and the supply by nature. This variables is equal to the value of biocapacity substracting by the ecology footprint. If the biocapacity is positive, we have biocapacity reserve, which implies that the economy attaines a strong sustainability. If the biocapacity is negative, we have biocapacity deficit, which implies that the economy does not attaine a strong sustainability.

The selection of data meets the requirements, including: (i) a set of indicators reflecting the content of sustainable development; (ii) a set of indicators for comparability across economies; and (iii) a set of indicators with data available, fully published.

Estimation Model

We employ a cross-section empirical model to account for the fast and sustainable development in a sample of 172 economies. Each variable proxy for the sustainable development (denoted by $Y^j = (aGenSav^j, aBioCap^j)$) is regressed on the economic growth rate (denoted by $aGDPgrowth^j$), by the following empirical model:

$$Y^j = \alpha + \beta^{Growth,y}\, aGDPgrowth^j + u^j \quad (1)$$

whereby the error term (u^j) captures the impact of unknown variables.

The coefficient ($\beta^{Growth,y}$) captures the relationship between the economic growth rate and the sustainable development indicators *(Y)*. When this variable is positive, an increase of economic growth rate is associated with an improvement of sustainable development, by an increase of genuine savings per GDP, or an increase of biocapacity reserve.

Base on this coefficients, the model can build up an optimal combination point of these indicators with economic growth rate. Then, the residual is the difference between the realized and optimal values.

For an economy, when the residual of genuine savings per GDP is positive, that economy has attained a better performance of weak sustainability than the prediction by the empirical model. Then, there is still available space for this economy to raises both economic growth and genuine savings, leading to an improvement of fast and weak sustainable development state. For an economy, when the residual of biocapacity is positive, that economy has achieved a greater performance than the prediction by the empirical model. Then, there is still available space for this economy to raises both economic growth and biocapacity reserve, leading to an improvement of fast and strong sustainable development state.

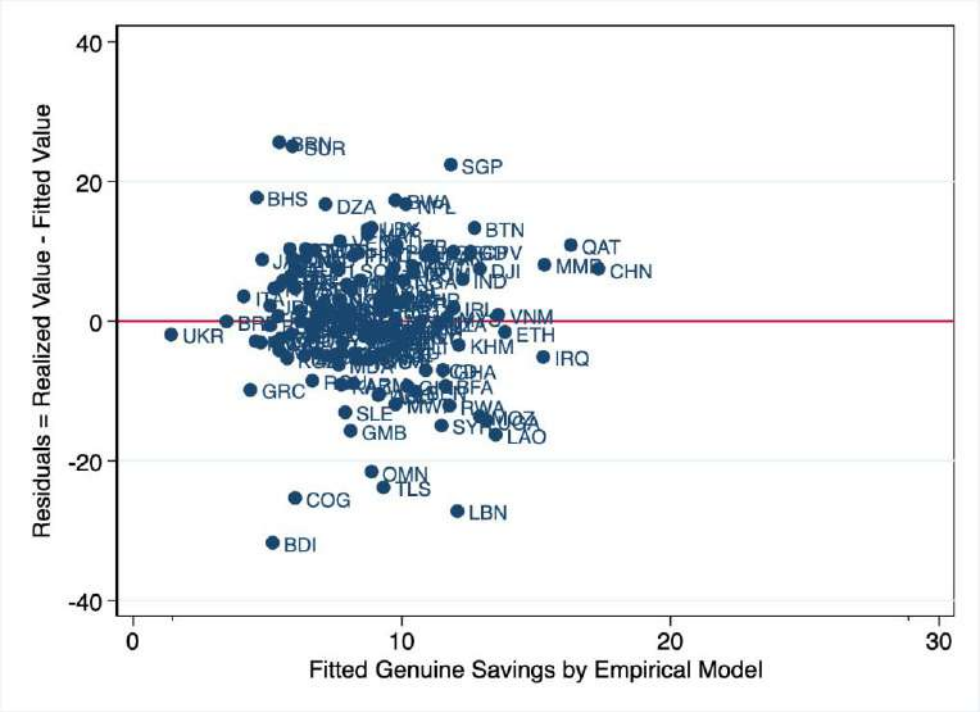
EMPIRICAL EVIDENCE

We first analyze the fast and development in the data sample of 172 economies, which considers the whole world economy. Then, we carry out the cross-section regression to focus on the case study of Japan, Turkey and Vietnam.

Fast and Sustainable Development

Figure 1 shows the fast and weak sustainable development space in the data sample of 172 economies. The horizontal axis is the fitted value of genuine savings per GDP based on the empirical model, while the horizontal line is the residuals which are equal the realized value substracting the fitted value of genuine savings per GDP. The horizontal line is at the value of zero residuals. A positive residual means that an economy has a higher genuine savings per GDP ratio than the predicted value by the empirical model. Given its economic growth rate, that economy has achieved a better performance than the predicted value by the model. Thus, that economy still has additional space to raise its economic growth rate along its fast and weak sustainable development.

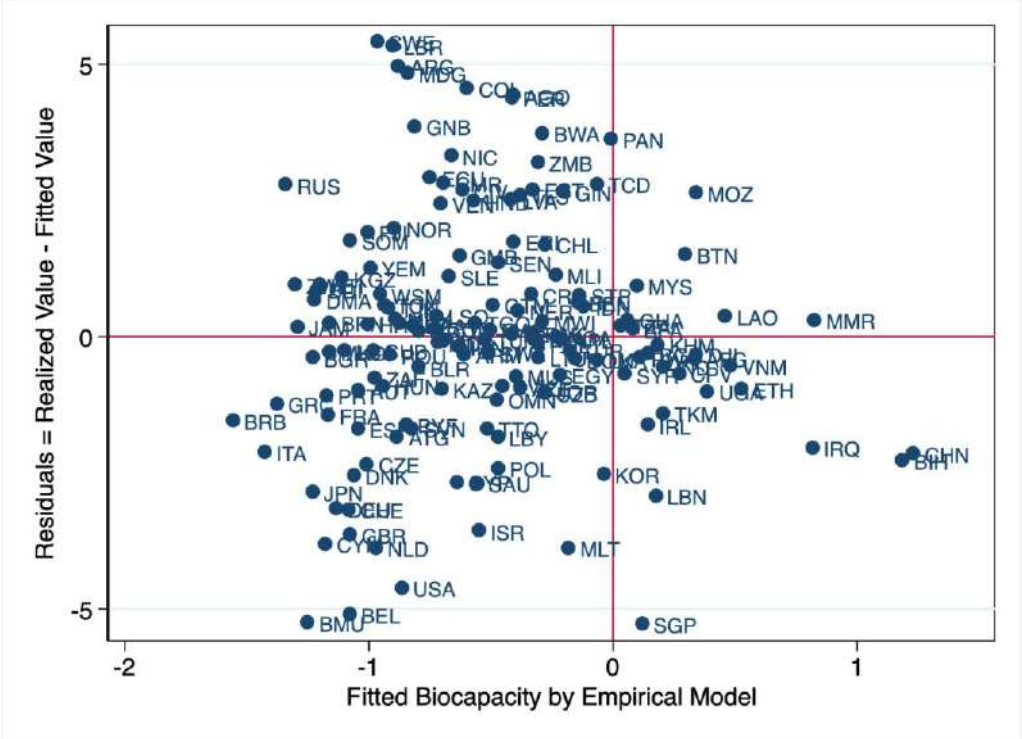
Figure 1: Fast and Weak Sustainable Development



Notes: Economic growth rate is the growth of GDP on percentage, from Penn World Table 9.1 (2020). Genuine savings per GDP on percentage is the aggregate savings adjusted by the environmental damage, from World Bank Development Indicators.

About a half of economies have a positive residuals of genuine savings per GDP. Among these economies, for example, there are Singapore (SGP), China (CHN) and Vietnam (VNM). Then, these economies still have additional space to raise its economic growth rate along its fast and weak sustainable development.

Figure 2: Fast and Strong Sustainable Development



Notes: Economic growth rate is the growth of GDP on percentage, from Penn World Table 9.1 (2020). Biocapacity reserve (+)/ deficit (-) is the biology supply by nature substracting the demand by human, from the Global footprint network.

Figure 2 shows the fast and strong sustainable development space in the data sample of 172 economies. The horizontal axis is the fitted value of biocapacity index based on the empirical model, while the horizontal line is the residuals which are equal the realized value substracting the fitted value of biocapacity index. The vertical line is at the zero value of biocapacity while the horizontal line is at the value of zero residuals. A positive residual means that an economy has a higher biocapacity than the predicted value by the empirical model. Given its economic growth rate, that economy has achieved a better performance than the predicted value by the model. Thus, that economy still has additional space to raise its economic growth rate along its fast and strong sustainable development.

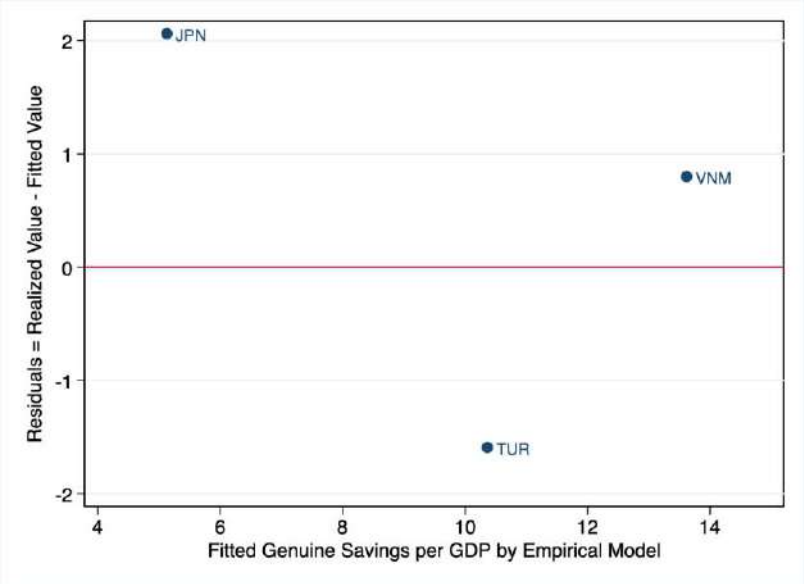
About a half of economies have a positive residuals of biocapacity. And among this group of economies, only some economies also has positve biocapacity or biocapacity reserve.

Among these economies, for example, there are Myanmar (MMR) and Malaysia (MYS). Then, these economies still have additional space to raise its economic growth rate along its fast and strong sustainable development.

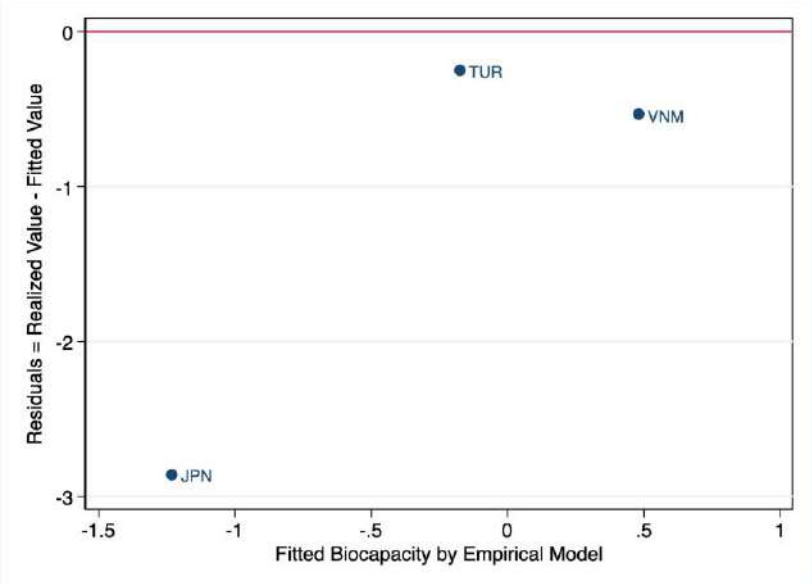
In brief, the analysis of 172-economies data sample records that the combination of fast and sustainable development (weak or strong) is only achieved by a small sample of economies. On the next step, we carry out the case study which focuses on three economies including Japan, Turkey and Vietnam.

Case Study: Japan, Turkey and Vietnam

Figure 3: Fast and Weak Sustainable Development in Japan, Turkey and Vietnam



Panel A: Fast and Weak Sustainable Development



Panel B: Fast and Strong Sustainable Development

Notes: Economic growth rate is the growth of GDP on percentage, from Penn World Table 9.1 (2020). Genuine savings per GDP on percentage is the aggregate savings adjusted by the environmental damage, from World Bank Development Indicators. Biocapacity reserve (+)/ deficit (-) is the biology supply by nature substracting the demand by human, from the Global footprint network.

Figure 3 analyzes the fast and sustainable development in three economies, including Japan, Turkey and Vietnam. Each country illustrates a typical development state: Japan is an advanced economy, Turkey is an emerging economy while Vietnam is a developing economy. Thus, the case study can provide a picture on the current fast and sustainable development space in the world economy.

Panel A shows the fast and weak sustainable development in Japan, Turkey and Vietnam. The residual, measuring the difference between the realized value and fitted value of genuine savings per GDP by empirical model, is positive for Japan and Vietnam, while is negative for Turkey. Thus, in association with the economic growth rate, the genuine savings per GDP is higher than the predicted value by the empirical model for the case of Japan and Vietnam, but is lower than the predicted value in the case of Turkey. On other words, in Japan and Vietnam, an increase of economic growth rate can still be associated with an improvement of genuine savings per GDP. Thus, there is still available space for fast and weak sustainable development in Japan and Vietnam.

Panel B shows the fast and strong sustainable development in Japan, Turkey and Vietnam. The residual, measuring the difference between the realized value and fitted value of biocapacity reserve by empirical model, is negative for all of three economies. Thus, in association with the economic growth rate, the biocapacity reserve is lower than the predicted value by the empirical model for Japan, Turkey and Vietnam. On other words, in these economies, an increase of economic growth rate needs to be associated with an improvement of biocapacity. Therefore, there is quite limited available space for fast and strong sustainable development in Japan, Turkey and Vietnam.

CONCLUSION

The paper investigates the fast and sustainable development of Vietnam economy, then, discusses some policy implications to enhance the development process in the future. The fast development is based on the economic growth rate, while the sustainable development is based on the genuine savings per GDP and by the biocapacity reserve. The research method employs both a qualitative and quantitative analysis. The qualitative method investigates the recent literature on the fast and sustainable development. Then, the quantitative method examines the evidence in the Vietnam economy by one cross-section data sample of 172 economies over the 1992-2016 period.

The Vietnam economy attains a higher economic growth rate than the world averaged value. Thus, it has achieved a fast economic development. Its genuine savings are positive, then, confirming the weak sustainable development. But its biocapacity is deficit, thus, this economy does not attain the strong sustainable development. In comparision with the predicted value by the empirical model, the Vietnam economy still has an additional space for fast and weak sustainable development but limited space for fast and strong sustainable development.

The results suggest that the prioritied public policy can be the increase of research and development investment so that the economy can achieve both a higher economic growth rate and also sustaine the improvement of the genuine savings per GDP and biocapacity reserve.

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ENERGY; THE REASON FOR THE STRONG RELATIONSHIP BETWEEN RUSSIA AND TURKEY

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ABSTRACT

Turkish-Russian relations have changed in various quantitative and qualitative ways compared to the past. This change puts the old competitors' relationships together today as strategic partners. . Given the historically poor history of Russian-Turkish relations, as well as the tense relations between the two countries in the 1990s, the high level of cooperation between the two countries in the last decade shows that Turkey and Russia have taken a big step towards mutual trust.

Russia-Turkey relations have grown exponentially over the past decade. In contrast to the Cold War era, in which attitudes toward Turkish-Soviet relations were based on ideological principles, economic, political, and geopolitical interests, as well as the new conditions of globalization, have played a decisive role in recent years. Among the many factors that have affected Russian-Turkish relations in recent years, the energy factor is very important. Cooperation in the field of energy has played an important role in promoting mutual trust and establishing good relations between the two countries. Therefore, in this article, an attempt has been made to answer the fundamental question of what factor has played a decisive role in the development of Russian-Turkish relations in the last decade.

Keywords: Russia, Turkey, Energy, Geopolitics, Nabucco, Europe

Introduction:

In recent years, relations between Turkey and Russia have changed in various quantitative and qualitative ways compared to the past. In a way, rivals and even old enemies are called strategic partners today. Given the historically poor history of Russia-Turkey relations, as well as the tense relations between the two countries in the 1990s, the high level of cooperation between the two countries over the past decade shows that Turkey and Russia have taken a big step towards mutual trust. Have removed. In the last decade, the leaders of the two countries have had many meetings with each other and have tried to forget the hostile historical relations. In the meantime, the present article seeks to answer the fundamental question of what factor has played a decisive role in the development of Russian-Turkish relations in the last decade? Accordingly, by emphasizing the role of the ruling elite and state bureaucracy, regional cooperation, and the international community, the hypothesis of this debate is that energy's due to its increasing influence on the foreign policy and national security of Russia and Turkey. It has played a decisive role in the development of bilateral relations in the last decade. Therefore, in the following, we will first examine the historical relations between Turkey and Russia in the years after the collapse of the Soviet Union, and the relations between the two countries in the two periods before and after Putin came to power in Russia and the AKP in Turkey. We will then study the views on the foreign policy of Turkey and Russia towards each other. In the following discussion, the issue of energy will

be considered as the most important factor influencing the relations between Russia and Turkey.

Historical relations between Turkey and Russia

Most historians date the official beginning of Russian-Turkish diplomatic relations to August 30, 1492, when Ivan III sent a trading group to the court of the Ottoman emperor Sultan Bayezid II. Although the first Russian embassy was opened in Istanbul in 1701, the two countries have been enemies in different periods of history. The Ottoman Empire and Russia have fought each other a total of 12 times since the last military conflict between them dates back to World War I.

However, with the collapse of the Ottoman Empire, the Union of Soviet Socialist Republics was the first country to recognize Turkish independence; But after the outbreak of World War II and the polarization of the international system, Ankara joined the Western bloc during the Cold War and became a member of NATO. Russia, meanwhile, has acted as the leader and center of the Soviet Union and the Eastern Bloc. This dichotomy caused the relations between Moscow and Ankara to be severely strained and the two countries to be considered enemies of each other again for 40 years. Russia-Turkey relations in the years following the collapse of the Soviet Union can be divided into two stages, before Putin came to power in Russia and the Islamists of the Justice and Development Party in Turkey.

A- The dark period of relations

After the collapse of the Soviet Union, there were many consecutive meetings between Russian and Turkish officials. The meetings began with a visit to Moscow by then-Turkish Foreign Minister Hekmat Cetin in late January 1992, to which Russian Foreign Minister Andrei Kozyrov responded less than a month later. During the visit of Turkish Prime Minister Suleyman Demirel to Moscow on May 25 and 26, 1992, an agreement was signed to clarify the outlines of relations between Turkey and the Russian Federation. . Although this pact became the cornerstone of relations between the two countries and was a symbol of the determination of Moscow and Ankara to promote bilateral relations; However, the ups and downs in relations between the two countries continued. In 1995, political tensions between Moscow and Ankara escalated. In that year, successive visits by Turkish officials to the Central Asian republics and the Caucasus, followed by the holding of the third Summit of the Republics of Azerbaijan, Turkmenistan, Kyrgyzstan and Uzbekistan under the title "Turkic Speaking Countries" in Kyrgyzstan, intensified Moscow's sensitivities. The harsh words of the Turkish leaders at the time against the Russian government also heightened the sensitivities, and Ankara's move was an attempt to promote Turkish ideology in Central Asia and the Caucasus. Boris Yeltsin convened a parliament in Moscow in response to a meeting of Turkic speakers in Bishkek. The move prompted the Russian ambassador to be summoned to the Turkish Foreign Ministry, and relations between the two countries soured. Altogether, throughout the 1990s, Russia and Turkey were in two completely opposite camps. For most of the decade, the Russians accused Turkey of supporting Chechen insurgents and separatists, and the Turks also protested Russia's support for the Kurds (Korepin 2011). The Nagorno-Karabakh conflict, the issue of Bosnia, Kosovo and Chechnya due to Turkey's religious ties with the region's Muslims, as well as historical ties with the Balkans and the Caucasus, Turkey's position in NATO and issues related to the alliance's eastward expansion had been given.

B- The period of improving relations

Relations between the two sides improved after Putin took office in Russia, as well as the AKP in Turkey. Part of this improvement was due to the mutual needs of Moscow and

Ankara, and part to a kind of Eurasian agenda in both countries. During talks with Turkish leaders, Russian President Vladimir Putin called on them to crack down on charities that Moscow said provided money and weapons to Chechen Muslim separatist militias. On the other hand, Turkey called on Russia to recognize the Turkish Kurdistan Workers' Party (PKK) as a terrorist organization. (РИА Новости2011).

The most important result of this meeting was the announcement of "increasing multidimensional friendship and partnership", which showed that a large amount of mutual interests and mutual trust has taken shape between the two countries. Since then, meetings between high-ranking political officials between Ankara and Moscow have increased dramatically. In mid-2005, Russian President Vladimir Putin and Turkish Prime Minister Recep Tayyip Erdogan agreed to support each other's positions on the Chechen-Kurdish issue, expressing shared concerns about terrorism and separatism. In the same year, Russia joined the Organization of the Islamic Conference as an observer member with the support of Turkey (Korepin 2011).

On May 12, 2010, Medvedev visited Turkey at the head of a high-ranking group. During the meeting, important agreements were reached, such as the abolition of visas for citizens of the two countries to travel to each other, increased trade, development of bilateral investment, especially in the field of energy, and the conclusion of a contract to build a nuclear power plant in Turkey. The two countries also decided to form a "Cooperation Council for a higher level". In addition, in December 2010, Turkey included Russia in its list of countries considered a threat to Ankara in its National Security Document, also known as the White Paper, which is reviewed every five years. They are taken out (Mojtahedzadeh, 2008: pp. 122-103).

At present, economic cooperation between Russia and Turkey has become one of the most important axes of relations between the two countries. Until the mid-1990s, trade between Russia and Turkey was not very prosperous, and trade between the two countries was in balance. But with growing economic ties between the two countries, Russia is now Turkey's largest trading partner and Ankara is Moscow's seventh largest trading partner. Russia became Turkey's first trading partner in 2008. The latest statistics show that the trade volume between the two countries in 2011 has increased significantly. Turkey's exports to Russia increased by 69.3% and Russia's exports to Turkey increased by 13.9%. An important part of this increase is the sale of Russian energy to Turkey (Zaman, 2011).

Turkey, on the other hand, has tried in recent years to offset its negative trade balance by increasing direct investment in Russia. There are currently about 2,000 Turkish companies operating in Russia, with a total investment estimated at $ 7 billion (Today’s Zaman 2021:). Russian investment in Turkey is also estimated at $ 4 billion. In addition, the two countries reached agreements in December 2010 that are expected to increase mutual investment to more than $ 25 billion. The value of the agreements signed between Turkey and Russia in the last decade has reached more than $ 17 billion, which indicates the expansion of economic relations (Korepin, 2011).

Energy is the most influential factor in Russian-Turkish relations

Given the historical background and views of Turkey and Russia on relations with each other, several factors seem to play an influential role in relations between the two countries. In a general category, these factors can be divided into "ruling elites and state bureaucracy", "regional cooperation", "international or Western factor" and "energy". Meanwhile, in recent years, energy equations have played a positive role in expanding economic and political relations between Russia and Turkey. Russia supplies two-thirds of Turkey's gas needs, and energy accounts for 76 percent of Moscow's exports to Ankara. In 1986, Turkey signed a 25-

year contract to buy 6 billion cubic meters of natural gas from Russia. A similar contract was signed in 1998 for the purchase of 8 billion cubic meters of natural gas. In addition to bilateral agreements for the purchase and sale of energy, the two countries have many plans to transfer Russian energy through Turkey to Europe. Accordingly, Russia and Turkey have a prominent role in the map due to their significant reserves of fuel and energy, shipping corridors for sea and land transportation of energy suppliers in the Caspian Sea, Central Asia and the Near East to European consumers. They have the energy of the world. Multilateral cooperation in the field of energy plays a central role in Russia-Turkey relations.

On the other hand, the two countries' cooperation in the field of energy does not end only with fossil fuels. In recent years, Moscow has announced its readiness to sell nuclear reactors to Turkey and supply them with fuel, and Turkey has welcomed it.

With this in mind, Russia is willing to reduce its influence in other markets in order to dominate European energy markets. The importance of the European continent in Russia's national security and foreign policy has led Moscow to view energy as an important tool in advancing foreign policy goals. In the meantime, Turkey has a very important role and importance for Russia for several reasons. First, Russia views Turkey as a very important corridor for the transfer of its energy to markets in Europe, the Middle East and North Africa, and is interested in expanding the existing pipeline between the two countries. Achieving this goal will allow the Russians to extend their energy beyond the Mediterranean without having to cross the Bosphorus.

Therefore, Turkey can act as a route for Russia to transfer energy to Europe. The second reason for Turkey's importance to Russia in the field of energy is that Ankara could disrupt the process of building pipelines that transport oil and gas from the Caspian region and the Middle East to Europe. In fact, given Europe's interest in diversifying its sources and routes for gas and oil supplies, using the Turkish route will help improve Russia's position in competition with other pipelines such as Nabucco. As a result, Turkey is very important to Russia in terms of energy transfer. On the other hand, in 2008, the Turkish Foreign Ministry published its national energy strategy. The document emphasized Turkey's transformation into a hub and the transfer of energy from Central Asia, the Caucasus, the Middle East, the Balkans and Russia to Europe. Since then, Turkish foreign policy has increasingly sought to achieve this goal. There are now several oil and gas pipelines in Turkey.

Examination of Turkey's most important oil and gas pipelines shows that in practice not only Russia is Turkey's most important energy partner, but also the projects in which Moscow and Ankara participated jointly, unlike other projects, have reached a definite conclusion. اند. The Blue Stream pipeline currently runs through Russia to Turkey and across the Black Sea, and a new pipeline called the Water Stream 2 is expected to have an annual capacity of 10 billion cubic meters of gas. The pipeline is supposed to transport Russian gas to the Middle East. The two countries also reached an agreement on the South Stream pipeline in December 2011.

Russia is important in Turkey's energy strategy in at least three ways. First, a significant portion of Turkey's energy comes from Russia. At the same time as Turkey's industrial production is growing rapidly, its energy use has also increased. Therefore, in a situation where the demand for energy in this country is growing rapidly, Russia, as one of the largest energy powers, can play an important role in supplying oil and gas to Turkey. Second, Turkey wants to act as an intermediary for Russia's gas and oil exports and the Caspian region to Europe. Ankara aims to become a major hub for transport between gas and oil-producing regions and European markets. If this strategy of Turkey succeeds, then Turkey can become a vital link in the energy pipeline that connects the Caspian region to Europe. Such a thing is not possible without cooperation with Russia. The third reason why Russia is so important to

Turkey in the field of energy is Turkey's approach to the issue of nuclear energy. Accordingly, Turkey intends to build five nuclear power plants in the future, and although it has tried to gain the confidence of the United States, Europe and some Asian countries such as Japan and Korea to participate in its nuclear projects, none of the companies Western nuclear power is not ready to cooperate and transfer the relevant technologies to this country. In the meantime, only Russia has taken the lead in building the first nuclear power plant in Turkey.

Result

According to Turkey, Russia is a country that has military power and economic attractiveness, especially in the field of energy, and by being a member of the Security Council and the Group of Eight, it has a great impact on global developments. From Russia's point of view, Turkey's special geopolitical position, which is the best way for Russia to access warm waters, has always been a concern of proximity or passage through Turkey. Accordingly, Russia and Turkey have redefined their policies and strategies in bilateral relations in recent years. Both countries are also determined to turn the security and negative outlook on their past relations into a pervasive one. Among the factors that have led to the formation of such a tendency are the orientation of the ruling elites and the state bureaucracy in both countries, the increase in economic exchanges, geopolitical obligations, regional cooperation and the factor of internationalism. Meanwhile, an important part of the expansion of relations between the two countries has been due to geopolitical requirements and cooperation in the field of energy. Given that energy is increasingly playing an important role in the foreign policy and national security of both countries, it has a very significant impact on Russian-Turkish relations. The issue of energy security has led Russia and Turkey to work together to resolve regional disputes, and the Western factor has had less of an impact on Turkish-Russian relations than in the past. Because factors such as the orientation of the ruling elites and the state bureaucracy in both countries, have played a positive role in expanding relations between the two countries. For this reason, the perspective of cooperation between the two sides depends largely on the dynamics of political development, the ruling elites and the bureaucrats of the two countries. Therefore, in the current situation, it seems that in the long run, the two countries, while maintaining and expanding bilateral relations at a high level, will move towards creating interdependence based on common goals.

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TRAILBLAZERS: THE ALTERATION OF FREELANCING IN THE NEW NORMAL

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ABSTRACT

The impacts of the COVID-19 pandemic are still being felt across the world. People became more interested in freelancing throughout the epidemic. However, even before the pandemic, this phenomenon was already gaining ground in the Philippines. The purpose of this paper is to explore the changes produced by the COVID-19 pandemic to freelancers' lives. The phenomenological approach was employed in this study's qualitative research design. Ten people willingly agreed to take part in the interview. They were freelancers before and throughout COVID-19 pandemic. The results indicated that the alterations they encountered were in their routine, financial situation, and number of projects/contracts. The adjustments created to adapt those changes include sensible planning, work engagement, and positive mental attitude. The highlighted themes were routine, financial situation, number of projects/contracts, sensible planning, work engagement, and positive mental attitude. Based on the findings, it appeared that the alterations to freelancers' lives during the pandemic were well coped with. Freelancing creates alternative employment opportunities for Filipinos, both professionals or not. The implication of the study points to the need of dedication, ability, and perseverance to get the freelancers to where they want to be, especially during pandemic.

Keywords: Freelancers, Freelancing, COVID-19, Alterations, Adjustments, Changes

THE IMPACT OF INFLATION ON GOVERNMENT SPENDING'S IN NIGERIA ECONOMY (1981-2019)

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ABSTRACT

Inflation is inevitable in any economy in the world. It influences every country, negatively as well as positively, whether it is a developed or developing country. This study examined the impact of inflation on government spending's in Nigeria economy from 1981 to 2019. This study adopted Ex-post-facto research Design. This study employs the Ordinary Least Square (OLS) regression technique in the analysis of the secondary data obtained from the Central Bank of Nigeria statistical Bulletin of 2020. The E-view version 10 statistical software was used. The result indicated that Inflation has a negative and significant impact on government spendings in Nigeria. It further shows a bidirectional causality between inflation and government spendings. The study recommended the formulation appropriate fiscal and monetary policy - mix to effectively Control the money supply in the economy. Redirect Government spending's to productive channels in the economy to increase the supply of goods and services relative to demand thereby preventing upward inflationary pressures and making the economy production-based among other recommendations were made.

Keywords: inflation, government spending's, money supply, Ordinary Least Square

COMPARATIVE ADVERTISING AND TRADEMARK INFRINGEMENT

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ABSTRACT

Intellectual property has gained significance at the present time. For the advancement of creativity, innovation and inventions, intellectual property needs safeguards and protection. Today, almost every business is dependent upon intellectual property and the rights associated with it. Trademark is a type of intellectual property. In common language, it may be defined as a hallmark or a brand name. Trademark is a symbol usually comprising of a label, picture, phrase, words or word that differentiates certain service or goods from other service or products of like characteristics. Trademarks may be registered or unregistered. Registered trademarks are registered for 10 years and enjoy Statutory protection while unregistered trademarks are subjected to Common law of Torts. The owner of registered trademark enjoys exclusive rights over his trademark and is entitled to obtain relief in the case of trademark infringement. Comparative advertising depicts that the product of the advertising company is superior than the product of competitor's company either by comparing the features of competitor's products or by taking competitor's name implicitly or explicitly. Due to increasing competition, promotion and struggles among the brands and businesses, comparative advertisement has become one of the most relevant field of intellectual property these days. If an advertiser uses trademark of his/her competitor to make comparative advertisement of his product and his competitor's product degrading other's product, then such advertisement would raise the issues of comparative advertising, product disparagement and trademark infringement. The law states that any advertisement which is not done with honest practices and is detrimental to unique and distinctive character or reputation of a mark will constitute trademark infringement.

Key Words – Intellectual property, Comparative Advertisement, Trademark Infringement, advertiser, competitor.

SKILLS ACQUISITION AND ENTREPRENEURSHIP DEVELOPMENT IN NIGERIA

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ABSTRACT

This study examined the effect of skills acquisition on entrepreneurship development in Nigeria.

To achieve this purpose, the study employed survey research design and Simple random sampling techniques with aid of Krejcie and Morgan Model (1970) was adopted to select the sample size of (220) respondents for the study. The data collected through a structured questionnaire was analyzed through the use of Statistical Package for Social Science (SPSS), while Pearson's correlation co-efficient as well as multiple regression analysis were used to test the hypotheses formulated whether significant relationship exist between Skills acquisition and entrepreneurship development in Nigeria. Consequently, the result of the findings revealed that there is a strong positive correlational relationship between entrepreneurial skills acquisition and entrepreneurship development in Nigeria. With the correlation co-efficient of 0.936, 0.863, and 0.827 respectively at 1% level of significance. Thus, the study concludes that entrepreneurial training is positively related to employment generation and entrepreneurship development. The more the youths develop entrepreneurial skills through trainings via necessary skills, the more their high level of efficiency in their chosen enterprise and the more they create employment opportunities for others and thus enhance entrepreneurship development in Nigeria. This study recommends that entrepreneurs should develop good mindset towards skills development in all concerned aspects of entrepreneurship to help in improving and increasing their capacity for job creation, self reliant and sustainability as well as economic growth.

Keywords: Skills, acquisition, training, Orientation and Entrepreneurship development.

THE MEASURE OF THE CORRELATION BETWEEN CO2 EMISSION AND DEATH FROM OUTDOOR AIR POLLUTION

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ABSTRACT

This paper's research aims to clarify the importance to tackle CO2 emissions in the whole world. Air pollution to achieve sustainable development Goals such as the protection of the ecological environment (pollution, resources depletion, biodiversity...), improving the healthcare of citizens (personnel, consumer), and the maximization of organization profits, in another hand, each factor impact on other.

The first time when the concept of ecological marketing was used, is in the 1970s. It particularly belonged to all products and production processes that have a function to avoid causing environmental problems, besides that, it serves to find real solution remedy to environmental problems.

In this way, the American Marketing Association launched a workshop under the name ecological marketing in 1975 to measure the impact of Marketing's activities on the ecological environment, this action allowed Henion & Kinnear to publish the ecological marketing book in 1976.

Ecological Marketing is considered the beginning of the evolution of green marketing. To analyses the positive and negative aspects of marketing activities related directly to pollution and resource depletion.

According to statistics available on in our world data.com and bp Statistical Review of World Energy 2021, the emission of CO2 is in constant evolution between 2012 and 2017, besides, more than 3 million cases of death outdoor air pollution were detected.

To measure this situation, we used a particular statistic tool which is a statistical package for the social sciences (SPSS) 26 version. Furthermore, a test of correlation between two variables (CO2 emission and the number of death by outdoor air pollution was done.

As result, the statistic test shows a positive correlation between the two items because the **R** coefficient of correlation is 0.899, which means every 1 million tonnes of carbon dioxide makes the rise of death case with the percentage of 89.9 %.

Keywords: Ecological marketing - Sustainable development – Outdoor air pollution - Correlation test - SPSS.

THE STRATEGIC ROLE OF MICRO FINANCE INSTITUTIONS ON THE DEVELOPMENT OF MICRO-SMALL-MEDIUM ENTERPRISES

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ABSTRACT

The developed countries have long before now regard micro, small-medium enterprise as the best means of reducing poverty and sustaining the economy. The emerging economies are not left behind in this move to ensure that they put everything in place now to guarantee the future of their nation. Nigeria is not left behind in this move. Therefore, access to funds by this sector is available in various financial institutions without stress nor stringent conditions. The failure of conventional banks to fully support MSME in Nigeria has led to the establishment of microfinance institutions specifically to cater for their financial needs. This paper examines the impact of the strategic role of micro finance institutions (MFI) in promoting the development of MSMEs in Nigeria. The study was carried out using micro finance banks in Ikorodu town in Lagos State. Out of the total number of employees in the bank, 10 members of staff which constitute the middle and management staff and 15 bank customers were used as respondents. Questionnaire was developed and distributed to them which they all filled and returned. The study revealed that MFIs have contributed to the promotion of micro, small and medium enterprises development in Nigeria. It was recommended that government should further encourage the activities of Micro Finance institutions (MFI) by creating an enabling environment so that they can further support MSMEs development.

Key words- strategic, micro finance institutions, micro-small-medium enterprises

Introduction

Micro finance institutions strategic role in promoting the development of micro, small and medium enterprises in Nigeria cannot be over-emphasized. Among the characteristic of micro, small and medium enterprises (MSMEs) worldwide is that the managers are the owners, their areas of operations are local and highly personalized. (Lawal, Kio, Sulaimon & Adebayo, 2006).

Micro, small and medium enterprises (MSMEs) are predominant in the private sector of the Nigeria economy, but almost all of them are in need of fund to recapitalize their business or catering for other pressing needs considering the dynamic nature of the environment. Economic development cannot be achieved without putting in place well focused and organized programs to reduce poverty through empowering the people by increasing their access to factors of production especially credit facilities. The latent capacity of the poor for entrepreneurship would be significantly enhanced through provision of micro finance services to enable them engage in economic activities (such as small and medium enterprises) and be more self-reliant, increase employment opportunities, enhance household income and create wealth (CBN, 2005).

Establishment of Micro-finance institutions as an effort by the government to improve the access to loans and savings services for poor people is currently being promoted as a key development strategy to enhancing poverty eradication and economic development (Shreiner, 2005). Micro finance policy depends heavily on the availability and provision of finance. Abimiku (2000) asserted that finance is the main pre-occupation of banking industry that brings together the factors of production such as land, labour and entrepreneur into action. The strategic role of finance in organizing productive activities is no longer conjectural as it has the unique advantage of facilitating economic development. Many today believe that, finance is vital and crucial to the process of economic development. Development Economist posits that, the existence and evolution of banking constitute an important dimension of the process of economic growth and development. The provision of affordable financial services to the rural population according to Mohammed (2005) has been a key component of development strategy for the past decades. Direct intervention in rural banking and financial markets through targeted credit programs, interest subsides and other government controls became widespread in the post-independence era, when Keynesian economic thinking inspired public intervention as a development strategy. The justification for this study is driven by the fact that more than ever before, Micro Finance institutions are now springing and seem to be promising and the operators of such banks claim that they are there to support the average or poor Nigerian improve his/her standard of living through entrepreneurship. The banks claim to promote the growth of Small and Medium Enterprises in Nigeria and this paper seek to ascertain such claim and to determine if MFI give out loan to SMEs to establish or enhance their businesses, and if yes what are the conditions attached to such loan?, repayment plan and its effect on the nation's economy.

Literature review

There is no universally acceptable definition of small and medium enterprises, even in a given country, different institution, may adopt different definition depending on their focus and objectives. According to Ayyagari, Beck, and Demirguc-kunt (2003) that in the existing literature the definition varies in different economies but the underlying concept is the same. However, classifying businesses into small, medium and large scale is subjective and based on different value judgment, like employment, sales, capital investment, periodical government policy for defining small and medium scale enterprises. According to Adesanya (2019) The definition of SME depends on factors like level of the economy (boom or recessed), government policy through annual monetary policy and guidelines, number of employees, the capital amount, market, revenue and profit size.

Across the globe SME is defined differently by various countries. In Britain, the standard definition of small business is a business with an annual turnover less than two million pound starting or less with a less than two hundred (200) paid employees. In Japan it is conceptualized as type of industry, paid up capital and number of employees. Consequently, small and medium scale enterprises are defined as those manufacturing with 100million yen paid up capital and 300 employees. Those in wholesale trade with 300million paid up capital with 100 employees while those in retail trade with 100million paid up capital with 50 employees. (Lawal et al,2006). The European Union (EU, 2005) as cited by Eniola (2014) defined micro, small and medium enterprise (MSME) as micro enterprise with number of employees below 10 and turnover and balance sheet is not more than two (2) million euro, small enterprises is an enterprise with number of employees not more than 50 and turnover and balance sheet is not more than 10 million Euros while medium scale business is an enterprise with number of employees not more than 250 and turnover/ balance not more than 50 million Euros. In the United State of America, Small Business Administration (SBA) defined this sector as one that

is independently owned and operated, is not dominant in its field and meet up employment or sales standard developed by the agency.

Ngobo, (1995) as cited by Abiodun (2011) opined that the figure of employees for SMEs is between 5-50 in Uganda while in India it is between 30-100 (Stoner, Edward, Girbertly, Asoke, & Gosh, 2001). In Kenya, 10 or fewer people are called micro business, while 11-50 are referred to small enterprises and 51-100 are called medium enterprises.

In Nigeria, the multiplicity of the definition is quite apparent, the definition and classification of SMEs in Nigeria is in terms of capital employed, turnover and number of employees.

CBN (2017) through its various circulars and intervention fund program defined SME as entities with asset base of 5 to 500 million naira excluding land and buildings with employee capacity between 11 and 200.

SMEDAN (2005) defines SMEs based on the following criteria: small scale enterprises are businesses with ten to forty-nine people (10-49) with an annual turnover of five to forty-nine million Naira(#5-49million) while a medium scale enterprises that have fifty to one hundred and ninety-nine employees (50-199) with a year turnover of fifty to four hundred and ninety-nine million Naira, (#50-499million) SMIEIS (2006) claimed that SMEs are those enterprises that has a total capital employed not below one million five hundred thousand but not exceeding two hundred million (#1.5– 200million) including working capital but excluding cost of land, with an employee strength of not below ten and not above three hundred. (10-300)**.**

Small Medium Enterprises Credit Guarantee Scheme (2010) For the purpose of this Scheme, a Small and Medium Scale Enterprise (SME) is an enterprise that has asset base (excluding land) of between N5million –N500 million and labour force of between 11 and 300.

SME is any business enterprise that is highly personalised, situated within a local area of operation, which is relatively small in term of size, employment, turnover and capital and is actively managed by one or few persons for the purpose of making profit **(**Adesanya, 2014).

However observing the Nigerian environment there are certain businesses that are too small to fall into the categories of micro-cottage enterprise as stated above such businesses are referred to as Nano-cottage enterprise which is defined as an enterprise with total investment of not more than #20,000. inluding working capital excluding cost of land and labour capacity is not more than 2. Such business includes street vendors, manufacturers of household items like soaps, toiletries, sanitary items, provide services within the street and neighbourhood while Micro-cottage industries is defined as those whose total investment does not exceed #1.5million including working capital but excluding cost of land and the workforce is not more than 10**.** Small scale industry is defined as those whose total investment is between #1.5million to #50million including working capital but excluding cost of land and the workforce is between 11 and 100 workers. Medium- scale industry is defined as those whose total investment cost is between #50million to #200 million including working capital but excluding cost of land and the workforce is between 101 and 300 workers.

Commercial Banks and MSMEs- the reality

The banking industry is meant to speed up the rate of economic growth and development in Nigeria. This is because, the public have neither the funds nor technical ability to invest in small and medium enterprises (SMEs) which is often time described as driving force in economic development, coupled with the fact that, they are reluctant to do so as a result of their preference for quick profits which are readily or obtainable elsewhere.

Developing countries like Nigeria, at various stages of development are unable to raise enough domestic resources to meet their development goals. This situation results from low level of aggregate income, which limits the level of saving and ultimately loanable funds for investment projects such as small and medium enterprises. Development economists posit that, for an economy to develop two conditions is necessary and sufficient and they are; banking industry and entrepreneurship. They are of the view that, high banking structure development, defined by a high banking interrelation ration is associated with high real development. This is because; development in the banking

sector is a prerequisite to small and medium enterprises (SMEs) development

and economic development. It is evident that the banking system makes valuable contribution to economic development if appropriate measures are taken to:

a. Mobilize more domestic resources

b. Deal with the problem of securities for loans and the special problem

of lending to a large number of small operators in agricultural and small and medium enterprises (SMEs)

c. Improve the quality of investment so as to increase the productivity capacity of the economy.

Commercial banks usually demand for collateral security before giving out loans for business purposes. This is a necessary factor in obtaining loan as collateral security serves as guarantee for recovering of loans given out by commercial banks in case of repayment default. An average citizen in Nigeria cannot provide such collateral security. This results to inability of an average Nigerian to access loans from commercial banks. Thus, the difficulty of access to loan from financial institutions such as commercial banks constitutes a great setback to entrepreneurial development in Nigeria (Parker, 2006). The evolution of microfinance in the 1970s is to break the barricade to access capitals by low income individuals for developmental purposes. Microfinance is the provision of financial services to low-income, poor and very poor self-employed

Micro Finance Institutions

According to Khandker, (2001) the concept of micro finance originated in Bangladesh in 1976 through a pioneering experiment by Dr. Muhammed Yunus; a Professor of Economics, he concludes that a smaller financial institution should be established to cater for the financial needs of micro and small-scale business while the conventional banks should focus on the supply of financial assistance to medium and large business.

Microfinance is a term used to refer to the activity of provision of financial services to clients who are excluded from the traditional financial system on the account of their lower economic status (United Nations, 2006). These financial services are most commonly in the form of loans and savings, though some microfinance institutions will offer other services such as insurance and payment services (Robinson, 2001).

Evolution of Microfinance Institutions in Nigeria

The concept of microfinance activities in Nigeria is culturally rooted and dates back several years ago. The formal microfinance institutions that provide access to credit for the rural and urban low - income earners are mainly in the form of Self-Help Groups (SHGs) or Rotating Saving and Credit Associations (ROSCAs) types. Other providers include Co-operative Societies and Saving Collectors. The traditional financial institutions generally have limited scope due to facility of loanable funds.

The development of the microfinance sector is based on the assumption that the poor and the low-income group have the capacity to engage and implement income generating activities but are limited by lack of access to and inadequate provision of savings, credit and insurance facilities. This approach will greatly reduce government intervention and will drive efficient performance (Mwenda, 2004). Microfinance clients are predominantly living along the poverty line engaged themselves in small enterprises which include small retail shops, street vending, artisanal manufacture, blacksmithing, welding, carpentry and many others. In most cases where micro -credits clients receives micro loan to start their businesses, scattered research suggests that only half or less of the total loan proceeds are used for business purposes. Most of the credit receives tend to be spent on a range of household's cash management needs which includes stabilizing consumption, expenses on education, health and other life cycle events (Micro Finance Gateway, 2010).

Hence the need to expand the frontier, scope initiatives activities of micro finance in order to address issues about welfare implications of microfinance institutions (Mwenda, 2004). It was for this reason that the Central Bank of Nigeria (CBN) under the Rural Banking Program conceive the idea that, Universal Banks were required to establish a specified number of branches in identified rural locations by supporting a number of programs focused on SMEs. This includes the National Economic Reconstruction Fund (NERFUND), Small and Medium Enterprise Equity Investment Scheme (SMEEIS) and the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN) established in 1989, 2001 and 2003 respectively.

The first program NERFUND is an apex credit delivery system to channel credit to SMEs through selected participation banks. For its operation, NERFUND obtained equity capital and soft naira loans from the Federal Government and foreign lines of credit from the African Development Bank.

The second Program SMEEIS, requires all banks in the country to put aside 10% of their profit before tax into a fund for equity investment in SMEs. According to Ouguiya (2004), since independence, promoting small and medium scale enterprises as the foundation of economic progress has been recognized in Nigeria by every regime (SME, 2004). This is because of its perceived relevance in ensuring sustained increase in per-capita income and output, as well as, employment generation and promotion of effective utilization of available resource (s). As such, the universal banks are providing microfinance either through their rural and urban branches or through independent subsidiaries such as the SMEEIS. By 2007, the fund had accumulated over N40 billion, although only 40% of these funds had been used and for only 200 projects across the country.

Thirdly, SMEDAN has been in the business of fostering the growth of SMEs in Nigeria. It was established to promote the development of SMEs with the objective of establishing a structured and efficient micro, small and medium enterprise sector that will enhance sustainable economic development in Nigeria. Since 2003 when it was set up, it has established business and development centers and provided advisory services on access to trade finance. SMEDAN has also organized seminars and workshops at both local and international levels and encouraged the formation, registration and cooperation of SME business associations. In their study on problems of SME program in Nigeria, Adejumo & Olaoye (2012) conclude that the roles of these program were limited. Thus, NERFUND was unable to on-lend enough funds to the participating banks to back up approved projects of SMMEs. These inhibiting factors are reflection in non-repayment of loans and other administrative problems. The minimum capital for Community Banks was eventually raised to N5 million and later to N20 million in 2005.

In the same year the CBN commences the reforms of community banks by converting them to Micro Finance bank which resulted in the licensing of microfinance banks (MFBs), to replace

community banks, with the goal of making MFBs more effective in granting credit to SMEs to develop this sector. Thus, private sector operators were statutorily empowered by the provisions of section 33 subsection (1) (b) of the CBN Act 7 of 2007 to operate MFBs in place of the community banks in Nigeria (CBN, 2008). Presently, there are three categories of microfinance banks (MFBs) in Nigeria, namely Unit MFBs (Tier1 & 2); State MFBs and National MFBs. A Circular issued to all MFBs by CBN dated March 7, 2019, with reference number FPRD/DIR/GEN/CIR/07/024 titled the 'Review of Minimum Capital Requirement for MFB in Nigeria the minimum capital requirement for the categories of microfinance banks have been revised as follows:

1. Tier 1Unit- Microfinance Bank N200,000,000 (Two Hundred Million Naira)

2. Tier 2 Unit- Microfinance Bank N50,000,000 (Fifty Million Naira)

3. State Microfinance Bank N1,000,000,000 (One Billion Naira)

4. National Microfinance Bank N5,000,000,000 (Five Billion Naira)

To aid the process of recapitalization, all microfinance banks are required to comply with the following:

i. Tier 1 Unit Microfinance Banks shall meet a N100million capital threshold by April 2020 and N200 million by April 2021;

ii. Tier 2 Unit Microfinance Banks shall meet a N35 million capital threshold by April 2020 and N50 million by April 2021;

According to CBN Circular FPRD/DIR/GEN/CIR/07/024 there 902 MFBs in Nigeria with about 173 in Lagos State (CBN, 2019).

Based on the objectives listed, the targets of the policy are as follows:

1 To cover the majority of the poor but economically active population by 2030 thereby creating million of jobs and reducing poverty

2 To increase the share of micro credit as a percentage of total cred to the economy from 0.9 percent in 2005 to at least 5 percent in 2030

3 To promote the participation of at least two - thirds of the states and local governments in micro credit financing by 2030

4 To eliminate gender disparity by improving women's access to financial services by 5% annually

5 To increase the number of linkages among universal banks, development banks, specialized finance institutions and microfinance banks by 10% annually.

From the above microfinance policy objectives and targets, a number of policy strategies have been derived as follow by the government:

1 License and regulate the establishment of microfinance banks (MFBs).

2 Promote the establishment of non-governmental organization (NGOs)- based microfinance institutions.

3 Promote the establishment of institutions that support the development and growth of micro finance service providers and clients

4 Strengthen the capital base of the existing microfinance institutions

5 Mobilize domestic savings and promote the banking culture among low-income groups.

Onugu (2002) added that the importance of small and medium enterprises drives mainly from their characteristics and as such their development is usually regarded as a viable option for sustainable economic growth and development of any given economy. He pointed that, the proliferation of small and medium enterprises (SMEs) through the contribution of the banking industry will serve as a viable tool for stimulating development and growth of Nigeria economy as they will generate employment, develop local entrepreneurship and management, prevent small rural-urban drift, develop local technology, create various associated industries, and improve equality in income distribution

From the foregoing, Adelaja (2006) urge operators in the consolidated banking industry to develop stronger relationship with customers particularly SMEs by supporting them for better economic development of Nigeria

Methodology

The study was conducted in Ayayo Micro Finance bank Imota in Ikorodu local government, Lagos State in determining whether or not micro finance banks have contributed to the promotion of development of micro, small and medium enterprises in Nigeria. A questionnaire was developed and distributed to middle and management staff and customers of the bank. The questionnaire was structured along a five-point Linkert type scale as stated below:

(1) Strongly Agreed, (2) Agreed, (3) Undecided, (4) Disagree, and (5) Strongly Disagree

The questionnaire consisted of two sections, where section A sought the biographical information from the respondents while section B elicited information from the respondents on whether micro finance banks have impact and play role in the promotion of MSMEs development in Nigeria.

The questionnaire was distributed to 10 employees of the bank which constitute the total number of middle and management staff and 15 customers of the bank which were literate enough to fill it. All the questionnaires were correctly filled and returned.

Data Presentation and Analysis

S/N	SUMMARY OF QUESTIONS	(1)	(2)	(3)	(4)	(5)
1	This bank grant loan to customers	25				
2	Are MSMEs facing difficulties in getting the loan?	-	2	-	2	21
3	Are there stringent conditions attached to the loans?			2	3	20
4	Are there gratifications to bankers before the loan is granted?	2	3		5	15
5	The loan granted is for small business	24	1			
6	Does customers of small-business use the loan judiciously?	23	2			
7	Are there adequate mechanism for the bank to monitor the loan?	20	3	1	1	
8	Are law enforcement agencies involved in the recovery of the loan?	21	4			
9	Are traditional rulers or local societies involved in the loan recovery?	22	3			
10	The bank is impressed by the performance of the SMEs that took the loan	23	2			
11	Small business is growing in the community with the loan taken in the bank	24	1			
12	Government should further support MFI to assist MSMEs	25				

Source – Survey 2021

From above table, all respondents (25) strongly agreed that the bank gives loan to customers of micro finance bank and 21 respondents strongly disagreed that customers get the loan with difficulties. Moreover 20 respondents agreed the loan is given with stringent conditions. The bank staff and some customers agreed that there was no gratification before the loan is granted as 20 respondents attest to that but only 5 respondents from customers side did not support that view. The bank had enough mechanism to recover the loan from the customers using law enforcement agent and traditional rulers for recovery as all 25 respondents attest to that. The respondent agreed that the bank is impressed by the performance of small businesses use the loan from the bank, more-so it has helped in developing the community. All respondents strongly agreed that there is need for government support in promoting MFIs to support MSMEs.

Conclusion

Based on the data generated and analysed from the responses of the respondents, the following are the findings of this research:

1. Micro Finance Banks grant loans to SMEs and the loans are accessible.

2. The loans are easily accessible by SMEs even though there are stringent conditions attached to it. The banks ensure judicious use of the loan by the beneficiaries so that the aim of the loan is not defeated.

3. Any MSMEs customers can have access to the loan and the bank is able to recover loans granted to SMEs within the time stipulated using the local and legal means to recover the loan.

4. The objective for which the loan is being granted is being achieved. Micro, small and medium enterprises have been found to be a veritable force of economic development. However, the accompanying increase in productivity is not always commensurate with the level of economic development attained, but there is no doubt that MSMEs need assistance through

Micro-Finance Banks to become sustainable and competitive. The promotion of SMEs has been carried out by subsiding credits, providing preference treatment and targeting locations and business. The government should allow SMEs to participate in the economy under a level playing field and take advantage of entrepreneurship.

Recommendation

The result of this paper revealed that Micro-Finance institutions contribute significantly to the promotion of growth of small and medium enterprises (SMEs) and hence the important role performed by these enterprises cannot be over emphasized. To further promote the growth of SMEs in Nigeria beyond this present stage, the following are therefore recommended based on the findings of the research:

1. Government should further encourage the activities of Micro Finance Banks (MFBs) by creating enabling environment so that they can further support MSMEs growth.

2. MFBs should sustain the policy of easy accessibility of loans meant for SMEs to encourage existing and prospective entrepreneurs' activities.

3. Even though, it is evident that there is/are mechanism(s) to ensure judicious use of loans granted to MSMEs, MFBs should effectively pursue the application of such mechanism(s) so that the loans are not misapplied.

4. It is also evident from the findings of this paper that MSMEs pay back loans in accordance with the terms of the loans granted by MFIs.

That notwithstanding, MFIs should ensure that such is sustained and mechanism(s) for recovery improved upon. It is the researcher hope that microfinance institutions in Nigeria will develop more interest in supporting the growth and development of MSMEs.

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GLOBAL MIGRATION DURING CORONA PANDEMIC AND ITS SOCIAL OUTCOMES

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ABSTRACT

Our article main focus is on immigrants and significant issues happened during the covid-19 crisis. The outburst of covid-19 globally shook all population and led to severe economic crisis. Amongst, most affected were the immigrants who lost their jobs and unable to reach back to their hometown. Because of pandemic they had no alternative way to earn income and even lost security as well as safety. However, India is occupied with more number of migrant workers who were left unemployed due to lockdown globally. This poses great challenge among workers and increase in malnutrition among children as there was disruption in food supply chain. Nevertheless, the government has instigated to reconsider the matter at the national migration policies, which should provide the support and provide security to migrants arriving from different parts of country. Therefore, our article primary aim is to concentrate on food insecurity existence due to pandemic situation and reduction of stress as well as pressure among migrants.

Key words: Immigrants, Pandemic, Malnutrition, Food supply chain, Food insecurity.

"MAKE-UPPING" THE SUPPRESSION": A QUALITATIVE INQUIRY IN THE MODELLING INDUSTRY IN SRI LANKA

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ABSTRACT

In the industrial era, emotions at workplace were ignored because of the rational working environment where emotions would get in the way of sound judgment. With the emergence of service industry, the concept of emotional labour who sold feelings for wage, have increased rapidly. More specifically, researchers have begun to explore how emotions are managed by employers in order to improve work outcomes in Modelling Industry. Even though still the industry faces stigma and stereotypes due to the culture established in the Sri Lankan context, yet the industry is growing immensely. Yet the attention received to this industry in relation to conducting research is rather lacking. Coining these two together the main research problem address of this study is to explore how the Sri Lankan models perform emotional labour. Series of eight (08) interviews were incorporated by selecting a sample using convenience sampling who were female graduates, as the researcher were believed that they know the phenomena. The two main themes identified are 'Charming Clients: Turning on the Fascination' and 'Building Impressions: Replicating It' using thematic analysis. Even though the results were quite similar to what it is experience by global context, glimpses of the impact of the culture in Sri Lanka were identified. The researcher would like to conclude that the mind-set relating to being a model should be changed, as a legitimate option for females.

Keywords: Emotional Labour, Modelling, Modelling Industry, Sri Lanka

BARRIER TO IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT IN MANUFACTURING INDUSTRY OF PESHAWAR

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ABSTRACT

As business competition intensifies around the world, so do the challenges for industries to survive on the same rations. For this purpose, organizations go for Total quality management systems that pay a lot in return. The aim of the study to identify the significant barriers of Total Quality Management in the manufacturing industries of Peshawar. The identified barriers can be beneficial to decision-makers and managers of industries, to consider it before going for implementation of Total Quality management, which will help them significantly to achieve their objectives. Based on the available literature, the barriers that were common in two or more papers were extracted. These barriers were analyzed by experts and rejected on the basis of ambiguity, same sense double question and to eliminate a large number of items which can cause a further problem in a survey. When barriers are finalized then these items are converted into question for a survey. Twenty-five questions were made which were further divided and given a name into four constructs. These all item in different construct have same sense according to the researcher but it will be check and identified further by exploratory factor analysis. The questioner is distributed by two methods personally visiting and by email. They are sent to the respective industry email addresses which are taken from Khyber Pakhtunkhwa Economic Zone Development and Management Company. For management of data the MS Excel and SPSS version of 25 is used. The common barriers found in manufacturing industries are top management and leader, job security, rewards and recognition, involvement of suppliers and performance measurement. By overcoming these barriers, we can implement TQM.

Keywords: Manufacturing, Barriers, TQM, Implementation

ENVIRONMENTAL ADAPTATION OF THE STRAIT PS01 SILKWORM LINE IN THE COASTAL AREA OF MAKASSAR IN THE TROPICS

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ABSTRACT

Silkworms (*Bombyx mori* L) are industrial insects that have very high prospects for development. Indonesia, especially South Sulawesi, is a major development area for silkworms. This study aims to determine the adaptability of the strait PS01 strain silkworm in the coastal area of Makassar. The research method is rearing based on JICA (1985) standards. Observations were made on hatchability, the resistance of small and large lava. The results showed that the hatchability of eggs reached 83.77%, the resistance of small larva (instar I - III) was 92.62%, and the resistance of large larva (Instar IV - V) reached 97.33%. This shows that the maintenance of silkworms in coastal areas in the tropics is good to do.

Keywords: Silkworm (*Bombyx mori* L,) Strait PS01, Hatchability, Resistance, Coastal, Tropical

Introduction

The need for fiber for textiles is getting higher along with population growth. The need for textiles from synthetic materials will increase due to the environmental impact caused by the issue of global warming. One source of textile raw materials is silkworm which is widely cultivated by various countries in the world, both tropical and subtropical. Silk is one of the textile fibers called the "Queen of Textiles" because of its sheen, luxury, comfort, grace, sensuality, and glamor (Basu, 2015). Silk thread comes from the cocoons of the insect *Bombyx mori* L which have been domesticated for more than 5000 years (Narendra Reddy, 2020). During this long history there have been many mutations (Babu, 2013). The quality of the cocoons produced by silkworms depends on the type of silkworms or races that exist in various worlds. The silkworm race consists of Chinese, Japanese, Russian, and Asian races which are often divided into three based on their regeneration or voltin. Pet silkworms are also called Mulberry Silk which consists of Uni, Bi, Multi based on their regeneration or voltinism, (Narendra Reddy, 2020). Silkworms are insects from the order Lepidoptera (moths and butterflies), and are the first species of Lepidoptera to have a genome sequence (Park, 2019).

Breeding

Hybrid quality is an important aspect of the silk industry because it is often the cause of production losses or failures (Andadari & Kuntadi, 2014). The silk production capability of this species has increased almost tenfold through intensive selection and breeding, (Park, 2019). Crossing bivoltine and polyvoltines is a way to obtain strains that are high yielding and resistant to the environment in which they are reared. The Union, Bi, and Multi-voltinism

races differ in their filament production and disease resistance. The Japanese and Chinese Bivoltine races are species that have cocoon quality and are disease resistant. While the tropical race has good adaptation properties to the tropical environment. Breeding results are achieved through appropriate selection starting from the initial selection of parents, careful progeny testing, as well as selection and suitability of the ecological and nutritional environment, (Nagaraju, 2002). Based on geneticists and breeders from all countries silkworm rearing (sericulture) that the environment influences during the breeding process, (Yamamoto, 2001).

Acclimatization

Acclimatization is a trial stage of crosses between tropical and subtropical races. With these considerations, it is hoped that later types of caterpillars that are resistant to tropical environments will be obtained and at the same time produce quality cocoons. The tropics have weather conditions that fluctuate throughout the day so that it will cause sudden changes in environmental temperature and humidity. Disinfecting the room and equipment for keeping silkworms by spraying formalin or whiting water is generally not enough to prevent silkworm disease (Watanabe, 2002)

Methode

Silkworm Rearing

Their size, shape, inner and outer temperature, humidity is key fact r for successful silkworm rearing, (Sah & Sah, 2021). Feed quality and temperature during rearing are very important to obtain good and healthy silkworm cocoons, (Verma & Twal, 1968). Silkworms can grow optimally at an ambient temperature of 23-25℃ and a humidity of 80-90%, (Ita Wahyu Nursita, 2013). The hybrids PS01 were reared in the room and fed by considering the condition of the feed on the rearing rack. Rearing standards used are based on JICA (1985). The data collected included the number of fertilized eggs and the number of unfertilized eggs the number of larvae that live in instars I - III, and the number of larvae that reach instar IV. Data analysis consisted of hatchability (%), the resistance of small larvae (instar I – III) in %, and the resistance of large larvae instar (IV – V) in %.1. Hatchability (%). Performance of silkworm lines was greatly influenced by the temperature and humidity regimes during larval rearing, (Hussain et al., 2011).

Result and Discussion

The results showed that the hatchability of eggs reached 83.77%, the survival of small larvae (instars I to III) was 92.62%, and the survival of large larvae (instars IV to V) reached 97.33%. Most of the failures in the rearing of silkworms are related to silkworm disease and poor feed compared to unfavorable environmental conditions, (Watanabe, 2002). The average temperature is 27℃ in the morning, 30 ℃ in the afternoon, and 29 ℃ in the afternoon. The average humidity is 73% in the morning, 67% in the afternoon, and 89% in the afternoon. Naturally occurring or domesticated polyvoltines (known as tropical races) are more resistant to high temperatures and disease than bi- or univoltines (temperate races), (Manjunatha et al., 2010). As a result of long domestication, silkworm races/lines diverged and strains (polyvoltines) grown in tropical environments became resistant to high temperatures and disease, while strains reared in temperate conditions (bivoltines) remained susceptible, (Manjunatha et al.., 2010). In tropical countries, climatic conditions are favorable for the rearing of polyvoltine x bivoltine hybrids, (Nanje Gowda & Mal Reddy, 2007).

Conclusion

Based on the results of the research conducted, the PS01 silkworm rearing in the coastal area in the tropic in Makassar, South Sulawesi Indonesia is feasible to do with the resistance of the larvae of silkworm during of rearing is very high.

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YÜKSEK ERİME SICAKLIKLARI ANALİZİ İLE *BOTRYOSPHAERİA SPP.* TÜRLERİNİN TESPİTİ VE AYRIMI

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ÖZET

Botryosphaeria spp. türleri dünyanın tüm ılıman tropikal ve subtropikal bölgelerinde yaygın olarak bulunmaktadır. Ülkemizde de son zamanlarda meyve bahçelerinde gün geçtikçe önemi artmakta, meyve, yaprak, sürgün ve gövde enfeksiyonları yaparak ağaçlarda geriye doğru ölümlere neden olmaktadır. Etmen kültür ortamında yavaş geliştiği ve diğer funguslar tarafından kolaylıkla baskılanabildiği için morfolojik olarak türlerin teşhis edilmeleri ve ayırt edilmelerinde güçlüklerle karşılaşılmaktadır. Bu nedenle klasik yöntemlerin yanı sıra moleküler tekniklerde fungusun teşhisinde kullanılmaktadır. Direkt enfeksiyonlu odun dokusundan total DNA ekstraksiyonu ile PCR reaksiyonunda üniversal primer çifti (ITS 4/5) kullanarak fungusun ITS gen bölgesi çoğaltılabilmektedir. Bu gen bölgelerinin DNA dizileri, NCBI'daki diziler ile karşılaştırılarak direkt teşhis yapılabilmektedir. Bu yöntem diğerine göre hızlı ve daha doğru sonuç vermesine karşılık her örnekte DNA dizi analizinin gerekliliği, oldukça masraflı ve zaman alıcı olmaktadır. Bu nedenle *Botryosphaeria obtusa* ve *B. dothidea* türlerinin teşhis ve tanımlanması için; bu türlerin gen bankasındaki DNA dizilerine göre ITS1, 5.8s Rib., ITS2 ve β-tubulin gen bölgelerine göre spesifik primerler dizayn edilmiştir. Primerlerin spesifikliği, End Point PCR, SYBR Green qPCR ve HDA testleri ile karşılaştırılmıştır. Bu çalışmadaki tüm testler bu türlerin teşhisinde doğru, hızlı, hassas ve faydalı olarak değerlendirilmiştir.

Anahtar kelimeler: *Botryosphaeria,* Son Nokta PCR, SYBR Green qPCR, HDA

DETECTION AND DISCRIMINATION OF *BOTRYOSPHAERIA SPP.* WITH HIGH RESOLUTION MELTING ANAYLSIS

ABSTRACT

Botryosphaeria spp. genus in all temperate, tropical and subtropical regions of the world are widely available. İn our country the importance of the *Botryosphaeria* species is increasing day by day in the orchards in recent times and cause fruit, leaves, twigs and trunk decline by infections. *Botryosphaeria* spp. are slow-growing fungi in the culture medium. *Botryosphaeria* is frequently overgrown by other microorganisms. It is difficult for the species to be identified morphologically. Therefore molecular biology techniques with conventional methods used for the diagnosis of the fungus and Molecular tools have contributed to identify *Botryosphaeria* species. Total DNA can be extracted from directly from wood tissue and and ITS gene region can be amplified using those general primer pairs ((ITS 4/5) by PCR. DNA sequences of these regions can be identified directly by comparing with nucleotide sequences in GenBank. This methods for quick, sensitive, and accurate identification of *Botryosphaeria spp.* But more expensive and waste of time. For this reason, a specific primer set, ITS1, 5.8sRib., ITS2, and β-tubulin was designed by targeting consensus sequences of the *Botryosphaeria spp.* from gene bank. *B. dothidea and B. obtusa* species were tested to confirm the primer specificity using in end point PCR, SYBR Green qPCR, and HDA. All tests are accurate, rapid, sensitive, and useful for *Botryosphaeria spp*. identification.

Key words: *Botryosphaeria,* End Point PCR, SYBR Green qPCR, HDA

COMBINED METHOD OF DETOXIFICATION OF *DELONIX REGIA* CAUCAS FOR USE AS POULTRY FEED INGREDIENTS

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ABSTRACT

Delonix regia (flame of the forest) is found in large quantity in almost every part of the world especially Africa and Nigeria and is not consumable by human being and this made a good alternative feed ngredient for livestock especially poultry birds because of high amount of Energy content, this may not be possible because of the anti-nutrient content it contains (toxin). Several effort has been made to reduce the toxin to bearable levels by the birds but the combination of all these methods (Physical, chemical, Biological methods) to give combined methods of detoxification gave a difference result. Both the physical and chemical method removed almost no toxins when compared with the untreated Delonix regia ($P>0.05$) but the Biological and combined of detoxification is better when compare with other methods and the untreated Delonix regia ($P<0.05$) with the combined method being the best of them all.

Keywords: Toxin, detoxification, untreated, combined, bearable levels

EQUILIBRIUM RELATIONSHIP OF TOTAL EMPLOYMENT IN THE AGRICULTURE SECTOR

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ABSTRACT

In some southern American countries, the percentage of female and male employment rate for periods 1991 to 2019 was coupled with the percentage of total employment in the agriculture sector via a provisional consistent and efficient estimation of no heterogeneity in the long-run reactions while consenting wide-ranging intercepts, group-specific speed of adjustments, short-run feedbacks and error variances amid the illustrative variables.

The series unfailingly incorporates unit root comportments by wandering about its variances and time centered reliant is enforced. Unidirectional and independent causalities become apparent; hence, the three series are causally related in one direction; so, the impact of a shock will be evanescent and vanish in the long run as the economy continues to the steady-state.

ARDL (1, 0, 1) for linear drift account was farsightedly designated. The error-correcting speeds of adjustment term for all the countries independently were significantly negative as a norm. Argentina, Brazil, Chile, Colombia, Paraguay and Uruguay took a speed of -1.2195, -0.8373, -0.2458, -0.1199, -0.2561 and -0.6571 singly to return back to long-run steadiness from short-run devastation; therefore, the deviation from the long-run symmetry in the percentage of total employment in the agriculture sector is adjusted independently by 121.95%, 83.73%, 24.58%, 11.99%, 25.61% and 65.71% the following year. The southern American countries all together take a speed of -0.5560 to return back to stability; accordingly, the deviance from the long-run symmetry rate in the percentage of total employment proportion is reconditioned by 55.60% the subsequent year. Succinctly, a 1% change in the female and male employment rate tend to increase the percentage of total employment in the agriculture sector by 19.35% and 79.92% in turn. The positive effect of male employment regularity was influencing the agriculture sector.

The number of females employed in the agriculture needs to be strengthened. A policy that provides influence on agricultural production towards healthful commodities is crucial.

Keywords: Causality, Cointegration, Employment rate, Steady-state, Unit root

Introduction

Agriculture accounts for 28% of global employment; thus, the number of workers in this sector stretches to over one billion, indicating 1 in 3 of all workers. The share of the population working in agriculture is diminishing as countries get advance (USDA, 2019). Although, more than two-third of the population in poor countries work in agriculture, while the population in rich countries that work in agriculture are less than five percent. Poor countries of sub-Saharan Africa, South Asia recorded about 50% and 33% in agriculture employment progression; whereas a fall in agricultural employment appeared in East Asia, Latin America and the Caribbean regions in Africa and Asia, Agriculture is the most important sector of female employment. At the global level, it is believed that women do share 38%, while men about 33% of agriculture employment. Employment growth in agriculture has slowed, since agriculture in many countries is still controlled by family farms,

where family members provide manual labour input at diverse times of the year. Again, many farmers and farm workers have other more or less important sources of income so they pursue agriculture as a part-time activity (USDA, 2019). This article examines the effects of the percentage of female and male employment rate on the percentage of total employment in the agriculture sector by pooling and averaging of coefficients.

Materials and Methods

The distinctive effects that are not definite in cross-section or time-series records can be predictable by means of panel data and more complex collaborative models can be verified while insist on smaller amount of restrictions (Pesaran, et al. 1995; Baltagi, et al. 2000; Hsiao, 2003; Martinez-Zarzoso and Bengochea-Morancho, 2004; Baltagi, 2014, 2015). In panel backdrops by means of separate effects, the link between the mean differenced regressors and the error duration is stimulating due to unfairness prompted in the review of autoregressive distributed lag, ARDL models. This inequitableness only dies away for colossal sizes of observations which cannot be adjusted by cumulating the number of cross-sections (Arellano, 2004). Pesaran, et al. 1999 projected the pooled mean group estimator that takes the cointegration system of the simple ARDL model and adjusts it for panel scenery by letting the intercepts, short-run quantities and cointegrating relations of the cross-sections to fluctuate transversely (Baltagi and Griffin, 1984, 1997; Pesaran, et al. 1997, 1999; Freeman, 2000 Baltagi, et al. 2008).

If V_{it} is realistic for all nations i=1,...,N (individual-level observations) across all time periods t=1,...,T (time series observations) with cross-section dimension subscript i and time as subscript t. The reparametrized error correction equation is prearranged as (Anderson and Hsiao, 1981, 1982; Schoenberg, 1997; Baltagi, et al. 2003; Gujarati, 2003; Pedroni, 1999, 2004):

$$\Delta V_{i,t} = \delta_i \lambda_{i,t} + \sum_{j=1}^{p-1} \lambda_{i,j} \Delta V_{i,t-j} + \sum_{j=0}^{q-1} \Delta S_{i,t-j} \beta'_{i,j} + \varepsilon_{i,t} \quad (1)$$

where $\delta_i = -\left(1 - \sum_{j=1}^{p} \lambda_{ij}\right)$ are the adjustment coefficients and it is expected to negative; annually to reach the steady-state.

$\lambda_{i,t} = V_{i,t-1} - \mu_i' S_{it}$ is the error-correcting speed of adjustment term and $\mu_i = \dfrac{\sum_{j=0}^{q} \beta_{ij}}{\left(1 - \sum_{k} \lambda_{ik}\right)}$ are the long-run coefficients; If S_{it} has finite autoregressive representations; then, dependence of instructive variables on the disturbances is allowed when estimating $\lambda_{i,t}$;

$\lambda_{ij} = -\sum_{m-j+1}^{p} \lambda_{im}$ for $j = 1, 2, \ldots, p-1$ are (k×1) vector of parameters constant across groups to be estimated on the dependent variable;

$\beta_{ij} = -\sum_{m=j+1}^{q} \beta_{im}$ for $j = 1, 2, \ldots, q-1$ are (k×1) vector of parameters constant across groups to be estimated on the explanatory variable;

$S_{it} = (s_{i1}, \ldots, s_{iT})'$ are (T×k) possibly time-varying vector of covariate on k instructive variables that can vary across groups and time periods; while, $\Delta S_i = S_i - S_{i-1} = (\Delta s_{i,1}, \Delta s_{i,2}, \ldots, \Delta s_{i,T_i})'$ are j lagged values of ΔS_i;

$V_{it} = (v_{i1}, \ldots, v_{iT})'$ are (Tx1) vectors of observation on the control variable of the ith group; while, $\Delta V_i = V_i - V_{i-1} = (\Delta v_{i,1}, \Delta v_{i,2}, \ldots, \Delta v_{i,T_i})'$ are j lagged values of ΔV_i; and

$\varepsilon_{it} = (\varepsilon_{i1}, \ldots, \varepsilon_{iT})'$ are time-invariant and accounts for any unobservable individual-specific error term. In order to estimate consistence short-run measurements, it is obligatory that the disturbances are not interrelated with the regressors.

The same number of lags is expected in each cross-section for the dependent variable and the regressors; hereafter, the concentrated log-likelihood function is a product of each cross-section's likelihood given as (Wooldridge, 2000; Gujarati, 2003):

$$L_t(\varphi) = -\frac{T_i}{2}\sum_{i=1}^{N}\log\left(2\pi\sigma_i^2\right) - \frac{1}{2}\sum_{i=1}^{N}\frac{1}{\sigma_i^2}\left(\Delta V_i - \delta_i\hat{\lambda}_i\right)' M_i\left(\Delta V_i - \delta_i\hat{\lambda}_i\right) \quad (2)$$

where $\hat{\lambda}_i = (\hat{\lambda}_{i,1}, \hat{\lambda}_{i,2}, \ldots, \hat{\lambda}_{i,T_i})'$, $M_i = \left(I_{T_i} - R_i\left(R_i' R_i\right)^{-1} R_i'\right)^{-1}$ and

$R_i = (\Delta V_{i,-1}, \ldots, \Delta V_{i,-p+1}, \Delta S_i, \Delta S_{i,-1}, \ldots, \Delta S_{i,-q+1})$.

According to Pesaran, Shin and Smith, the mean group (MG) intermediate estimator accepts that the intercept, short-run coefficients, and error variances can swerve across the clusters; while, unweighted averages of different coefficients are calculated for the whole panel. The fixed effect (FE) transitional estimator constrains long-run coefficients to be equal across groups; that is, homogeneity over a single subset of regressors or else countries (Mundlak, 1978; Pesaran, et al. 1995, 1997, 1999; Baitagi, et al. 2000).

Results and Discussion

The sets of 174 panel data points for the percentage of female (EAF) and male (EAM) employment rate, and the percentage of total employment in the agriculture sector (AE) covering periods 1991 to 2019 for Argentina, Brazil, Chile, Colombia, Paraguay and Uruguay were drawn from World Development Indicator (WDI) of the World Bank. The choice of these Southern American countries was based on the availability of data. The graphics, likelihood standards, and the reliable measures of the regression were acquired fitting the inscription of Eviews10.

The time series plots in figure 1 showed some unpredictable fluctuations in the mean and variances in the series. It would be realistic to say that the panel time series data are not covariance stationary by conception; since, they are shifting over time and non-uniform impulsiveness in the time series continues. Thus, it is essential to corroborate the unit root structure.

The mean and median of the series are within the maximum and minimum boundaries in table 1. Negative skewness of -1.809196, -1.654112 and -1.857693 for LAE, LEAF and LEAM separately are less than one; thus, more recurrent large return observation is to the left of the

distribution. Kurtosis levels of 5.563403, 5.313815 and 5.721505 for LAE, LEAF and LEAM individually are greater than 3.0 normal distribution point of orientation; and so, their curves are leptokurtic having substantial tails and the experimental values are closely intermingled together around the mode. In addition, the probability values of 0. 0000, 0.0000 and 0.0000 for the Jarque-Bera test of the series exclusively were seen to be less than the significance level of 0.05 and this suggests that the series are non-normal in distribution.

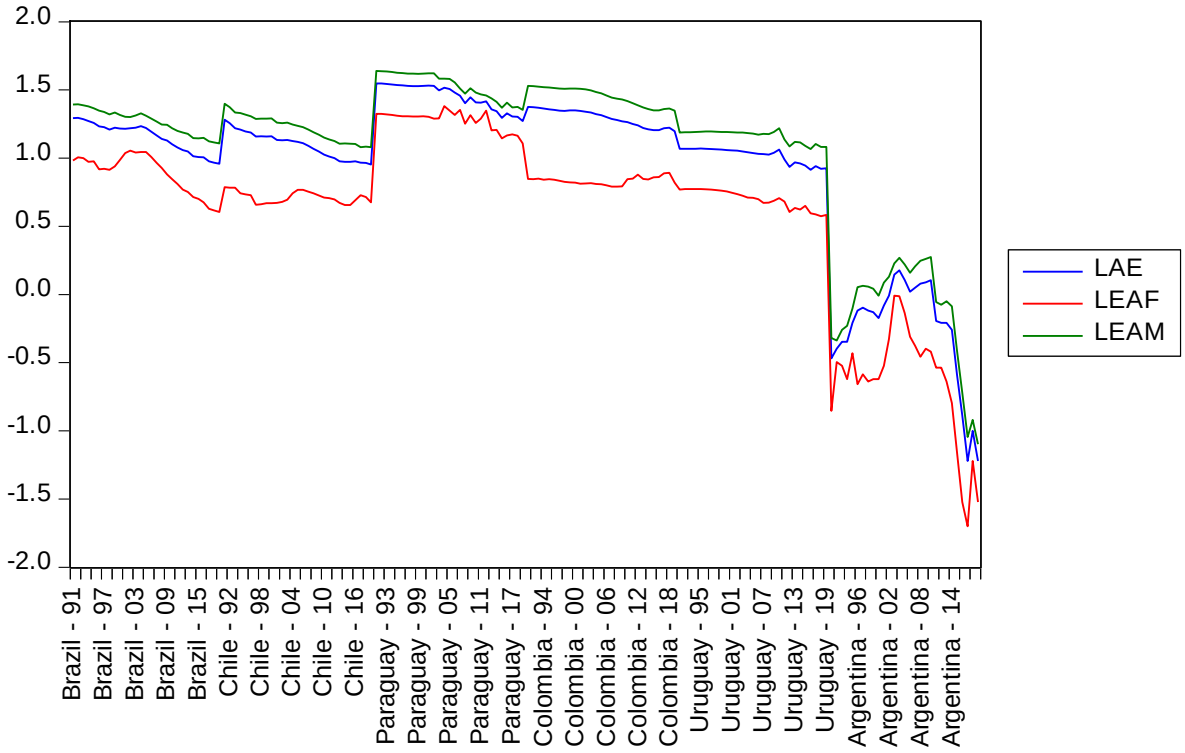

Figure 1: Time series plot of LAE, LEAF and LEAM

Table 1. Descriptive Statistics

Statistics	**LAE**	**LEAF**	**LEAM**
Mean	0.960418	0.627994	1.085770
Median	1.133539	0.770851	1.257553
Maximum	1.547898	1.381656	1.638888
Minimum	-1.221849	-1.698970	-1.096910
Std. Dev.	0.590965	0.629037	0.581873
Skewness	-1.809196	-1.654112	-1.857693
Kurtosis	5.563403	5.313815	5.721505
Jarque-Bera	142.5625	118.1611	153.7774
Probability	0.000000	0.000000	0.000000
Sum	167.1127	109.2710	188.9240
Sum Sq. Dev.	60.41855	68.45384	58.57362
Observations	174	174	174

Stochastic unit root process test of the series cannot be rejected in table 2 for statistically insignificant probabilities greater than 0.05 significance benchmark. Likewise; in table 3, the first difference of the series, stochastic unit root process was rejected for statistically significant probabilities less than 0.05. Hence, the series are non-stationary time.

Table 2: Unit Root Tests in Levels

Null Hypothesis: Unit root (assumes common unit root process)						
	LAE		**LEAF**		**LEAM**	
Method	Stats	Prob	Stats	Prob	Stats	Prob
Levin,Lin&Chu t*	-0.69623	0.2431	0.25926	0.6023	-1.33052	0.0917
Breitung t-stat	0.35921	0.6403	0.19237	0.5763	-0.59848	0.2748
Null Hypothesis: Unit root (assumes individual unit root process)						
Im,Pesaran&ShinWstat	0.43318	0.6676	0.83104	0.7970	0.07331	0.5292
ADF-Fisher Chi-Sq.	17.5799	0.6151	16.6248	0.6772	18.3920	0.5616
PP - Fisher Chi-Sq.	10.3606	0.9612	18.2749	0.5693	11.2493	0.9395

Table 3: Unit Root Tests in First Difference

Null Hypothesis: Unit root (assumes common unit root process)						
	LAE		**LEAF**		**LEAM**	
Method	Stats	Prob	Stats	Prob	Stats	Prob
Levin,Lin&Chu t*	-4.43016	0.0000	-2.70631	0.0034	-6.87432	0.0000
Breitung t-stat	-3.78759	0.0001	-1.80765	0.0353	-5.07483	0.0000
Null Hypothesis: Unit root (assumes individual unit root process)						
Im,Pesaran&ShinW-stat	-6.38688	0.0000	-5.30283	0.0000	-7.32116	0.0000
ADF-Fisher Chi-Sq.	76.8036	0.0000	65.5546	0.0000	86.6125	0.0000
PP - Fisher Chi-Sq.	200.662	0.0000	248.239	0.0000	180.220	0.0000

The model selection procedures of table 4, Alkaike information criteria (AIC) make available the minimum value for ARDL (1, 0, 1) with the least information criteria values of -1.2722.

Table 4. Summary of Model Selection Criteria

Model	LogL	AIC*	BIC	HQ	Specification
1	810.749719	-9.391972	-8.439010	-9.005055	ARDL(1, 0, 1)

In table 5, the probable Wald coefficients examination for the designated model ARDL(1, 1, 1) are desirably different from zero with statistically importance probability value less than 0.05 point of reference. Thus, the coefficients of the model are dependable.

Table 5. Coefficient Restriction Test

Test Statistic	Value	df	Probability
F-statistic	42998.05	(2, 124)	0.0000
Chi-square	85996.10	2	0.0000

Null Hypothesis: C(1)=C(2)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	0.193503	0.002668
C(2)	0.799150	0.005349

Once more, the scaled coefficient diagnostics test of table 6 make available indication and compute boundaries on the estimated quantities. Thus, the estimated coefficients are robust and can be used to make verdicts.

Table 6. Coefficient Constraint Test

Variable	Coefficient	Standardized Coefficient	Elasticity at Means
LEAF	0.193503	0.205968	0.126527
LEAM	0.799150	0.786854	0.903454

In table 7, the coefficient confidence interval tests are within 90, 95, and 99 out of each hundred certitude intervals were obtainable. After that, the coefficients of the model can be said to be reliable and can be used to make pronouncements.

Table 7. Coefficient Confidence Interval Tests

		90% CI		95% CI		99% CI	
Variable	Coefficient	Low	High	Low	High	Low	High
LEAF	0.193503	0.189082	0.197924	0.188222	0.198783	0.186524	0.200481
LEAM	0.799150	0.790286	0.808015	0.788563	0.809737	0.785157	0.813144

In table 8, the cross-section restoration coefficient to steadiness of the countries all together is negative as a principle with significance likelihood value; thus, cointegration exists among the variables and the impact of a seizure will be momentary and terminate in the long run as the economy carry on to the steady-state. The coefficients of the independent variables are statistically significance for probability values less than 0.05 conditions. In view of that; at instability, it takes the nations all in all a speed of -0.5560 to return back to composure and the aberration from long-run improvement percentage is enhanced by 55.60% the consecutive year. In the long-run, the percentage of female employment and male employment rates contributed positively about 19.35% and 79.92% respectively to the percentage of total employment in the agriculture sector.

In the short run, LEAF and LEAM contributed positively about 8.21% and 37.21% respectively to LAE.

Table 8. Estimates of Panel ARDL (1, 0, 1) Model

Dependent Variable: D(LAE)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long Run Equation				
LEAF	0.193503	0.002668	72.53554	0.0000
LEAM	0.799150	0.005349	149.4006	0.0000
Short Run Equation				
COINTEQ01	-0.555952	0.173768	-3.199396	0.0017
D(LAE(-1))	0.057357	0.071938	0.797308	0.4268
D(LEAF)	0.082090	0.037138	2.210399	0.0289
D(LEAF(-1))	-0.005108	0.010029	-0.509269	0.6115
D(LEAM)	0.372017	0.146196	2.544650	0.0122
D(LEAM(-1))	-0.038339	0.056235	-0.681754	0.4967
C	-0.014484	0.008097	-1.788749	0.0761
@TREND	-0.000331	0.000155	-2.137211	0.0345
Mean dependent var	-0.012702	S.D. dependent var		0.061387
S.E. of regression	0.003718	Akaike info criterion		-8.744250
Sum squared resid	0.001714	Schwarz criterion		-7.836475
Log likelihood	810.7497	Hannan-Quinn criter.		-8.376001

The adjustment coefficient to equilibrium in table 9 was negative as required. At disequilibrium, it takes Argentina a speed of -1.2195 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 121.95% the following year.

Table 9: Cross-Section Short-Run Coefficients for Argentina

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-1.219513	0.157534	-7.741290	0.0045
D(LAE(-1))	-0.133890	0.073435	-1.823255	0.1658
D(LEAF)	-0.056858	0.006078	-9.355203	0.0026
D(LEAF(-1))	0.022247	0.003373	6.594852	0.0071
D(LEAM)	-0.164830	0.104020	-1.584602	0.2112
D(LEAM(-1))	0.104584	0.049748	2.102254	0.1263
C	-0.050984	0.000238	-213.7778	0.0000
@TREND	0.000123	7.19E-08	1704.183	0.0000

The adjustment coefficient to equilibrium in table 10 was negative as required. At disequilibrium, it takes Brazil a speed of -0.8373 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 83.73% the following year.

Table 10: Cross-Section Short-Run Coefficients for Brazil

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.837253	0.025574	-32.73844	0.0001
D(LAE(-1))	0.154035	0.019915	7.734649	0.0045
D(LEAF)	0.028848	0.001154	24.99950	0.0001
D(LEAF(-1))	-0.013728	0.000826	-16.61150	0.0005
D(LEAM)	0.123735	0.015219	8.130065	0.0039
D(LEAM(-1))	-0.114954	0.011690	-9.833360	0.0022
C	-0.013415	2.97E-05	-451.5846	0.0000
@TREND	-0.000856	3.22E-08	-26591.33	0.0000

The adjustment coefficient to equilibrium in table 11 was negative as required. At disequilibrium, it takes Chile a speed of -0.2458 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 24.58% the following year.

Table 11: Cross-Section Short-Run Coefficients for Chile

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.245828	0.011703	-21.00552	0.0002
D(LAE(-1))	0.306870	0.037663	8.147880	0.0039
D(LEAF)	0.117467	0.000483	243.4382	0.0000
D(LEAF(-1))	-0.027580	0.001070	-25.77252	0.0001
D(LEAM)	0.674557	0.006768	99.66547	0.0000
D(LEAM(-1))	-0.227784	0.027271	-8.352518	0.0036
C	0.003723	7.29E-06	510.5551	0.0000
@TREND	-0.000543	5.78E-08	-9387.516	0.0000

The adjustment coefficient to equilibrium in table 12 was negative as required. At disequilibrium, it takes Colombia a speed of -0.1199 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 11.99% the following year.

Table 12: Cross-Section Short-Run Coefficients for Colombia

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.119922	0.008281	-14.48178	0.0007
D(LAE(-1))	0.139989	0.062163	2.251983	0.1097
D(LEAF)	0.121922	0.000478	255.3053	0.0000
D(LEAF(-1))	-0.032103	0.001625	-19.75317	0.0003
D(LEAM)	0.779541	0.017816	43.75394	0.0000
D(LEAM(-1))	-0.106270	0.043415	-2.447762	0.0919
C	-0.001688	1.74E-06	-972.5229	0.0000
@TREND	-0.000111	1.42E-08	-7786.487	0.0000

The adjustment coefficient to equilibrium in table 13 was negative as required. At disequilibrium, it takes Paraguay a speed of -0.2561 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 25.61% the following year.

Table 13: Cross-Section Short-Run Coefficients for Paraguay

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.256133	0.029145	-8.788375	0.0031
D(LAE(-1))	-0.138976	0.029559	-4.701658	0.0182
D(LEAF)	0.209700	0.001355	154.7526	0.0000
D(LEAF(-1))	0.025896	0.002055	12.60353	0.0011
D(LEAM)	0.533894	0.018975	28.13616	0.0001
D(LEAM(-1))	0.127258	0.016888	7.535561	0.0048
C	-0.004255	1.23E-05	-344.6808	0.0000
@TREND	-3.30E-05	2.18E-09	-15098.71	0.0000

The adjustment coefficient to equilibrium in table 14 was negative as required. At disequilibrium, it takes Uruguay a speed of -0.6571 to return back to equilibrium and the deviation from long-run improvement rate is corrected by 65.71% the following year.

Table 14: Cross-Section Short-Run Coefficients for Uruguay

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.657064	0.054958	-11.95581	0.0013
D(LAE(-1))	0.016115	0.036109	0.446289	0.6856
D(LEAF)	0.071459	0.002350	30.41450	0.0001
D(LEAF(-1))	-0.005378	0.001572	-3.420291	0.0418
D(LEAM)	0.285205	0.035306	8.078151	0.0040
D(LEAM(-1))	-0.012866	0.023798	-0.540625	0.6263
C	-0.020282	6.31E-05	-321.3552	0.0000
@TREND	-0.000564	4.43E-08	-12729.12	0.0000

The panel residual cointegration tests of no cointegration amongst the series in table 15 were rejected; since, nine out of eleven Predoni residual cointegration tests have probability values that are statistically significant. Also; in table 16, Kao residual cointegration test of no cointegration in the null hypothesis was invalidated for probability values less than 0.05 point of reference. Overall, cointegration relationship exists amongst the series and thus, the impact of a shock will be momentary and ultimately become extinct as the economy returns to steady state; hence, the Granger-causality test could be performed.

Table 15. Pedroni Residual Cointegration Test

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	5.110926	0.0000	2.098463	0.0179
Panel rho-Statistic	-6.613854	0.0000	-1.535390	0.0623
Panel PP-Statistic	-11.76341	0.0000	-5.645947	0.0000
Panel ADF-Statistic	-3.609070	0.0002	-4.121723	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	-1.110170	0.1335
Group PP-Statistic	-7.640322	0.0000
Group ADF-Statistic	-4.767181	0.0000

Table 16. Kao Residual Cointegration Test

	t-Statistic	Prob.
ADF	-2.563484	0.0052
Residual variance	2.71E-05	
HAC variance	1.59E-05	

The pairwise Dumitrescu and Hurlin (2012) tests for two lags in table 17 allows all coefficients to be altered across cross-sections. It can be seen that unidirectional and independent relationships exist between some variables in the model. In view of that, the

percentage of female and male employment rates have a more significant effect on the percentage of total employment in the agriculture sector's fluctuation for the sub-region.

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Table 17: Pairwise Dumitrescu-Hurlin Panel Causality Tests

Null Hypothesis:	W-Stat.	Zbar-Stat.	Prob.	Decision	Causality
LEAF does not homogeneously cause LAE	5.69578	3.52064	0.0004	reject	unidirectional
LAE does not homogeneously cause LEAF	3.97964	1.79229	0.0731	accept	independent
LEAM does not homogeneously cause LAE	4.82295	2.64161	0.0083	reject	unidirectional
LAE does not homogeneously cause LEAM	2.82430	0.62874	0.5295	accept	independent
LEAM does not homogeneously cause LEAF	4.06986	1.88316	0.0597	accept	independent
LEAF does not homogeneously cause LEAM	4.05415	1.86734	0.0619	accept	independent

Conclusion

In some southern American countries, the percentage of female and male employment rate for periods 1991 to 2019 was coupled with the percentage of total employment in the agriculture sector via a provisional consistent and efficient estimation of no heterogeneity in the long-run reactions while consenting wide-ranging intercepts, group-specific speed of adjustments, short-run feedbacks and error variances amid the illustrative variables.

The series unfailingly incorporates unit root comportments by wandering about its variances and time centered reliant is enforced. Unidirectional and independent causalities become apparent; hence, the three series are causally related in one direction; so, the impact of a shock will be evanescent and vanish in the long run as the economy continues to the steady-state.

ARDL (1, 0, 1) for linear drift account was farsightedly designated. The error-correcting speeds of adjustment term for all the countries independently were significantly negative as a norm. Argentina, Brazil, Chile, Colombia, Paraguay and Uruguay took a speed of -1.2195, -0.8373, -0.2458, -0.1199, -0.2561 and -0.6571 singly to return back to long-run steadiness from short-run devastation; therefore, the deviation from the long-run symmetry in the percentage of total employment in the agriculture sector is adjusted independently by 121.95%, 83.73%, 24.58%, 11.99%, 25.61% and 65.71% the following year. The southern American countries all together take a speed of -0.5560 to return back to stability; accordingly, the deviance from the long-run symmetry rate in the percentage of total employment proportion is reconditioned by 55.60% the subsequent year. Succinctly, a 1% change in the female and male employment rate tend to increase the percentage of total employment in the agriculture sector by 19.35% and 79.92% in turn. The positive effect of male employment regularity was influencing the agriculture sector. The percentage of female and male employment rates have a more significant effect on the percentage of total employment in the agriculture sector's fluctuation for the sub-region.

The number of females employed in the agriculture needs to be strengthened.

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EVALUATING THE LOCATIONS OF THE FIRE HELICOPTER PLATFORMS IN THE REGION OF BURSA

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ABSTRACT

In Turkey, the General Directorate of Forestry (GDF) utilizes helicopters in various forestry activities such as firefighting, forest protection, wildlife management, shipping, and other activities. In firefighting activities, mostly Russian-designed "Mil Mi-8MTV-1" series helicopters are rented by the GDF during the fire season. These fire helicopters are designed to carry up to 20 people and 2.5 tons of water with a special bucket attached underneath. In this study, it was aimed to evaluate the location of the fire helicopter platforms in the border of Bursa Forestry Regional Directorate (FRD). In the solution process, the areas reached by the fire helicopters in the critical response time was determined using proximity analysis in ArcGIS. Accessible areas were also found for productive forest and degraded forest separately. The results indicated that 85.97 % of the total area of FRD was reached by the fire helicopter within the critical response time while it was 84.06 % for the forested areas. In terms of fire sensitivity degrees, 79.18 % of the first degree sensitive forests were accessed within the critical response time, while all of the second and third degree sensitive forests were reached on time. On the other hand, the accessible forest areas were 85.61 % and 81.21 % for productive forest and degraded forest. These results suggested that location of the fire helicopter platforms should be re-evaluate and possible new platforms should be located in Bursa FRD in order to improve the efficiency of the helicopter fleet and access the forest area in the critical response time. In this process, GIS techniques should be employed by the fire managers to evaluate the optimum locations for the fire helicopter platforms.

Keywords: Forest Fires, Fire Helicopter, GIS, Visibility Analysis

YANGIN HELİKOPTERİ PLATFORMLARININ BURSA BÖLGESİNDEKİ KONUMLARININ DEĞERLENDİRİLMESİ

ÖZET

Türkiye'de Orman Genel Müdürlüğü (OGM), yangınla mücadele, orman koruma, yaban hayatı yönetimi, transport ve diğer faaliyetler gibi çeşitli ormancılık faaliyetlerinde helikopterlerden yararlanmaktadır. Yangınla mücadele faaliyetlerinde, yangın sezonu boyunca OGM tarafından genellikle Rus üretimi "Mil Mi-8MTV-1" serisi helikopterler kiralanmaktadır. Bu yangın helikopterleri, 20 kişiye kadar personel ve altına takılı özel bir kova ile 2,5 ton su taşıyabilecek şekilde tasarlanmıştır. Bu çalışmada, Bursa Orman Bölge Müdürlüğü (FRD) sınırındaki yangın helikopteri platformlarının konumunun değerlendirilmesi amaçlanmıştır. Çözüm sürecinde, ArcGIS yazılımında yakınlık analizi kullanılarak yangın helikopterlerinin kritik müdahale süresinde ulaştığı alanlar belirlenmiştir. Ayrıca verimli ormanlar ve bozuk ormanlar için ayrı ayrı erişilebilir alanlar bulunmuştur. Sonuçlar, yangın helikopterinin kritik müdahale süresi

içinde toplam FRD alanının %85,97'sine ulaşıldığını, ormanlık alanlarda ise bu oranın %84,06 olduğunu göstermiştir. Yangına hassasiyet dereceleri açısından, birinci dereceden hassas ormanların %79,18'ine kritik müdahale süresi içerisinde ulaşılırken, ikinci ve üçüncü dereceden hassas ormanların tamamına zamanında ulaşılmıştır. Öte yandan, verimli ormanlar ve bozuk ormanlar için erişilebilir orman alanları sırasıyla % 85.61 ve % 81.21 olarak bulunmuştur. Bu sonuçlar, kritik müdahale süresinde helikopter filosunun verimliliğini artırmak ve ormanlık alana erişim sağlamak için yangın helikopteri konumlarının yeniden değerlendirilmesi ve olası yeni platformların Bursa FRD alanında yerleştirilmesi gerektiğini önermektedir. Bu süreçte, yangın helikopteri platformları için optimum konumları değerlendirmek için yangın yöneticileri tarafından CBS teknikleri kullanılmalıdır.

Anahtar Kelimeler: Orman Yangınları, Yangın Helikopteri, CBS, Görünürlük Analizi

INTRODUCTION

In Turkey, approximately five million hectares of forest area, along the coastline starting from the east of the Mediterranean region and extending to the Marmara region, is primarily sensitive to fire (Akay et al., 2012). In Turkey, the amount of forest area damaged by forest fires is about 10000 hectares and it has tended to increase in recent years. In 2021, a total of 16000 hectares of forest land were damaged in about 3000 forest fire incidences.

The teams working on forest firefighting are divided into five groups: first response team, ready force team, mobile team, fire truck team and air support team (helicopter and aircraft) (Akay et al., 2008). Helicopters are preferred for forest fire suppression as they can fly in mountainous areas, reach the high speed in a short time, and hover in a certain point on the desired height (Ay and Ay, 2011).

Especially in areas that are sensitive to forest fires, the fire helicopters carry water in the bucket and pour it to the fire areas to control the fire and cool down the perimeter. This is one of the most effective elements in controlling fires and reducing losses. In addition, forest fires in areas with no roads or limited means of transportation can be only accessed in a short time with the help of helicopters.

In order to respond effectively to forest fires, fire extinguishing activities should start within the critical response time, in which the fire is likely to be controlled. Thus, it is essential to place the fire helicopter platforms in optimal locations that the forest areas can be reached by the fire helicopters within the critical response time. The critical response time varies depending on the fire sensitivity of the forest area (Table 1). The fire sensitivity degree map of Turkey has been developed by General Directorate of Forestry (GDF) based on the Forestry Enterprise Directorates (Figure 1).

Geographic Information Systems (GIS) are widely used in many forestry applications. GIS technology has effective tools to collect, store, edit, analyze spatial data and present descriptive information about this data on digital maps (Gumusay and Sahin, 2009). Kucuk and Bilgili (2006) reported that using GIS technology is easier, economical, and faster approach in obtaining and analyzing information for firefighting activities, pre-fire actions, and post-fire operations.

In this study, the efficiency of the fire helicopter platforms in Bursa FRD was evaluated by GIS technology, while considering the critical response time and fire sensitivity degrees in the region. Accessible areas with helicopters were also analyzed considering the productive forests and degraded forests in the region.

Table 1. Critical response time according to fire sensitivity level (GDF, 2008)

	Fire Sensitivity Degrees				
	I	II	III	IV	V
Critical Response Time	20 min	30 min	40 min	50 min	50 min

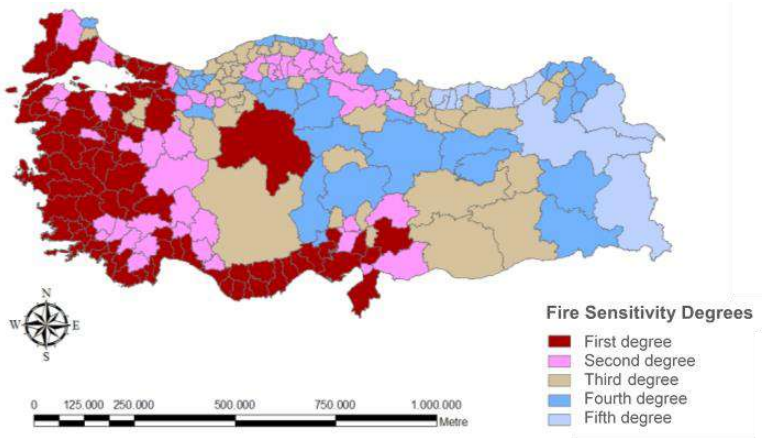

Figure 1. Fire sensitivity map based on Forest Enterprise Directorates

RESEARCH AND RESULTS

The Study Area and GIS Database

The study area covers the Bursa Forestry Regional Directorate (FRD) in Turkey (Figure 2). The study area is 1574946 ha with 48.26% covered by forest lands. The region, which is generally dominated by the Mediterranean climate type, is also the transition between the Black Sea climate and the Mediterranean climate. There are three cities in the border of Bursa FRD; Bursa, Bilecik, and Yalova. In the study area, the forests are in the first, second and third degree sensitive to fires and there are eight fire helicopter platforms.

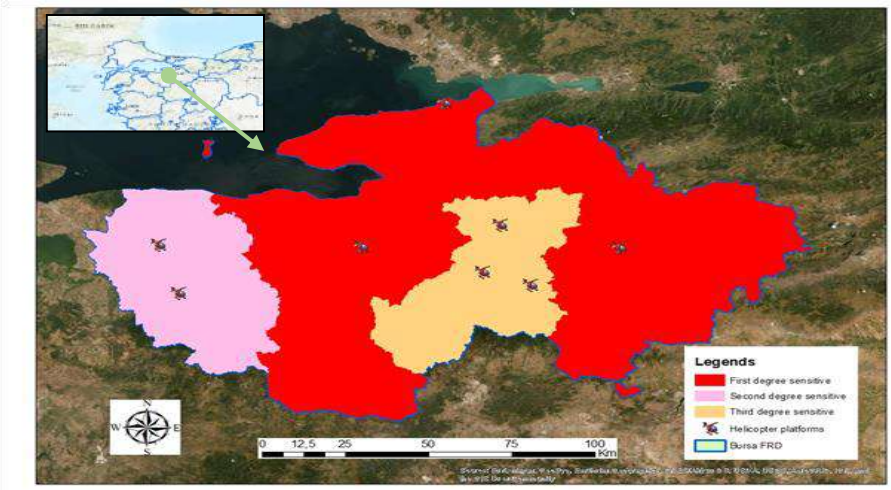

Figure 2. The 11 FEDs in Bursa Forestry Regional Directorate

The fire sensitivity layer of the study area was developed based on the fire sensitivity degree map of Turkey. The locations of the fire helicopter platforms were obtained from the Bursa FRD and associated layer was produced in ArcGIS program. The forest map of the study area was developed based on the forest management map of the study area, obtained from Bursa FRD. Then, digital layers for productive forests and degraded forests were generated also based on the forest management map.

Proximity Analysis

The efficiency of the fire helicopter platforms located in Bursa FRD was evaluated by considering the critical response time. In the solution process, buffer feature under Proximity in ArcMap module of ArcGIS 10.4 was used. By considering the fire sensitivity degrees of the first, second, and third degree sensitive forest areas in the Bursa FRD, circular areas that can be reached by the helicopter in 20, 30, and 40 minutes (flight time + preparation time) were determined (Figure 3). For the "Mil Mi-8MTV-1" series helicopters, mostly rented by the GDF during the fire season, the average flight speed and preparation time were estimated as 225 km/hour and 10 minutes, respectively. Then, the radius of each circle was computed as 37.5 km, 75 km, and 112.5 km based on the actual flight times of 10, 20, and 30 minutes (excluding preparation time) and average flight speed. Finally, the circular areas were merged to determine the accessible areas by helicopters in critical response time, considering fire sensitivity degrees. Accessible forest areas were also found for productive and degraded forests.

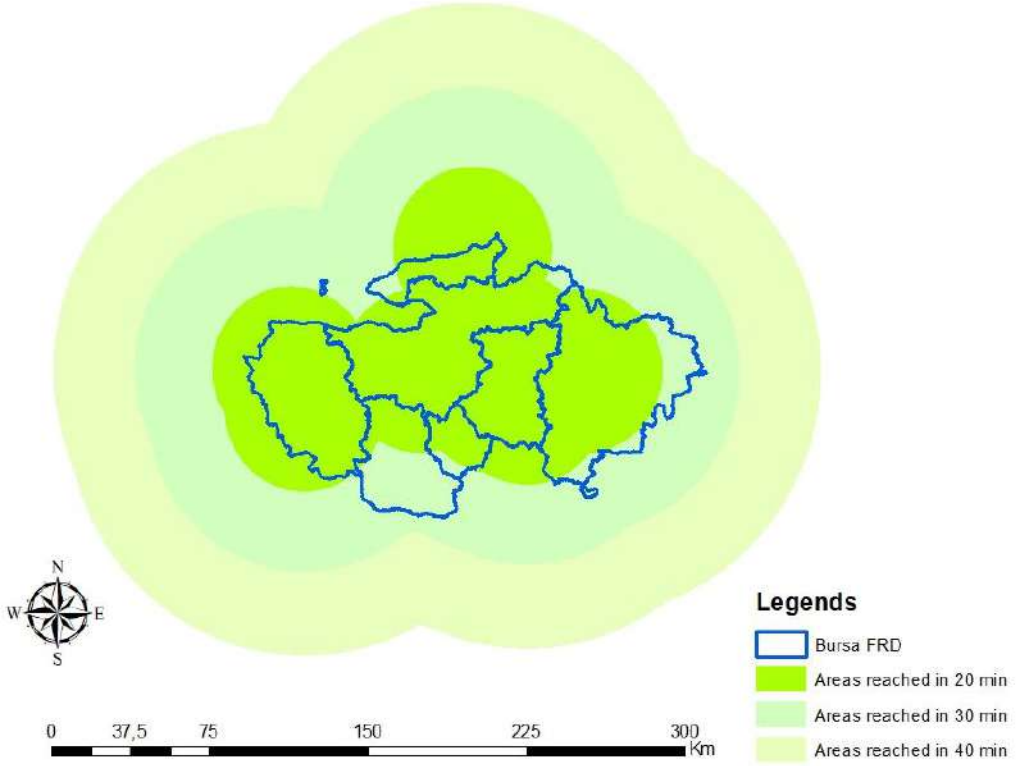

Figure 3. The areas that are reached in the critical response times

In terms of fire sensitivity degrees, the first, second, and third degree fire sensitive areas were 67.32%, 17.30%, and 15.38%, respectively. It was found that 64.77% of the forests were productive while rest was the degraded forest (Figure 4). The results indicated that fire

helicopters can reach to the 85.97% of the study area in 20 minutes and to rest of the study area in 30 minutes (Figure 5).

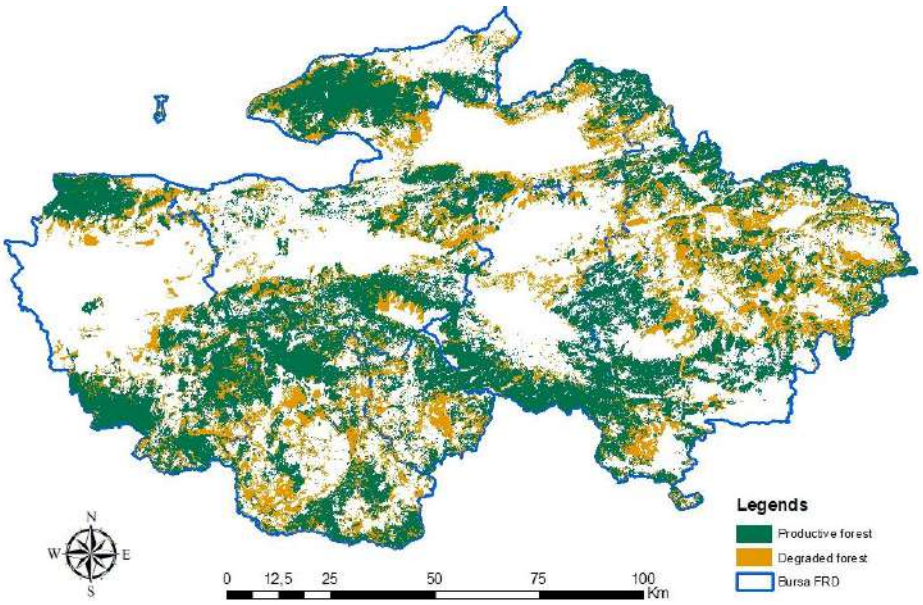

Figure 4. Productive and degraded forest areas in Bursa FRD

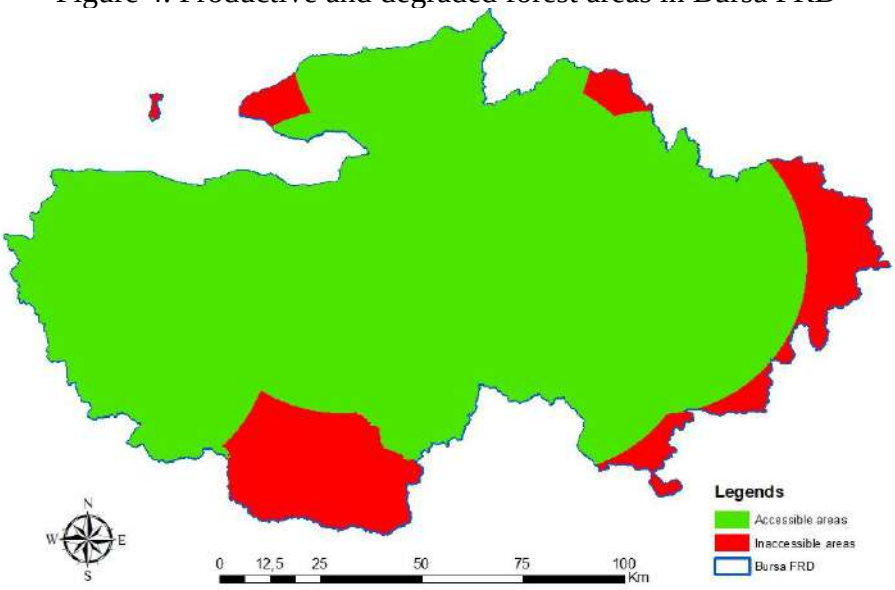

Figure 5. Accessible and inaccessible areas in the study area

In terms of sensitivity degrees, it was found that 79.18% of the areas with the first degree sensitivity degree was reached in the critical response time, while all of the areas with the second and third degree sensitivity were reached on time. The total forest areas that can be reached within the critical response time was 84.06%, while 14.39% and 18.79% of the productive and degraded forests were not reached on time, respectively (Figure 6).

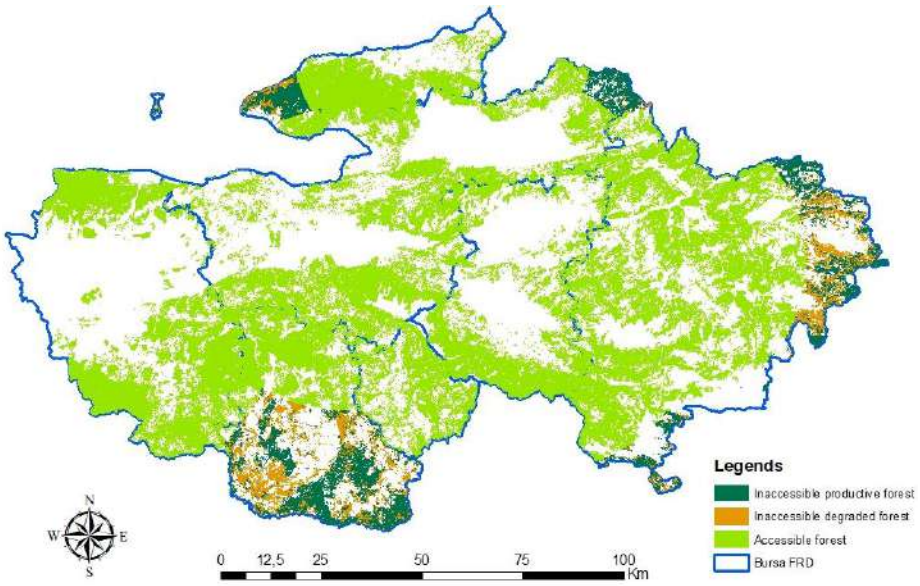

Figure 6. Inaccessible areas for productive and degraded forests

CONCLUSIONS

By using GIS technology, the efficiency of the helicopter aerial support team operating in Bursa FRD was evaluated, considering critical response time and fire sensitivity degrees in the region. The findings of the proximity analysis indicated that 15.95% of the forest area was not reached by the fire helicopters within the critical response time. The fire helicopter fleet was not able to reach 20.82% of the first degree sensitive forests were accessed within the critical response time, while all of the second and third degree sensitive forests were accessed on time. The inaccessible forest areas for productive forest and degraded forest were 14.39% and 18.79%, respectively. It was found that location of the fire helicopter platforms in Bursa FRD should be re-evaluate and possible new locations should be determined to improve the accessible forest areas in the critical response time. GIS techniques can provide fire managers with effective tool to evaluate the optimum locations for the fire helicopter platforms.

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ASSESSMENT OF PHYSICAL RISK FACTORS DURING MECHANIZED FOREST HARVESTING OPERATIONS

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ABSTRACT

As a result of the increasing demand to forest products, the trend towards modern methods in the forestry sector has increased. With the developments in mechanization techniques, manual works have started to be carried out mostly by utilizing machine power. In addition, the machine works are more productive because mechanized forest harvesting works are generally heavy and difficult jobs. Besides the advantages of machines such as high productivity, however, they have some disadvantages due to their physical effects on the environment and humans. During mechanized harvesting, especially operators are exposed to significant noise and particle effects. Operators who are exposed to these effects during long working periods may experience serious problems such as hearing and respiratory disorders. In addition to their effects on worker health, physical risk factors also reduce productivity and cause occupational diseases due to long-term interactions. As a result, it is necessary to measure these effects and investigate the effects on the operators and take the necessary precautions. In this study, machine-related risk factors (noise and particles) that occur as a result of the use of harvester (harvester) and loader (loader) used during forest harvesting were measured and their effects on the operator were examined. The results indicated that the average noise level was measured as 61.73 dBA which can cause discomfort, disturbance, anger, rage, sleep disorder and concentration disorder on operators. The mean values obtained from particle measurements were found to be 44.51 µg/m3 for PM2.5 and 229.64 µg/m3 for PM10. These values showed that there is an above-average particle contamination. In order to minimize the negative effects of these physical risk factors, it would be appropriate for the operators to use right personal protective equipment (ear protector, masks, etc.) and the noise and particle isolation of the machine cabins should be improved.

Keywords: Mechanized harvesting operations, physical risk factors, noise analysis, particle exposure

ORMANCILIKTA MEKANİK ÜRETİM ÇALIŞMALARI SIRASINDA OLUŞAN FİZİKSEL RİSK FAKTÖRLERİNİN DEĞERLENDİRİLMESİ

ÖZET

Orman ürünlerine olan ihtiyaçların giderek artması sonucu ormancılık sektöründe modern yöntemlere yönelim artmıştır. Mekanizasyon tekniklerindeki gelişmelerle manuel yapılan çalışmalar daha çok makine gücünden yararlanılarak gerçekleştirilmeye başlanmıştır. Ayrıca, ormancılıkta üretim işleri genel olarak ağır ve zor olduğu için makineler daha verimli

çalışmaktadır. Diğer taraftan, makinelerin iş verimini arttırması ve hızlandırması gibi avantajlarının yanında çevre ve insanlar üzerindeki fiziksel etkilerinden dolayı birtakım dezavantajları bulunmaktadır. Mekanik üretim çalışmaları sırasında özellikle makine operatörleri önemli ölçüde gürültü ve partikül etkisine maruz kalmaktadır. Bu etkilere uzun çalışma süresince maruz kalan operatörlerde işitme ve solunum rahatsızlıkları gibi ciddi sorunlar ortaya çıkabilmektedir. Bu gibi fiziksel risk faktörlerinin işçi sağlığı üzerindeki etkilerinin yanı sıra işçilerde verim düşüklüğüne, uzun süreli etkileşimler sonucunda ise meslek hastalıklarına yol açmaktadır. Sonuç olarak bu etkilerin ölçülerek operatörler üzerindeki etkilerinin araştırılması ve gerekli önlemlerin alınması gerekliliği ortaya çıkmaktadır. Bu çalışmada üretim işleri sırasında kullanılan hasatçı (harvester) ve yükleyici (loader) kullanımı sonucu meydana gelen makine kaynaklı risk faktörlerinin (gürültü ve partikül) ölçümleri yapılarak operatör üzerindeki etkileri incelenmiştir. Elde edilen sonuçlara göre gürültü şiddetinin ortalama 61,73 dBA seviyesinde olduğu ölçülmüştür. Bu değer, operatörler üzerinde konforsuzluk, rahatsızlık, öfke, kızgınlık, uyku düzensizliği ve konsantrasyon bozukluğuna neden olabilmektedir. Partikül ölçümlerinden elde edilen ortalama değerler PM2.5 için 44,51 µg/m3 ve PM10 için 229,64 µg/m3 olarak bulunmuştur. Bu ölçüm değerleri ortalamanın üzerinde bir partikül kirliliğinin olduğunu göstermiştir. Bu fiziksel risk faktörlerinin olumsuz etkilerini minimize etmek için operatörlerin uygun kişisel koruyucu ekipmanları (kulaklık, maske vb.) kullanmaları ve makine kabinlerinin gürültü ve partikül izolasyonunun arttırılması yerinde olacaktır.

Anahtar Kelimeler: Mekanik üretim faaliyetleri, fiziksel risk faktörleri, gürültü analizi, partikül maruziyeti

INTRODUCTION

Forest harvesting activities are carried out by making use of forestry machines that have been recently employed in some parts of Turkey as well. Although mechanized harvesting techniques improves the working speed and operation efficiency, they may result in various negative effects on forestry workers and the environment. Especially the machine operators, who have to work in machine cabinets during harvesting activities exposed to machine-based physical risk factors for a long time. In this respect, the particular attention should be paid to toxic gas (CO), dust, noise, and vibration effects originated from the forestry machines.

The negative effects of particles on human health are related to the size of the particle. Particles larger than 10 µm entering the respiratory system while breathing are caught in the nose and upper pharynx. The most important problem is that it creates particles smaller than 10 µm, which can reach deep into the lungs. While these particulate substances are collected in the bronchi, particles with a diameter of 1-2 µm accumulate in the alveoli, those with a diameter of 0.5 µm, and especially particles with a diameter of 0.1 µm pass from the alveoli to the capillaries. Particles that mix with the blood from the capillaries can negatively affect other systems, primarily the heart and circulatory system (Zencirci and Işıklı, 2017). Particulate matter can cause premature deaths, heart attacks, asthma attacks, lung and respiratory diseases, shortness of breath and cough in people with heart or lung disease (Bayram et al., 2006).

An important risk factor that occurs during forest harvesting operations or the processing of wood raw materials is particulate matter. Particulate matter, especially soil dust and wood dust, can result serious respiratory problems, skin and eye irritations. Particularly respirable size particulate matter will be considered in this study. Particulate substances cause an important threat to forestry workers by severely damaging the respiratory system, especially the nose, trachea and bronchi. On the other hand, bacteria and fungi that develop on wood can cause

serious infections when inhaled in powder form and may show allergenic effects (Thörngvist and Lundström, 1982).

In a study conducted by Magagnotti et al. (2013), the severity of dust exposure on the chipper operator was evaluated. Operators were operated in a closed cabinet and external samples were also taken to measure the dust reduction effect of a protected area. As a result, it was found that the operator working in the enclosed cabin was 3 times less affected than the workers working outside and they were not affected by dust at concentrations exceeding legal limits. It has been suggested that full-time employees as chip operators should work in a closed cabinet to prevent or limit their exposure to wood dust. Marchi et al. (2017) conducted measurements taking into account the different silvicultural operations and different chainsaw fuels and investigated their effects on the amount of particulate matter. The study was conducted in the forests of the Apennine Mountain in Central Italy. In this study, it was found that the exposure to wood dust varies greatly according to the type of silvicultural operations, but it was found that there was no significant difference for different chainsaw fuels. Approximately 93% of the samples taken showed a concentration of less than 3 mg/m^3 and the concentration in only two samples was slightly higher than 5 mg/m^3.

Noise is called sound which has negative effects on people and society. Noise is also defined as sounds which have a random structure and can affect the person physically or mentally. Prolonged exposure to noisy environments may result in significant hearing loss. On the other hand, it causes problems such as sleep disorders, stress, the ability to do work (Güler et al., 1994). Noise is generally expressed in the form of unwanted, unpleasant, and intolerable sounds (Watts, 1995). The previous studies conducted on the effects of noise level indicated that the noise level of 80 dBA and less may not result in significant problems on worker health and noise effect can be prevented by using personal protection equipment (Güvercin and Aybek, 2003). The noise level of 85 dBA is defined as the warning limit, while 90 dBA and above is defined as the hazard limit with material risk. It was reported that the noise level of 85-115 dBA may result in physiologic and psychological health problems. The workers exposed to noise level of 115 dBA or higher can suffer from permanent hearing loss problems.

Forest operations are one of the working environments where noise effect can be very intense. Especially the operators of the heavy machines are exposed the noise effects, depending on the work roughness and machine type (Neitzel and Yost, 2001). In fact, the high level noise caused by heavy machines is considered as one of the most important effects on operator health. The noise level of the heavy machines varies depending on location of the noise source, noise reflecting surfaces, operation technique, and maintenance of the machine (Serin and Akay, 2010). In addition to heavy duty machines and mechanized harvesting equipment, various other machines used in forestry activities have negative effects on workers' health.

In this study, assessment of physical risk factors caused by mechanized forest harvesting equipment was conducted during harvesting activities. The noise and particles exposures of operators using harvester (harvester) and loader (loader) were measured and their potential effects were evaluated.

RESEARCH AND RESULTS

The Study Area

The general area of Beyşehir Forest Management Directorate is 386,680 ha, of which 178,644 hectares is forest area, 95,646 hectares of which is productive and 82,998 hectares is degraded forest. During the study, dust and noise measurements were made on the harvesting equipment operating in Hüyük Forest Enterprise Chief (Figure 1). These machines are Hidromek HMK

220 brand harvester (Figure 2a), and Volvo EC55 (Figure 2b) and Kubota U55-4 brand loaders (Figure 2c).

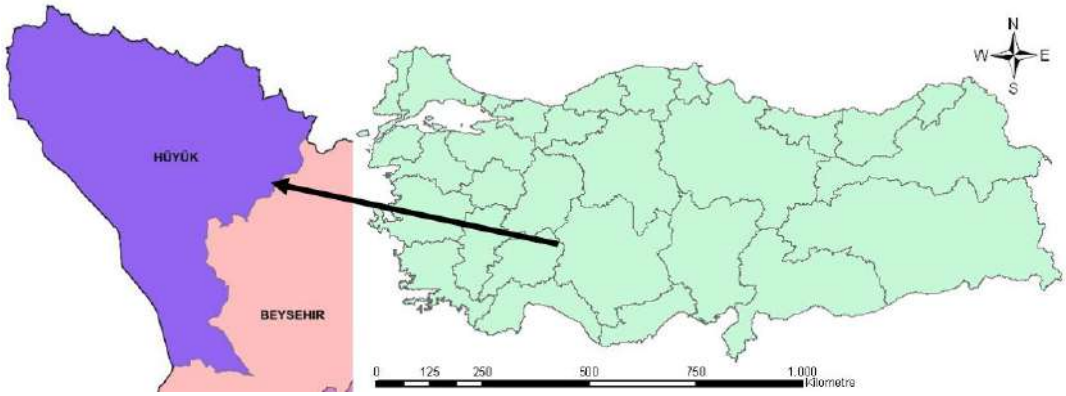

Figure 1. Hüyük Forest Enterprise Chief



a)Hidromek HMK 220



b) Volvo EC55



c) Kubota U55-4

Figure 2. Forest harvesting equipment

Data Collection

Since the harvesting equipment used in the field work with machine power, they cause some risk factors affecting human health such as noise, waste gas and dust. It is very important to know the danger levels in order to eliminate these risks. For example, if noise is taken into consideration, since different noise levels will have different effects on people, it can be determined what kind of situations occur in the operators by looking at the noise levels determined by the measuring devices. However, by looking at the exposure times, the time-

dependent changes of these effects can also be observed. Measurements were made from the areas close to the head, which is the breathing and hearing area of the operators who were exposed to dust and noise generated during harvesting (Figure 3).



Figure 3. Placements of measuring devices on operators

The PCE-PCO-2 particle meter device used for particle measurements was placed close to the operator's breathing zone (Table 1). Thus, the amount of particles in the air that the operator breathes would be similar to the amount of particles measured. Data were measured in 1-minute periods and mean and total values were calculated. The data measured for a total of 150 minutes were taken into account. During the studies, the noise values originating from the harvesting machines were measured with the PCE-430 noise meter (Table 2). During the measurements, the device was positioned close to the operator's ear area. Here, the noise generated inside the machine cabin was measured. With this method, it was aimed to determine how much the operator is affected by the noise in the cabin.

Table 1. The specifications of PCE-PCO-2 particle meter

Parameters	Values
Particle sizes	0.3, 0.5, 1.0, 2.5, 5.0, 10 µm
Flow rate	2.83 L/min
Counting modes	Cumulative, differential, concentration
Counting efficiency	50% @ 0.3µm; 100% particle size > 0.45 µm
Coincidence error	<5% @ 2,000,000 particle per ft^3
Air temperature	-14 to 140ºF (-25 to 60ºC); Accuracy: ±2ºF/1ºC
Humidity	0 to 100%RH; Accuracy: ±3%RH (40% to 60%RH)
Dew point temp	32 to 122ºF (0 to 50ºC)
Dimensions/Weights	9.4 x 3 x 2.2" (240 x 75 x 57mm)/570g



Table 2. The specifications of PCE-430 noise meter

Parameters	Values
Measuring range	22 ... 136 dbA
Accuracy	Class 1
Frequency range	3 Hz ... 20 kHz
Frequency analysis	1/1 Octave band filter: 8 Hz ... 16 kHz 1/3 Octave band filter: 6.3 Hz ... 20 kHz
Data-logging interval	1 s ... 24 h (adjustable)
Measuring functions	LXY (SPL), LXeq, LXYSD, LXSEL, LXE LXY max, LXY min, LX Peak, LXN. X = Frequency weighting: A, B, C, Z;



Inherent noise	Y = Time weighting: F, S, I; N = Statistics in %: 1 ... 99% Microphone: 19 db (A), 25 db (C), 31 db (Z) Electronics: 13 db (A), 17 db (C), 24 db (Z)

Results

The mean values obtained from particle measurements were found to be 44.51 μg/m^3 for PM2.5 and 229.64 μg/m^3 for PM10 (Table 3). When these values are evaluated by looking at the Air Quality Index of the United States Environmental Protection Agency, the amount of particles in the environment corresponds to the index value in the range of 101-150. This value is "Vulnerable groups should reduce prolonged or heavy work." described in an expression. The measurement values show an above-average particle contamination.

The general sound intensity obtained from the noise measurements is at the level of 61.73 dBA, which affects people in the 1st degree (Table 3). This value is described as "Discomfort, discomfort, anger, rage, sleep disorder and concentration disorder". When looking at the sound intensity when the machines are working, sound intensity is measured at the level of 70.1 dBA that affects people in the 2nd degree. This value is described as "Physiological reactions, increase in blood pressure, acceleration in heartbeat and respiration, decrease in pressure in cerebral fluid, sudden reflexes". However, another point to be noted here is that the measurements were made from inside the cabin. Considering that the sound intensity reaches such high intensities as 95 dBA during operation in very rare cases, it is seen that the sound intensity in the cabin decreases significantly.

Table 3. Data summary

Particle data (μg/m^3)		
	Average	Total (μg/m^3)
PM2.5	44.51	6677
PM10	229.64	34446
Noise data (dBA)		
	Min	Average	Max
General	34	61.73	95
During operation	65.1	70.1	95

CONCLUSIONS

In this study, harvesting equipment related risk factors, including particle and noise, were evaluated. It was found that the data obtained from the measurements of particle matter were above the average. It is essential to use personal protective equipment and clothing in order to avoid the concentration of particulate matter in the inhaled air and its related damages. It should be ensured that the operators have their health status checked at regular intervals. On the other hand, rotating operators will also reduce exposure to particle. When the findings obtained from the noise measurements were taken into account, the loud sound also reached the cabin when the machines consume excessive power during operation. Since this situation was not encountered very often, it was not a dangerous situation, but it was still at the 1st and 2nd degree effect levels. Simple measures to be taken by operators will be able to protect themselves from hearing loss. The lower level of exposures can be encountered as the sound insulation to be increased in the equipment cabins along with the use of protective equipment.

ACKNOWLEDGEMENT

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SESAME CULTIVATION IN SEMI ARID CONDITIONS AKOREN EXAMPLE

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ABSTRACT

Arid and semi-arid regions cover a very large area on earth. Some parts of our country are in these areas. It is necessary to be more careful in terms of agricultural activities in these areas. Akoren district is in semi-arid areas with an average annual precipitation of 478 mm. In some years, precipitation exceeds 500 mm and reaches 566 mm. Akoren covers 1.13% of Konya and 0.07% of Turkey with an area of Akoren56,055.44 ha. Sesame is produced as an oil plant. It is a summer and herbaceous plant whose seed contains 50-60% oil. Sesame is produced without irrigation in Akoren. For this reason, the yield remains below the world and Turkey averages. The yield of sesame, which is 510 kg/ha in the world and 680 kg/ha in Turkey, is around 250 kg/ha in Akoren. However, local sesame seeds grown in Akoren are rich in fatty acid. The germination rate of sesame seeds is high. The emergence of seeds from the soil is weak. Seed bed conditions must be suitable for sesame planting. Soil temperature is as important as soil moisture in sesame planting in Akoren. When the soil temperature is low, the emergence of seeds from the soil remains very weak. For this reason, sesame planting in Akoren is done in the first week of June. In Akoren, farmers harvest sesame in late September-early October. Being late in the harvest causes the sesame to be damaged by the frosts in the region. For this, sesame is harvested at the appropriate time in autumn. Average growing period in sesame varies between 100 – 110 days.

Key Words: Sesame, Semi-arid, Akoren

INTRODUCTION:

Regions with low rainfall such as 300–500 mm per year are called Semi-arid (Semi-Arid) or steppe climate. Steppe climate is also known as Bozkır in our country. Herbaceous plants, shrubs and some bulbous plant species naturally grow in the steppes. Grain farming is prominent. Steppes are common in the eastern and southern parts of our country, especially in the central parts. Our country, which has a very high agricultural potential, has different ecological regions that can grow products belonging to different geographies. This diversity is one of the most important features of our country (Tulukcu 2020).

Sesame (*Sesamum indicum* L.) is an important oilseed plant whose seed and oil can be consumed directly today. Sesame is mostly consumed as tahini and halva in Turkey, it is also used in making cakes, confectionery, desserts, bread, and simit. Sesame oil: It is also used in soap making to add flavor to salads, mayonnaise, perfumery, cosmetics, sauces, and olive oil dishes. It is rich in calcium, potassium, phosphorus, vitamins (B, E) and minerals. It meets the vitamin E needs of the skin and hair. Sesame oil has brightening and refreshing properties for skin, hair, and eyelashes. It is easily absorbed by the skin, giving it flexibility and softness. For this reason, it is also preferred as a massage oil (Tulukcu 2013). The stems are also used as fuel. It has an important place in animal nutrition as it contains 43% crude protein in the pulp remaining after the oil is extracted from its seeds (Tulukcu 2013). Considering the sesame cultivation areas in the world; Sudan comes first with an area of 2,141 338 hectares. However,

sesame cultivation areas are not directly proportional to yield and production amounts. Although China is the country with the highest yield, Tanzania is the country with the highest production amount. The inadequacy of sesame cultivation areas in Turkey necessitates imports to meet the demands. According to 2019 data, 6,549,725 tons of sesame were obtained from 12,821,752 ha in the world and the yield was 510.8 kg/ha on average. In the same year, 16833 tons of product was obtained from an area of 24.855 hectares in Turkey, while the average yield was 679,7 kg/ha. In Akoren, the average yield is around 200-250 kg/ha (Tulukcu 2013; Anonymous a 2021).

RESEARCH AND FINDINGS

Geographic Location of Akoren

Akoren is in the south-west of Konya in the Central Anatolian Region. It has a surface area of 515 Km^2 and an altitude of 1130 m. It is between 37^0 12' - 37^0 55' north latitudes and 32^0 07' - 32^0 36' east longitudes. Located in the south-west part of Konya and surrounded by mountains on three sides, Akoren is surrounded by Meram in the north, Bozkır in the south, Seydişehir in the west, Cumra in the east and Ahırlı in the southwest. Ulu Sivri Mountain, located to the west of Akoren, is the highest point with 2130 m, and the Mediterranean region starts from here (Tulukcu and Cagla 2005).

Soil Properties of Akoren

In terms of soil properties, Akoren consists of rocks belonging to Mesozoic, Tertiary and Quaternary geological times. In Akoren district, the main soil material is andesite and sandstone, and shallow and very shallow, stony, non-calcareous brown forest soils were formed on it. The type of the main substance greatly affects the thickness of the soil it forms. Although the soils of Akoren site have limiting factors such as shallow fine texture, drainage, and erosion, they generally consist of fertile lands. The soils of Akoren show a clayey, clayey sandy structure. The soil pH is between 6.9 and 8 and is slightly alkaline with an average of around 7.7. The average salt content is 0.2%, the lime rate is 12% and the organic matter rate is around 1%, and although there is an excess of salt in some places and lime in others, the amount of organic matter is insufficient. It was observed that 64.4% of the agricultural lands in Akoren were lightly stony, 19% medium stony and 16.6% stone-free. Again, 68% of the same lands were found to be flat and nearly flat (0-2%), 23.8% slightly inclined (2-3%) and 7.4% moderately sloped (4-8%) (Tulukcu et al 2011).

Climate Characteristics of Akoren:

Monthly average temperature, total monthly precipitation average and monthly average relative humidity data for the years 2018, 2019 and long years and obtained from the Regional Directorate of Meteorology of Akoren District, are given in Table 1 and the graphs of these data are given in Figure 1-2-3 (Anonymous b 2021).

Annual precipitation totals for 2018, 2019 and long years in Akoren region were 496 mm, 566.6 mm, and 478.16 mm, respectively. In these years (2018, 2019 and many years), the total precipitation during the sesame growing period (between June and October) is 73.8 mm, 129.7 mm, and 97.82 mm, respectively.

Table 1. Pattern, Temperature and Relative Humidity Data For 2018, 2019 And Long Years of Akoren District *

Parametre	Average Temperature (ºC)			Average Monthly Total Rainfall (mm)			Monthly Average Relative Humidity (%)		
January	1.2	-0.1	-0.7	80.5	108.1	75.88	90.2	85.6	86.2
February	6.2	3.8	3.3	11.4	45.1	29.6	75.3	75.5	77.5
March	10.3	6.2	7.4	35.4	32.8	43.36	60	62.4	64.7
April	13.2	9	11.1	23.3	50.9	31.22	53.6	68.8	58.5
May	16.5	17.3	16	86.7	2	45.64	67.2	46	58.6
June	20.2	20.5	19.9	44.1	86.7	57.88	56.4	56	57.3
July	24.1	22	23.6	13	20.9	13.8	40.8	45.7	39.7
August	23.7	22.6	23.7	9	14.7	13.72	37.5	46.4	41.9
September	19.6	18.9	20	7.7	7.4	12.42	42.9	45	41.1
October	13.3	15.3	13.9	47.6	25.2	32.8	61.7	55.6	56.6
November	7.6	8.9	7.4	42.5	43.9	41.98	68.5	71.9	66.2
December	3.2	3.4	1.6	94.8	128.9	79.86	83.9	85	83

*: Climate data was obtained from the Regional Directorate of Meteorology.

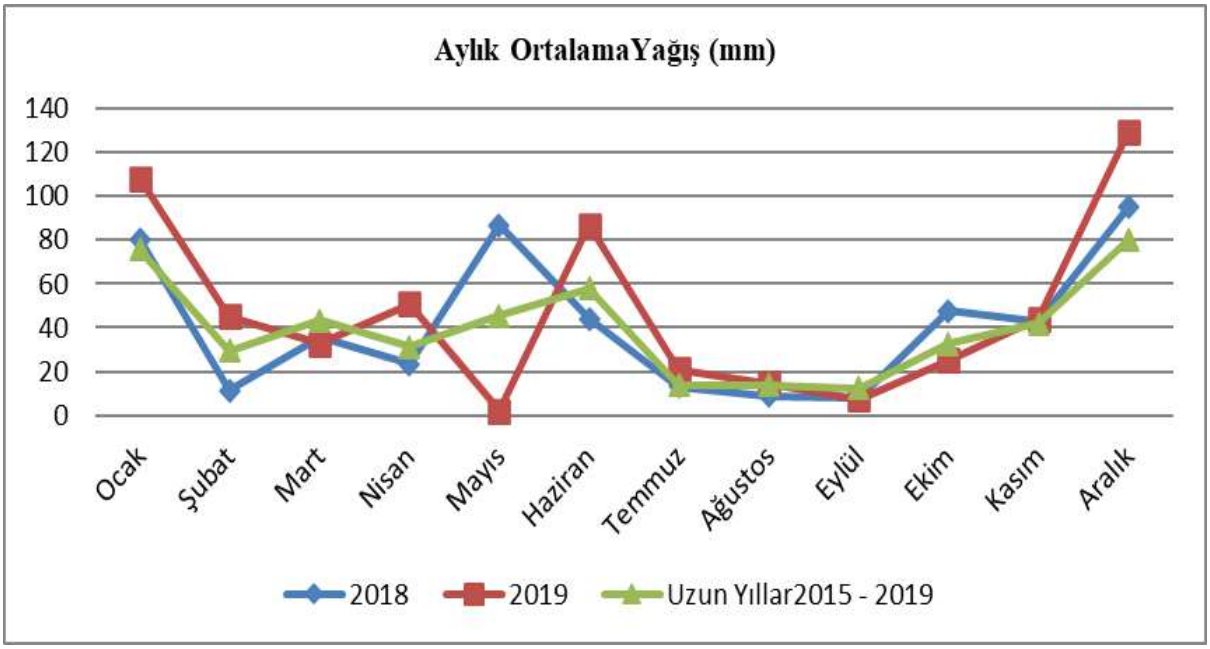

Figure 1 Monthly Total Precipitation (mm) Curve

In Akoren, there was no significant difference between the average temperatures in 2019 and many years. 2018 (13.26ºC) year had approximately 8% higher average temperature compared to 2019 (12.32ºC) and long-term averages (12.27ºC). During the sesame growing period (between June and October), the highest monthly mean temperature was recorded in July with 24.1ºC in 2018, and 22.6 ºC in August in 2019. According to the long-term averages, August has the highest temperature (23.7 ºC).

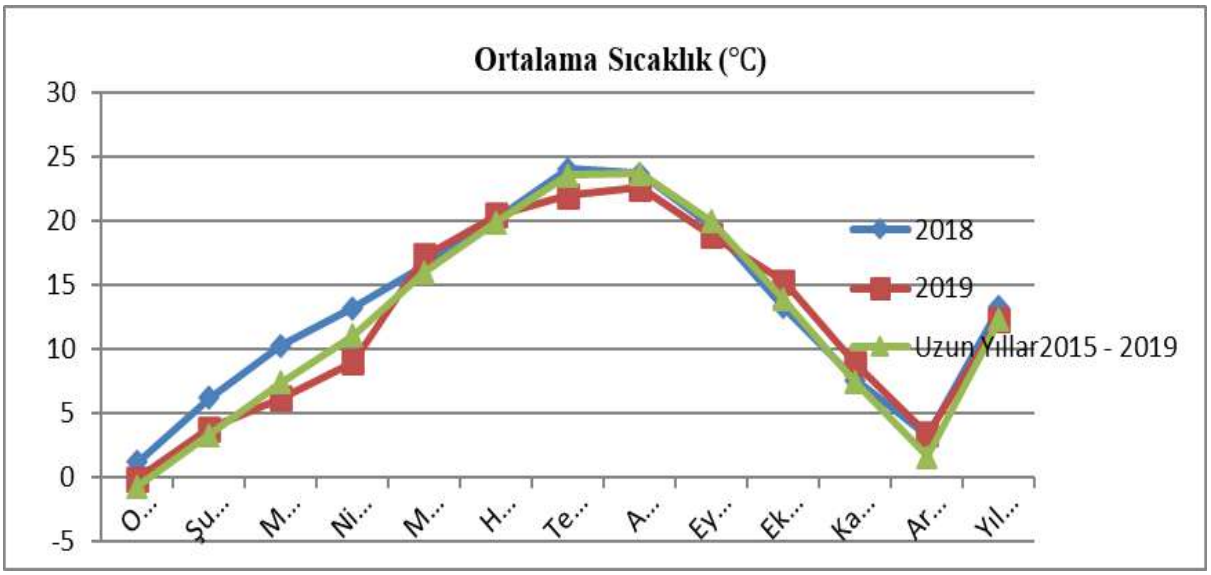

Figure 2 Average Temperature Curve of Akoren District

As can be seen from Table 3.2, there is no significant difference between the average relative humidity in 2018 (61.5%), 2019 (62%) and long years (61%). During the sesame growing period (June to October) in 2018 the highest monthly relative humidity was in June (56.4%), the lowest in August (37.5%), in 2019 the highest monthly relative humidity was in June (56%), and the lowest in September. (45%), the highest monthly relative humidity was measured in June (57.3%) and the lowest in July (39.7%) compared to long years. Sesame growing period 2019 average relative humidity values (48.27%) were calculated approximately 9% higher than 2018 (44.4%) and long-term data (45%). The graph of the average relative humidity curves of these results is given in Figure 3.

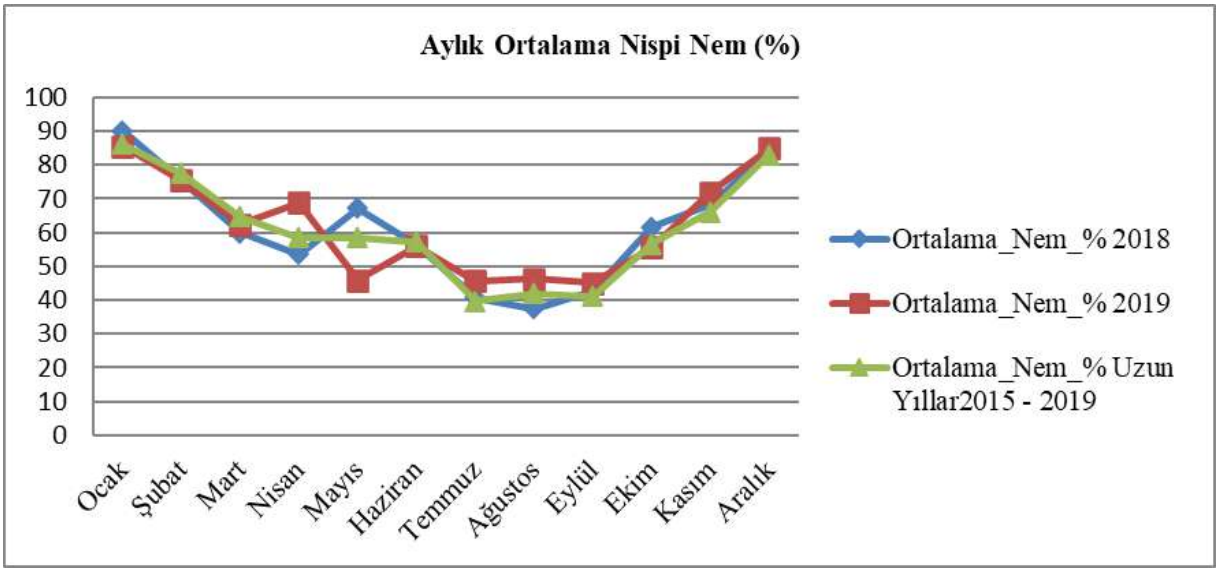

Figure 3. Monthly Average Relative Humidity (%) Curve

Sesame Farming in Akoren:

In the Akoren region, sesame is a product mostly grown by farmer families for their own consumption. The germination power of sesame seeds is high, but the output power is weak due to the small size of the seeds. Therefore, it is necessary to prepare the soil where sesame will be planted very well. For the main crop sowings, the soil is plowed in autumn and winter. Then, a second tillage with a plow is carried out in the spring when the soil contains suitable moisture. The soil is made ready by pulling the crowbar. Base fertilizer can be applied during this period. In this region, plant nutrients are generally not given for sesame.

Sowing is usually done by hand. In recent years, planting with seeders has begun. In manual sowing, 800-1000gr seeds are used per decare. 1-2 cm soil depth is sufficient for sesame seeds.

Sesame farming in Akoren is done without irrigation. Therefore, the yield remains low. Wilting disease, leaf spot disease and sesame Alternaria are mostly seen in sesame plants in Akoren, but they are generally not applied pesticides. Farmers control weeds by hand or hoe in sesame care.

In Akoren, farmers harvest sesame in late September-early October. Being late in the harvest causes the sesame to be damaged by the frosts in the region. For this, sesame should be harvested at the appropriate time in autumn. Average vegetation period varies between 100 – 110 days. Harvesting of plants is done by hand without yellowing of leaves and capsules, partial shedding of leaves and cracking of lower capsules. Harvested plants are tied together and made into bundles. It is dried on roofs or in open areas on a cover in a flat and clean place with the root parts coming out and the heads coming in. Then, the seeds are separated from the capsules by hitting the bunches with the help of a wooden stick. Average yield is 20-25 kg/da. Sesame is ground in mills and turned into tahini.

CONCLUSION:

Arid and semi-arid regions cover a very large area on earth. Akoren district covers 1.13% of Konya and 0.07% of Turkey with an area of 56,055.44 ha. While Akoren has a very fragmented land structure, land consolidation studies have been carried out in recent years to find a solution to this problem (Anonymous c 2019). The cultivation of sesame, an oil plant with high imports, is becoming widespread in Akoren. Increasing the yield of sesame will increase the interest in this plant in Akoren. To increase the yield, irrigation should be done in places where water is available. Trials are needed to determine the number and time of irrigation. To reduce the number of seeds in planting, machine planting should be started. The plant height of sesame grown in this region is shorter than those in the Mediterranean region. For this reason, there is a need for sowing norm studies for the use of seeders. In addition, establishing organizations in the form of cooperatives or unions of sesame growers will ensure that climate data is used well, technological opportunities are used economically, and sesame farming becomes widespread.

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EFFECT OF FUELWOOD UTILIZATION ON THE HEALTH OF FARMING HOUSEHOLDS IN EKITI STATE, NIGERIA

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ABSTRACT

Fuelwood has for long served as a major energy source known and used for cooking in developing countries. The combustion of fuelwood emits smoke with particles that have adverse effects on the health of users. The study investigated the effects of fuelwood utilization on the health of farming households in Ekiti State, Nigeria. Primary data was obtained from 120 farming households with the aid of a pre-tested questionnaire and focus group discussion using multistage sampling technique. Descriptive statistics and probit regression model were employed for data analysis. Results revealed that majority (75.8%) of the respondents were female with a mean age of 42 years and mean household size of 9 persons, 42.5% had primary education and earned a mean monthly income of ₦26,380. The major health problems associated with fuelwood utilization in the study area were eye irritation (56.6%), sneezing (50.8%) and breathing difficulty (43.3%). Sex ($p<0.05$), marital status ($p<0.05$), household size ($p<0.01$), primary occupation ($p<0.01$) and income ($p<0.05$) were the factors determining health effects of fuelwood utilization among the farming households in the study area. The study recommended that renewable energy sources such as kerosene and cooking gas should be made readily available to farm families at subsidized and affordable prices. This will encourage a shift from the reliance on unhealthy and environmentally unfriendly fuelwood to more sustainable sources of energy.

Key words: Fuelwood, farming households, health, utilization

Introduction

Wood is considered mankind's very first source of energy. Today, it is still the most important single source of renewable energy providing about 6% of the global total primary energy supply (FAO, 2019). Wood fuel or fuelwood may be available as firewood, charcoal, chips, sheets, pellets and sawdust (Ojo *et al.*, 2012). Fuel wood is a source of energy derived by burning wood materials like logs and twigs and is common among the rural dwellers. It is a traditional source of energy, which has remained the major source of fuel among farming households (Kadafa *et al.*, 2017). Globally, about 3 billion people depend on fuelwood to meet their domestic energy needs. Private households' cooking and heating with fuelwoods represent one third of the global renewable energy consumption, making wood the most decentralised energy in the world (Jagger and Shively, 2014; FAO, 2019). Nearly 90% of the rural households in developing countries depend on fuelwood for coking and/or heating (Scheid *et al.*, 2019). Poor access to modern energy rates in less developed countries (LDCs) and Sub-Saharan (SSA) countries remain high at 91% and 83%, respectively.

In Nigeria, it is estimated that about 91% of the household energy needs are met by biomass (Babalola, 2010). The over-dependence on fuel wood for energy is chiefly because of its affordability and easy accessibility relative to alternatives, such as bottled gas, kerosene or electricity. Clean energy such as kerosene and gasoline are scarce in the rural areas and often sold at a price far above the official pump prices, the supply of these alternatives is highly

constrained and unreliable. This is especially true of electricity which is subject to frequent outages (Nnaji *et al.,* 2012; Sa'ad and Bugaje, 2016).

The combustion of solid wood fuel indoors and outdoors emits smoke with particles that have adverse effects on the health of users. Several studies (Vivan *et al.,* 2012; Odunuga and Akinbile, 2015; Kadafa *et al.,* 2017; Piabuo and Puatwoe, 2020) have reported significant health effects of wood fuel combustion for cooking in rural areas. Fuelwood, especially, through open-fire three stone stoves has implications for individuals' health, particularly, for women and children who spend hours beside the cooking fire and inhale smoke because they are primarily responsible for cooking (Sa'ad and Bugaje 2016). About 1.3 million people, mostly women and children die prematurely every year because of exposure to indoor air pollution from biomass (Vivan *et al.,* 2012). A child exposed to indoor air pollution is more likely to catch pneumonia, which is one of the world's leading killers of young children. In addition, indoor smoke has been linked to low birth weight, infant mortality, tuberculosis, cataracts and asthma (Sa'ad and Bugaje 2016). Among women, there is a high association between fuelwood combustion and high risk of chronic bronchitis and chronic obstructive pulmonary disease, especially asthma and cataract. Indoor combustion of fuelwood has been called the 'kitchen killer' because about 1.6 million deaths have been registered as a result, accounting for 2.7% of global disease burden (WHO, 2007; Piabuo and Puatwoe, 2020). The most common forms of respiratory tract infections as a result of exposure to smoke due to cooking fuel are dry cough, breathing problems, neurologic problems, cardiopulmonary, cardiovascular diseases, asthma and lung cancer (Zidago *et al.,* 2016; Mbanya and Sridhar, 2017; Mohapatra *et al.,* 2018). Lower life expectancy has equally been reported by Badamassi *et al.,* (2018). Other diseases such as asthma, stroke and immune system impairment have equally been attributed to indoor and outdoor pollution as a result of fuelwood combustion (Tao *et al.,* 2016). The poor in developing countries therefore pay much more in terms of health impacts, collection time, and stress compared to their counterparts in the developed world (Vivan *et al.,* 2012). From the foregoing, this study investigates the health effects of fuelwood utilization among farming households in Ekiti State with the following specific objectives.

1. describe the socio-economic characteristics of farming households in the study area;
2. identify the major health problems experienced as a result of fuelwood utilization;
3. determine the health effects of fuelwood utilization among farming households in the study area.

Methodology

The study was conducted in Ekiti State, Nigeria. Ekiti State was created on 1st of October, 1996. Its capital is Ado-Ekiti. It is located between latitude 7025' 8005'N and longitudes 4045' 5046E. The state is bounded in the north by Kwara State and Kogi State while Osun State occupies the west and Ondo State lies in the south and extends to the eastern part. The state is made up of 16 Local Government Areas (LGAs) with an estimated population of 3,270,800 (NPC-NBS, 2016) and a total land mass of 6,353 square kilometres. The two prominent climatic seasons in the area include the rainy season, lasting from April to October and the dry season within November and March. Temperature ranges between 21 °C and 28 °C with high humidity. The people of the state are predominantly farmers. Cocoa is the main cash crop while yam, cassava and grains like rice and maize are the major food crops produced in the state. Besides farming, the inhabitants of the state are artisans, traders, civil and public servants.

Sampling procedures: Multistage sampling technique was used to select respondents for the study. The first stage involved the purposive selection of two local government areas (Ekiti East and Ijero LGAs) due to the prevalence of farming activities in the LGAs. In the second stage, simple random sampling technique was used to select five villages from each of the LGA

making a total of 10 villages. The third stage involved the random selection of 12 farming households from each of the selected villages making a total of 120 farming households for the study.

The study was based on the primary data obtained from farming households in the study area using an interview schedule with the aid of pre-tested questionnaire and supported with focus group discussion. Data were collected on socio-economic characteristics of the respondents, sources of fuelwood used for cooking and health issues experienced as a result of fuelwood utilization in the study area.

Analytical techniques: The following analytical tools were employed in the study.

Descriptive analysis: Descriptive statistics such as frequencies, percentages, means and standard deviation was adopted to describe information on the socio-economic characteristics of the farming households, sources of fuelwood utilized for cooking and health problems experienced as a result of cooking with fuelwood in the study area.

Probit regression analysis: The model was used to determine the effects of fuelwood utilization on the health of farming households in the study area. The model is explicitly specified as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + e_i \quad (1)$$

Where: Y is the dependent variable that takes 1 if the respondents experience any health issue as a result of fuelwood utilization and 0 otherwise. The explanatory variables are: X_1 = Age (years), X_2 = Sex (dummy), X_3 = Education (level), X_4 = Marital status (1 if married, 0 if otherwise), X_5 = Household size (№ of people), X_6 = Primary occupation (1 if farming, 0 otherwise) X_7 = Income (₦), β = parameter to be estimated, e_i = error term.

Results and discussion

Socio-economic characteristics of the respondents in the study area

Table 1 presents the results of the socio-economic characteristics of the respondents in the study area. The results reveal that majority (75.8%) of the respondents were female while 24.2% were male. This is not unexpected as women are traditionally responsible for cooking

in the households and are therefore more likely to be exposed to health problems associated with fuelwood utilization in the study area. This result corroborates the findings of Kadafa *et al.*, (2017) that most female use fuel wood primarily for cooking as the major source of domestic energy utilization, hence they are more adversely affected by the use of fuel wood compared to men. A larger proportion (38.3%) of the respondents fell within 41 to 50 years' age range, 25% were within the age range of 31 to 40 years and 16.7% were between 51 and 60 years while 15% were within the age range of 21 and 30 years. This implies that fuelwood utilization, especially for cooking is employed by all age groups in the study area. The mean age of 42 years implies that the respondents were still young and could cope with the stress of firewood gathering and utilization in the study area. This supports the findings of Odunuga and Akinbile (2015) that majority of the respondents who exploited and utilized fuelwood in Ogun State were young and still possess enough strength, vigour and vitality to exploit fuelwood in a substantial amount. Distribution by educational qualification reveals that 42.5% of the respondents' had primary education, 35% had secondary education and 9.2% had tertiary education while 13.3% had no formal education in the study area. This implies that majority of the respondents, though had one form of education or the other, had low educational level and this might have implication on their standard of living as well as healthy living in the study area. This agrees with the findings of Ojo *et al.*, (2012) that education is a major factor especially in an economic unit where human hygiene matters. Majority (72.5%) of the

Table 1: Socio-economic Characteristics of Respondents in the Study Area ***(n = 120)***

Variables	Frequency	Percentage (%)
Sex		
Female	91	75.8
Male	29	24.2
Age		
21-30	18	15.0
31-40	30	25.0
41-50	46	38.3
51-60	20	16.7
Above 60	6	5.0
Mean	**42.13 (±12.041)**	
Educational Qualification		
No Formal Education	16	13.3
Primary Education	51	42.5
Secondary Education	42	35.0
Tertiary Education	11	9.2
Marital Status		
Single	12	10.0
Married	87	72.5
Divorced	7	5.8
Widowed	14	11.7
Household Size		
1-5	40	33.3
6-10	69	57.5
Above 10	11	9.2
Mean	**9(±1.063)**	
Occupation		
Farming	62	51.7
Self-employed	16	13.3
Trading	22	18.3
Paid employment	20	16.7
Monthly Income		
≤20,000	38	31.7
20,100-40,000	55	45.8
>40,000	27	22.5
Mean	**26,380(±1212.275)**	

Source: Field survey, 2020

respondents were married. This implies that the respondents were responsible for their family needs. Majority (57.5%) had between 6 and 10 people in their households. The mean household size of 9 persons implies that the respondents had large household size and this might influence fuelwood utilization especially for cooking in the study area. This is in line with the reports of Isma'il *et al.,* (2014) that family size influences the demand for fuelwood in a household. The results further reveal that majority (51.7%) of the respondents were farmers, 18.3% engaged in petty trading, 16.7% were into paid employment jobs while 13.3% were artisans. This implies that, farming being the major occupation of the respondents can predispose them to utilizing fuelwood in the study area. Furthermore, 45.8% of the respondents earned between ₦20,100 and ₦40,000 monthly, 31.7% earned less than ₦20,000 while 22.5% earned more than ₦40,000 monthly in the study area. The mean monthly income of ₦26,380 implies that the economic

status of the respondents is low and this could be a predisposing factor to fuelwood utilization which is cheaper and readily available when compared to other energy sources.

Sources of Fuelwood in the Study Area

Result in Figure 1 shows that majority (51%) of the respondents obtained their fuel wood from their farmland, 25% got it from nearby bushes and 18% got it from forest while 6% purchased their fuelwood. This result implies that the dependence on fuelwood as energy source may be connected to its availability, easy accessibility and affordability as 94% of the respondents got their fuelwood at no cost in the study area. This result is in tandem with the findings of Isma'il *et al.,* (2014) that 53% of rural households in Ikara LGA of Kaduna State obtained their fuel-wood from their farmlands.

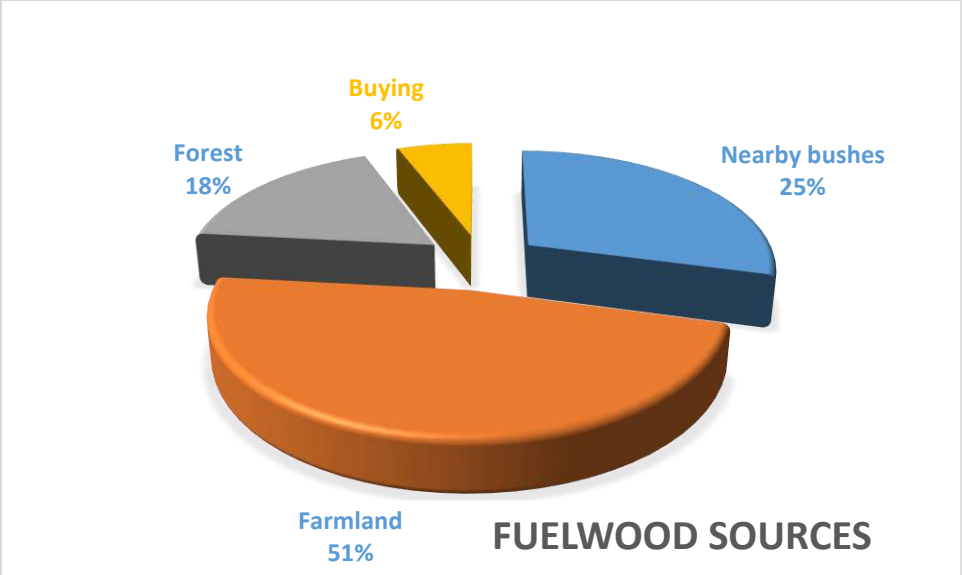

Figure 1: Sources of Fuelwood Used for Cooking in the Study Area

Health Problems Associated with Fuelwood Utilization in the Study Area

The results in Table 2 reveal that majority (85%) of the respondents had experienced at least one of the health problems listed in Table 2 as a result of fuelwood utilization in the study area. The results show that 56.6% of the respondents had experienced eye irritation, 50.8% sneezed while cooking with fuelwood and 43.3% had breathing difficulty. Other health problems experienced by the respondents were cough (30.8%), catarrh (12.5%), asthma (11.7%) and headache (10%). This result implies that, although fuelwood is readily available and a cheap source of domestic energy, it poses a great threat to the health of the farming households in the study area. This result corroborates the findings of Kadafa *et al.,* (2017) that respondents at Yelwa Village, Nasarawa State, suffered from a variety of health problems such as eye irritation, cough, persistent sneezing and shortness of breath as a result of fuelwood utilization.

Determinants of Health Effects of Fuelwood Utilization Among Farming Households

The result of the probit regression analysis on the determinants of the health effects of fuelwood utilization among farming households in the study area is presented in Table 3. The chi square value of 230.961 ($p<0.01$) implies that the model fits the data well. The result reveals that sex ($p<0.05$), marital status ($p<0.05$), household size ($p<0.01$), primary occupation ($p<0.01$) and income ($p<0.05$) were the factors determining health effects of fuelwood utilization among the

farming households in the study area. Marital status of the respondents was found to have a positive significant relationship with health effects of fuelwood utilization in the study area.

Table 2: Health Problems Associated with Fuelwood Utilization in the Study Area

*Health Problems	Frequency	Percentage %
Suffered health problems	102	85
Eye irritation	68	56.6
Sneezing	61	50.8
Breathing difficulty	52	43.3
Cough	37	30.8
Catarrh	15	12.5
Asthma	14	11.7
Headache	12	10.0

Source: Field Survey Data, 2020 *Multiple responses

This implies that married respondents were more likely to experience health problems occasioned by fuelwood utilization than unmarried respondents in the study area. This is because married respondents requires more domestic energy to cater for their family needs. Odunuga and Akinbile, (2015) and Kadafa *et al.,* (2017) reported similar results. In the same vein, households size and primary occupation of the respondents were positive and significant at 1% alpha levels respectively. This implies that these variables increase the probability of the respondents experiencing health problems as a result of fuel wood utilization in the study area. The larger the household size, the more the fuelwood required, the more the exposure to smoke emitted from fuelwood combustion and the higher the adverse effects on the health of users. This result is in consonance with the findings of (Vivan *et al.,* 2012; Piabuo and Puatwoe, 2020) that combustion of solid wood fuel emits smoke with particles that have adverse effects on the health of users. Also, the primary occupation of the respondents being farming predisposed them to utilizing fuelwood due to its affordability and accessibility, this increases their exposures to smoke from fuel wood combustion and consequently health problems associated with fuelwood utilization in the study area. Income of the respondents was also found to have positive significant relationship with health effects of fuelwood utilization at 5% alpha levels in the study area. This implies that farming households with higher income have higher likelihood of experiencing health problems as a result of fuelwood utilization in the study area. This result is surprising as higher income is expected to enhance the capacity of using renewable energy sources such as kerosene or LPG thereby reducing health effects of fuelwood utilization but this result is a pointer to the fact that renewable/cleaner energy sources such as kerosene, electricity and LPG were not only very expensive but also very scarce in the study area. This result confirms the findings of Onyekuru and Eboh (2011) that those with better income buy more fuel wood which was cheaper in the rural areas thereby increasing their exposures to health consequences of using fuelwood.

Conversely, sex of the respondents was found to have an indirect significant relationship with health effects of fuelwood utilization at 5% level of probability in the study area. This implies that the likelihood that farming households would experience health problems as a result of fuelwood utilization is higher in women than men. This is not unexpected as women were chiefly responsible for cooking and therefore have higher exposures to fuelwood combustion than men in the study area. This result supports the reports of WHO, (2007); Piabuo and Puatwoe, (2020) that, there is a high association between fuelwood combustion and high risk of chronic bronchitis and chronic obstructive pulmonary disease, especially asthma and cataract among women. Badamassi *et al.,* (2018) equally reported that combustion of particulate matter (PM2.5) has greater adverse effect on women's life expectancy in the long run

Table 3: Determinants of Health Effects of Fuelwood Utilization Among Farming Households in the Study Area

Variable	Coefficient	S.E	Z-value
Age	0.137	0.100	1.370
Sex	-0.143**	0.076	-2.168
Education	-0.015	0.041	-1.374
Marital status	0.133**	0.066	2.008
Household size	0.095***	0.038	2.525
Occupation	0.148***	0.057	2.593
Income	0.000**	0.000	2.212
Constant	-2.955	0.290	-10.177
chi^2	230.961***		9.675

Source: Field Survey Data, 2020 *** Significant at 1%; ** Significant at 5%

Conclusion and Recommendations

Based on the findings of this study, it can be concluded that fuelwood utilization had negative effects on the health of farming households in the study area. The major health problems experienced by the respondents were eye irritation, sneezing, and breathing difficulty. Consequently, sex of the respondents, marital status, household size, primary occupation and income were the drivers of health effects of fuelwood utilization among the farming households in the study area. The following recommendations were therefore made:

1. Alternative sources of fuel such as kerosene and cooking gas should be made readily available to farm families at subsidized and affordable prices. This will encourage a shift from the reliance on unhealthy and environmentally unfriendly fuelwood to more sustainable sources of energy.
2. Government, both at federal and state levels, may also promote a solar-powered cooking stove program in the rural area. Improved versions of biomass stoves developed locally by the Energy Commission of Nigeria through its energy research centres at the University of Nigeria, Nsukka and Usman Dan Fodio University in Sokoto should be promoted. An elaborate awareness programme by the government to disseminate and encourage the adoption of such technology by the households nationwide as the case of our neighbouring countries like Niger, Cameroon and Senegal should be put in place.
3. Local government agencies and non-governmental organizations should also embark on public enlightenment campaigns to inform the farm families on the consequences of fuelwood consumption on their health, climate, environment and biodiversity.

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REQUIREMENTS OF RICE MECHANICAL HUSKING

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ABSTRACT

The effect of husking machine on rice, Amber (AM) cultivar was studied based on some technical indicators. one type of machine (Satake) were tested at two clearances of 0.7 and 0.9mm between cylinders and three ranges of grain moistures of 11%-13%, 13%-15% and 15%-17%. The experiments were carried out in a factorial experiment under complete randomized design with three replications. The results showed that the CBC of 0.9mm was significantly better than the CBC of 0.7 mm in all studied conditions. The results showed a broken rice of 6.369 and 7.336%, cracked grains of 5.059 and 6.194%, head rice of 67.372% and 64.769%, brown rice of 80.236% and 79.139%, bran ratio of 5.034% and 5.478% and total extraction ratio of 75.757% and 73.621% for respectively. The MC of 11-13% was significantly superior to the other two levels of 13-15% and 15-17% in all studied conditions.

Keywords: rice; Amber cultivar; husking; MC; CBC.

SIYEZ AGRICULTURE IN KONYA/AKOREN CONDITIONS

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ABSRACT

In our age, the driving force of the economy and the national basis of industrialization in developing countries is agriculture. While the population growth continues rapidly in our country and in the world, the need for foodstuffs increases accordingly. Wheat is one of the oldest and most common cereals grown in our country and in the world. According to scientific data it is one of the most cultivated plants in human history. The first cultivated wheat is known as small grain husked wild Siyez. In the last 10000 years, because of the selection made from the types formed by natural selection and hybridization, culture forms with larger seeds, which are easily peeled off, have been started to be grown. In recent years, rapid developments have been experienced in the bakery products sector due to the consumer tendencies towards more natural, easily digestible, and low-calorie products. Consumers are trying to increase the variety of grain products, but to reduce their caloric value. Akoren is in the southwest of the Central Anatolian Region, 68 km south of Konya, at an average altitude of 1130 m. Akoren does not have large cultivation areas due to its fragmented land structure. For this reason, farmers are in search of production with high economic returns. Siyez wheat, which has social interest as a natural product, has been tested in Akoren ecological conditions. It has been observed that Siyez wheat is more affected by climatic conditions and its yield is low compared to other wheat varieties in Akoren.

Key Words: Akoren, Siyez Wheat, Agriculture

INTRODUCTION:

Agricultural lands in our country are getting smaller due to various reasons and it is becoming economically unavailable. For this, they are trying to gain the opportunity of land consolidation and irrigation, especially by some units of the state. There are various projects carried out for this purpose in our country. The largest of these is the Southeastern Anatolia Project (GAP) and another is the Konya Plain Project (KOP). Akoren region is also within the scope of Konya Plain Projects (KOP). Various irrigation projects have been implemented in Akoren for many years. Akoren pond, May Pond and wells drilled to benefit from groundwater are among these projects (Tulukcu and Cagla 2005).

Akoren district covers 1.13% of Konya and 0.07% of Turkey with an area of 56,055.44 ha. 39.82% of the total area of the district is allocated to agricultural lands, while this rate is above the average of Turkey, it is well below the Konya average. A small proportion of 11.06% of the total area is reserved for meadow-pasture areas. The forest area constitutes 36.42% of the total area and this area covers 3.78% of the total forest area of Konya. While the forest area ratio is considerably higher than the Turkey average (Anonymous a, 2019).

According to the Socio-Economic Development Ranking Research (SEGE) data, in the District SEGE-2017 study, Akoren is among the 3rd stage developed districts along with 229 districts (Anonymous b, 2017). When the population changes in Akoren are examined by years (Table 1), it is seen that it is among the districts where internal migration is experienced. According to the 1990 census results, Akoren's population, which was 16959, decreased by 66% to 5766 by 2020 (Anonymous c, 2021).

Table 1. Comparison of the Populations of Akoren in the Year 1990-2000-2010-2020

	1990	2000	2010	2020	1990/2020
Central Areas	10165	10946	3273	2746	%73
Districts outside of the Center	6794	6284	3826	3020	%56
Total	**16959**	**17220**	**7099**	**5766**	**%66**

Akoren District Civil Registry Office

Especially the young population in the district is more likely to migrate due to employment problems. To reduce the population mobility in the district, there is a need for increasing employment and income increasing studies. For this reason, in addition to the existing agricultural products, there is an increasing interest in organic agriculture and medicinal plants according to geographical location and ecological conditions. Siyez wheat has recently entered the country's agenda as a natural and organic product. Wild Siyez is known as the first small grain husked wheat grown. As a result of the selection made from the types formed by natural selection and hybridization for 10000 years in wheat production, culture forms with larger seeds, which are easily peeled off, have been started to be grown. In recent years, rapid developments have been experienced in the bakery products sector due to the consumer tendencies towards more natural, easily digestible, and low-calorie products. Consumers are trying to increase the variety of grain products, but to reduce their caloric value. Due to this increasing interest in Siyez wheat, yield and production studies were thought to be carried out in Akoren by making the same applications as in other wheat farming conditions.

RESEARCH AND FINDINGS

Siyez Wheat Cultivations

Siyez wheat seeds were obtained from Kastamonu in December 2018, and as the soil was not suitable for planting, Siyez Wheat was sown by hand in February, when conditions were more suitable, in the first year of the study. In the second year of the study, Siyez were sown in the fall, in October, at the regular time with seeders. To be able to compare with other wheats, sowing was done according to the farmer's field and conditions.

In terms of soil properties, Akoren consists of rocks belonging to Mesozoic, Tertiary and Quaternary geological times. In Akoren district, the main soil material is andesite and sandstone, and shallow and very shallow, stony, non-calcareous brown forest soils were formed on it. The type of the main substance greatly affects the thickness of the soil it forms. Although the soils of Akoren region have limiting factors such as shallow fine texture, drainage, and erosion, they generally consist of fertile lands. The soils of Akoren show a clayey, clayey sandy structure. The soil pH is between 6.9 and 8 and is slightly alkaline with an average of around 7.7. Average salt rate is 0.2%, lime rate is 12% and organic matter rate is around 1%, and although there is an excess of salt in some places and lime in others, the amount of organic matter is insufficient. It was observed that 64.4% of the agricultural lands in Akoren were lightly stony, 19% medium stony and 16.6% stone-free. Again, 68% of the same lands were found to be flat and nearly flat (0-2%), 23.8% slightly inclined (2-3%) and 7.4% moderately sloped (4-8%). (Tulukcu et al. 2011)

In Akoren, which has a semi-arid climate, the Chickpea Wheat alternation system is applied in the barren lands. As is practiced throughout Central Anatolia in the Akoren region, the most suitable planting time for autumn sowing is between September 15 and October 15, and for chickpeas between the end of March and April. Soil cultivation methods and times are determined according to these October months and plants. In general, tillage is processed by turning the soil upside down with a plow in autumn for spring planting and plant residues are

buried in the soil. Since some of the lands in Akoren are stony, disc plows are among the basic tools used in the first version. After the winter has passed, the lands left by making a deep plowing in the autumn are made ready for planting by making the second soil cultivation. In this way, the seed bed is ready.

The sowing process is generally tried to be done after the autumn rains when the soil is tempered. Grass roots of wheat planted on these dates develop until winter, and thus, it spends the winter more vigorously. In wheat farming, approximately 20 to 25 kilograms of seeds are used per decare in Akoren. 20 kg/da of seeds were used in the cultivation of Siyez wheat. This amount is affected by the preparation of the seed bed, the sowing machine used or the workmanship conditions. Using more seeds in arid conditions will affect plant density and increase the need for water. The years when the climate is suitable affect the tillering feature of the wheat and enable it to cover the field surface better. There was an insufficient emerge in the number of seeds used in this study. For this reason, it was seen that more seed should be used in Akoren conditions.

Table 2. Pattern, Temperature And Relative Humidity Data For 2018, 2019 And Long Years Of Akoren District *

Parametre	Average Temperature (ºC)			Average Monthly Total Rainfall (mm)			Monthly Average Relative Humidity (%)		
January	1.2	-0.1	-0.7	80.5	108.1	75.88	90.2	85.6	86.2
February	6.2	3.8	3.3	11.4	45.1	29.6	75.3	75.5	77.5
March	10.3	6.2	7.4	35.4	32.8	43.36	60	62.4	64.7
April	13.2	9	11.1	23.3	50.9	31.22	53.6	68.8	58.5
May	16.5	17.3	16	86.7	2	45.64	67.2	46	58.6
June	20.2	20.5	19.9	44.1	86.7	57.88	56.4	56	57.3
July	24.1	22	23.6	13	20.9	13.8	40.8	45.7	39.7
August	23.7	22.6	23.7	9	14.7	13.72	37.5	46.4	41.9
September	19.6	18.9	20	7.7	7.4	12.42	42.9	45	41.1
October	13.3	15.3	13.9	47.6	25.2	32.8	61.7	55.6	56.6
November	7.6	8.9	7.4	42.5	43.9	41.98	68.5	71.9	66.2
December	3.2	3.4	1.6	94.8	128.9	79.86	83.9	85	83

*: Climate data was obtained from the Regional Directorate of Meteorology.

DAP (Diammonium Phosphate) fertilizer is generally used as base fertilizer in Akoren. In this way, all the phosphorus and 1/3 of the nitrogen are given to the soil with planting. The remaining Nitrogen is given in the form of Urea as the second fertilizer at 12 – 14 kg/da. In this study, 20 kg/da DAP (Diammonium Phosphate) was used as a base fertilizer in Siyez wheat both in the spring planting of the 1st year and in the autumn planting in the 2nd year. Second fertilizer application was not made in the 1st year because of late planting and because the spring precipitation was lower than the average of many years, the base fertilizer applied in February did not melt enough and mix with the soil. Second fertilizer application was applied as 12 kg/da Urea in the 2nd year sowing. In Siyez wheat cultivation, weed pesticides were not used in the first year due to weak development, while spraying was carried out in April in the second year of planting. Regional farmers do not use both second fertilizer and weed pesticides according to climatic conditions.

The monthly average temperature, total monthly precipitation average and monthly average relative humidity data for 2018, 2019 and the long years, obtained from the Regional Directorate of Meteorology of Akoren District are given in Table 2.

In our country, wheat harvesting, and threshing are carried out in June, July and August depending on the climatic conditions of the regions. Wheat harvesting and threshing in Akoren is mostly done in July with a combine. With a combine harvester, the works are completed in a short time. Therefore, the settings of the combine are very important to reduce grain losses in terms of harvesting and threshing. In some neighborhoods of Akoren, where combine are not used, harvesting is done using manpower such as sickles, scythes, and combines powered by tractors. A separate machine (batoz) is used for threshing. To prevent grain losses, it is necessary to determine the harvest time well. Regional climatic conditions are very important in determining the harvest time in our country. Wheat is harvested 50-60 days after the formation of the spike, depending on the climate and variety. It is suitable for harvesting when the humidity rate in the spike and grain is around 12%. It is very important to determine the time of wheat harvest well for reducing grain losses and product quality. Early harvesting of wheat causes the grains to be wrinkled and pale. Because if the spike and grains are harvested early before they dry out, the quality of the immature grains decreases. The grains are difficult to separate from the spike and spikelet, and they need to be dried due to high humidity. It is suitable for harvesting when the humidity rate in the spike and grain is around 12%. It is very important to determine the time of wheat harvest well for reducing grain losses and product quality. Early harvesting of wheat causes the grains to be wrinkled and pale. Because if the spike and grains are harvested early before they dry out, the quality of the immature grains decreases. The grains are difficult to separate from the spike and spikelet, and they need to be dried due to high humidity. In this study, because Siyez wheat is sparse and the plant height is short and not suitable for a combine harvester, harvesting was done with a scythe. In Akoren, especially in the first year of the study, the dry spring months affected the late planting in February much more negatively, both the plants were short, and the spikes were very weak. For this reason, machine harvesting was not found suitable. In the second year of the study, harvesting with a scythe was preferred, since it was seen that there would be more grain loss in machine harvesting, where the development is slower than other wheat varieties. Harvested Siyez were dried for 1-2 days, then the threshing process was started, and the grains were separated from the spike.

It is seen that the wheat yield in Turkey in 2018 was 275 kg/da on average, 302 kg/da in Konya and 240 kg/da in Akoren (Anonymous a; d 2019). Since the south of Akoren is the Taurus Mountains, it is more mountainous, and the land is more fragmented. The part between the north and east is plain. For this reason, there is a significant yield difference between the neighborhoods in Akoren. Siyez wheat could not be planted in autumn due to the late supply of seeds in the first year, and sowing was done in February at the first appropriate time. However, precipitation in the spring months of 2018 remained low compared to the long-term average. The low rainfall also affected the usefulness of the fertilizers given with planting, so second fertilization was not done. The yield of Siyez wheat in the first year was calculated as 75 kg. In the second year, planting was done at the regular time and second and bottom fertilizers were given. In May 2019, there was almost no precipitation, well below the long-term average. In this region, May is generally known as the spike and grain formation period for wheat. The drought experienced in this period directly affects the yield of wheat. In the second year of this study, Siyez yield was affected by drought, and it was calculated as 110 kg. In other regions where Siyez is planted, the yield is seen as 220 – 250 kg. The two most important products obtained from wheat are flour and bulgur. In the research conducted on the Internet, it has been seen that 1 kg of Siyez bulgur varies between 18 – 30 TL, and the price of flour varies between 15 – 50 TL. There are serious differences between the figures. This situation creates hesitation in the people who will make production. Providing price stability by evaluating such products in a separate exchange will contribute to production planning.

CONCLUSION:

As in many parts of Akoren Turkey, agricultural lands are very fragmented, mountainous, stony, and inclined. For this reason, Akoren is a center for migration because the income from agriculture is low. One of the methods of preventing migration is to increase the income level of families. Central and local governments produce different projects in this regard. To increase the income level, the search for products with high added value and price per unit area continues. The interest in organic agricultural products and medicinal plants in recent years is a result of this search. Today, there is a social interest in Siyez wheat. In this study we conducted in Akoren, the yield of Siyez wheat was very low compared to other wheat varieties. It has been observed that Siyez wheat is more affected by ecological conditions than the wheat grown in the region and its yield remains low. The spread of Siyez wheat in Akoren will be in a linear relationship with its pricing. As with all products, product planning is a priority issue to increase the production of Siyez Wheat and to protect the income of the farmer. Therefore, there is a need for new studies that will increase the yield and production of Siyez wheat.

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COVID-19 SÜRECİNDE MASKE TAKMAYA İLİŞKİN METAFORİK ALGILARIN İNCELENMESİ VE MASKE TAKMANIN PSİKOLOJİK ETKİLERİNİN BELİRLENMESİNE YÖNELİK NİTEL BİR ARAŞTIRMA

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ÖZET

COVID-19 salgınıyla birlikte maske takmak gündelik yaşamın bir parçası haline gelmiştir. Özellikle salgın hastalıktan korunmada uzmanlarca kilit rol oynadığı söylenen maske takmak, bireyler için zorunlu hale getirilmiştir. Şüphesiz önceleri maskesiz bir şekilde sokağa çıkan, kapalı ortamlarda bir araya gelen, okula ve markete giden bireyler, salgınla birlikte maskesiz herhangi bir yere gidemez hale gelmiştir. Bu yüzden de maske takmanın çeşitli psikolojik etkilerinin olduğu bilinmektedir. Bu araştırmadaki amaç, bireylerin maske takmak ile ilgili metaforlarını belirlemek ve maske takmanın psikolojik etkilerini incelemektir. Bu amaç için lisans düzeyinde eğitim gören farklı sınıf düzeyindeki 43 kadın ve 9 erkek öğrenciden veri toplanmıştır. Veri toplama aracı üç kısımdan meydana gelmiştir. Birinci kısımda katılımcıları tanımaya ilişkin demografik bilgiler kısmı, kinci bölümde "maske takmak……..benzer, çünkü……..." metaforik algıya yönelik kısım ve üçüncü bölümde ise maske takmanın psikolojik etkileri yer almaktadır. Araştırmadan elde edilen verilerin transkriptizasyonu yapılmış ve analiz için uygun hale getirilmiştir. Metne dönüştürülen verilerin analizi için Maxqda 20 Paket Programı kullanılarak temalar, kodlar ve alt kodlar meydana getirilmiştir. Yapılan analizlerin sonuçları incelendiğinde, katılımcıların genellikle maskeyi özgürlüğü kısıtlayan metaforlarla ifade ettikleri anlaşılmaktadır. Ancak bazı katılımcıların maskenin koruyuculuğundan dolayı olumlu cevaplar verdikleri görülmektedir. Maske takmanın psikolojik etkilerine yönelik sonuçlara bakıldığında, katılımcıların çeşitli psikolojik etkilerden bahsettikleri anlaşılmaktadır. Araştırmanın son kısmında uygulayıcı ve araştırmacılara yönelik çeşitli öneriler sunulmuş ve araştırma bu şekilde tamamlanmıştır.

Anahtar kelimeler: *COVID-19, Maske, Psikolojik Etkiler*

A QUALITATIVE STUDY ON EXAMINING METAPHORICAL PERCEPTIONS OF WEARING MASKS IN THE COVID-19 PROCESS AND DETERMINING THE PSYCHOLOGICAL EFFECTS OF WEARING MASKS

ABBSTRACT

With the COVID-19 pandemic, wearing a mask has become a part of everyday life. It has been made compulsory for individuals to wear a mask, which is said to play a critical role in protecting against epidemic disease by experts. Undoubtedly, individuals who used to go out without a xpr, come together in closed environments, xpre school and market, have become unable to go anywhere without a mask due to the epidemic. Therefore, it is known that wearing a mask has various psychological effects. This research aims to determine the metaphors of individuals about wearing masks and examine the psychological effects of wearing masks. xpress purpose, data were collected from 43 female and nine male students from different grades studying at the undergraduate level. The data collection tool consisted of three parts. In

the first part, there is the demographic information part about getting to know the participants, in the second part, there is the part about "wearing a mask……..similar, because……." metaphorical perception, and in the third part, there are the psychological effects of wearing a mask. The data obtained from the research were transcribed and made available for analysis. Themes, codes, and sub-codes were created using the Maxqda 20 Package Program to study the data converted into text. When the results of the analyzes are examined, it is understood that the participants generally xpress the mask with metaphors that restrict freedom. However, it is seen that some participants gave positive answers due to the protection of the cover. When the psychological effects of wearing a mask are examined, it is understood that the participants mentioned various psychological effects. In the last part of the study, multiple suggestions for practitioners and researchers were presented, and the study was completed in this way.

Keywords: COVID-19, Mask, Psychological Effects

GİRİŞ

2019 yılından itibaren Çin'den başlayarak tüm dünyada yayılım göstermeye başlayan COVID-19 virüsü, tükürük ya da solunum yoluyla üretilen salgılar yoluyla bulaşan ve bireyde enfeksiyon oluşmasına sebep olan bir virüstür (Greenhalgh et al. 2020; Bal &Çelik 2020). İnsanlık tarihine bakıldığında, belli dönemlerde çeşitli salgın hastalıkların ortaya çıktığı bilinmektedir (Okan, 2020). COVID-19 virüsü herkeste aynı etkiyi göstermemekte, kimilerinin hastalığı hafif, orta ya da ağır bir şekilde geçirmesine sebep olmaktadır. İlk zamanlarda daha çok yaşlı hastalar ve ciddi sağlık problemi olan bireylerde ağır seyir gösteren virüs, süreç içerisinde çeşitli mutasyonlara uğrayarak her yaş grubunu olumsuz yönde etkilemeye başlamıştır. Virüsün yayılmasıyla birlikte gerek dünya ve gerekse ülkemizde hastalıktan korunmak adına çeşitli önlemler alınmıştır. Bu önlemler sosyal mesafe, hijyen, karantina ve tüm sosyal aktivitelerin durdurulması şeklinde uygulanmıştır (Taş, 2020). Buna rağmen sağlık sektörünün yükü aşırı derecede artmış, hastane yatak doluluk oranları üst seviyeye çıkmış ve uzun bir süre eğitim-öğretim faaliyetleri uzaktan eğitim şeklinde sürdürülmüştür (Telli-Yamamoto ve Altun, 2020). Tüm bu önlemlerle birlikte birey ve toplum hayatına "maske" kavramı önemli bir konuma gelmiştir. Zira maskenin koruyucu etkisi olduğu ve dolayısıyla virüsün bulaşmasını önemli oranda engellediği tezi dile getirilmiştir (Gülbahar & Gök 2020; Guan et al. 2019). Bununla birlikte maske takan bireylerin bu süreçten nasıl etkilendikleri oldukça önemlidir. Zira önceleri insanlar için bir anlam ifade etmeyen, ancak sonraki süreçte bireyler için temel ihtiyaç haline gelmiş olan maskenin ne tür etkilere sebebiyet verdiği ve bireylerin zihninde nasıl bir algının oluşmasına yol açtığını incelemek merak konusudur. Bundan dolayı da pandemi süreci ile maske takmak zorunda kalan bireylerin maske ile ilgili deneyimlerinin incelemesi de ayrıca araştırılmaya değer bir konudur. Bu araştırma tam olarak bu deneyimleri incelemek amacıyla tasarlanmıştır. Temelde iki aşamalı olarak planlanmış ve iki amaç doğrultusunda kurgulanmıştır. İlk aşamasında maskenin bireyler tarafından neye benzetildiğine ilişkin metafor çalışması yapılmıştır. İkinci aşama da ise bireylerin maske takma deneyimlerinin, psikolojileri üzerinde nasıl bir etkiye sahip olduğunun incelenmesi amaçlanmıştır. Dolayısıyla bu çalışmada iki temel soruya cevap aranmıştır:

- 1. Maske kullanan bireylerin maske ile ilgili metaforik algıları nasıldır?
- 2. Uzun süredir maske kullanan bireylerin psikolojileri üzerinde maskenin nasıl bir etkisi vardır?

Yöntem

Araştırma deseni

İki aşamadan oluşan bu araştırmada nitel araştırma deseni kullanılmıştır. İlk aşamada bireylerin maskeyi neye ve niçin benzettiklerine ilişkin metaforik algılarına ilişkin bir soru sorulmuştur. İkinci aşamada ise bireylerin maske kullanımına ilişkin deneyimlerinden yola çıkarak, maskenin birey psikolojileri üzerindeki etkileri incelenmiştir. Bireylerin maske kullanımına ilişkin deneyimleri sorulduğundan bu çalışma nitel araştırma desenlerinden olgu bilim (fenomenoloji) kapsamına girmektedir. Creswell (2007) fenomenoloji çalışmalarında amaçlanan şeyin, bir olgu ile ilgili farklı kişisel yaşantıları ortaya çıkartmaktır. Yıldırım ve Şimşek (2008) olgu bilim deseniyle yapılan çalışmalarda genel olarak bir fenomen ile ilgili kişisel deneyimlerin ortaya çıkarılması ve yorumlanması hedeflenmektedir.

Çalışma Grubu

Bu çalışmada amaçlı örnekleme kullanılmıştır. Amaçlı örneklemenin kullanılmasındaki gaye, araştırılacak olguyu deneyimlemiş olan kişilerin belirlenmesidir (Creswell, Clark, 2017). Bu yüzden de bu çalışma için, lisans düzeyinde eğitim gören 52 bireye ulaşılmış ve online görüşme yoluyla düşünceleri alınmıştır. Bu katılımcıların 42'si kadın ve 9'u erkektir.

Veri Toplama Aracı

Araştırmada demografik değişkenlerle birlikte iki ayrı form kullanılmıştır. Birinci formda "Maske……benzer, çünkü……." şeklindeki metaforik algıya yönelik soru yönergesi kullanılmıştır. İkinci aşamada ise yarı yapılandırılmış ve bireylerin maske kullanımına ilişkin algılarını belirlemeye yönelik sorular kullanılmıştır. Aynı zamanda bireylerin maske kullanımından dolayı deneyimledikleri psikolojik durumları da sorulmuştur.

Verilerin toplanması

Yapılan görüşmeler için önceden katılımcılardan teyit alınmak suretiyle, görüşmeler kaydedilmiştir. Görüşmenin başında ilk önce katılımcılara çeşitli demografik bilgiler sorulmuş; akabinde ise, araştırmanın amacına ilişkin algılarını ortaya çıkaracak sorulara geçilmiştir.

Verilerin Analizi

Araştırma kapsamında yapılan görüşmelerin tamamlanmasıyla birlikte, veri analiz sürecine geçilmiştir. İlk etapta cevaplar ses kayıtları yazıya dönüştürülmüştür. Daha sonra bu görüşmeler Maxqda 20 Paket Programına aktarılmıştır. Nitel araştırmada, araştırmacıya yol gösterecek bazı basamaklardan söz etmek mümkündür (Pietkiewicz ve Smith, 2014). Ancak bu basamaklar elbette kesin adımlar olarak algılanmamalıdır. Bunlardan hareketle veriler ilk önce bir kez okunmuştur. İkinci okumayla birlikte kodlamalar yapılmıştır. Kodlamadan sonra birbiriyle ilişkili kodlar bir araya getirilerek alt temalar ve temalar oluşturulmuştur.

Geçerlilik ve Güvenirlik

Bu çalışmada Lincoln ve Guba'nın (1985) nitel araştırmalar için belirttikleri inandırıcılık, aktarılabilirlik, tutarlık ve teyit edilebilirlik gibi geçerlik ve güvenirlik yöntemlerine dikkat edilmeye çalışılmıştır. Dolayısıyla bu araştırmada araştırmacılar nitel araştırma çalışmalarında dikkat edilmesi gereken geçerlik ve güvenirlik basamaklarına riayet etmişlerdir.

Bulgular

Bu başlık altında iki çalışmadan elde edilen verilere ilişkin analiz sonuçları sunulmaktadır. Birinci kısımda metaforik çalışmaya ilişkin sonuçlar ve ikinci kısımda ise maske kullanımının psikolojisine ilişkin sorular yer almaktadır. Elde edilen bu bulgular aşağıda sunulmuştur.

Metafor Sonuçları

Aşağıda bireylerin maske kullanımına ilişkin verdikleri cevapların tablolaştırılmış hali sunulmaktadır.

Maske		Benzerlik	Özelikler
	6	Hapishane	Özgürlüğü kısıtlama, kısıtlama, kısıtlanma, dört duvar, ,içine tıkılmış, nefes almayı zorlaştırıyor,
	4	Boğulmak	Nefes almayı engelliyor, nefeste sıkıntı, nefesi tüketir
	1	El	Boğmaya çalışıyor
	1	Örümcek ağı	Yakamıza yapışmış
	13	Koruyucu kalkan	Hastalıktan koruyan, korumadan dolayı, kalkan görevi görür, sağlıklı olmak için, siper, kalkan, kalkan, korur, öldürücü virüsten korur, Dışarıya karşı korur, Ölümcül hastalığı engeller, Hastalığı engeller, Bulaşıcı hastalıklardan korur.
	1	Peçe	Tanınmıyoruz.
	2	Bant	Yapışkan, yapışkan
	1	Aşı	Virüsü engeller
	1	Tedbir	Virüsün bulaşmasını engeller
	2	Nefes	Hayatta kalmayı sağlıyor
	2	Ceza	Öyle hissettiriyor, içine tıkılmışlık,
	2	Kurtarıcı	Virüsten koruyor
	1	Zıtlık	Ne atabiliyorsun ne seviyorsun,
	1	Sorumluluk	Yapmak zorundasınız,
	1	Fanus	Korusa da zamanla yıpratıyor,
	1	Atmosfer	Sarmalar ve korur,
	2	Zırh	Ağır bir yük ama korur, Hastalığı engeller
	1	Azrail	Nefes kesiyor
	1	Oksijensiz hayat	Zorluk
	1	Sağlık	Sağlıklı hayat
	1	Zincir	Sürekli esaret
	1	Bariyer	Nefsesi engelliyor
	1	Kısıtlama	Birçok şeyi engelliyor
	1	Kurtuluş	Virüsten korur
	1	Sevilmeyen akraba	Katlanmak zorundasın
	1	Yüzme	Zor nefes ve zor görüş
	1	Bağımlı madde	Hem bırakmak istiyorsun hem bırakamıyorsun
	52		

Yukarıdaki tablo incelendiğinde katılımcı ifadelerinin özellikle üç tema etrafında yoğunlaştığı görülmektedir. Bunlar maske kullanımın koruyucu kalkana, hapishaneye ve nefessizliğe benzetilmesi şeklindedir. Bununla birlikte maskenin farklı kavramlarla da ilişkilendirildiği çok sayıda cevabın da olduğu görülmektedir. Aşağıda maskeye ilişkin olumlu ve olumsuz ifadelere ilişkin katılımcı cevaplarına yer verilmiştir.

Olumlu İfadeler: Metafor çalışmasındaki cevaplar incelendiğinde katılımcıların azımsanmayacak bir kısmı maskeyi olumlu olarak değerlendirmiş ve maskeyi koruyucu kalkana benzetmişlerdir. Buna ilişkin bazı ifadeler aşağıdaki gibidir:

Koruyucu Kalkan

- Koruyucu kalkan gibidir çünkü sağlığımızı korumada en önemli rol oynayan etkendir.
- Maske koruyucu gibidir sağlık açısından huzur verir.
- Bana göre kurtarıcı gibidir çünkü virüsten kurtarıyor.
- Kalkan gibidir, çünkü görünmeyen düşmana karşı savunmadır.
- Koruyucu Kalkan
- Koruyucu kalkan gibidir çünkü sağlığımızı korumada en önemli rol oynayan etkendir.
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- Bana göre kurtarıcı gibidir çünkü virüsten kurtarıyor.
- Kalkan gibidir, çünkü görünmeyen düşmana karşı savunmadır.

Katılımcı ifadelerinden de anlaşıldığı üzere bazı katılımcılar maskenin virüsün bulaşmasını engellediğini ve dolayısıyla hayati bir öneme haiz olduğunu belirtmişlerdir.

Olumsuz İfadeler: Diğer taraftan maske kullanımını olumsuz metaforik kavramlara açıklayan çok sayıda katılımcının olduğu görülmektedir. Bu katılımcı ifadelerinden bazılarına yer verilmiştir.

Hapishane

- Özgürlüğe engel hapis gibidir.
- Maske hapishane gibidir. Kendimi kısıtlanmış hissediyorum.
- Maske zindan gibi çünkü takınca nefes alamıyorum.
- Hapishanedir çünkü maskeyle birlikte insanların hayatında birçok şey kısıtlandı.

Görüldüğü üzere bazı katılımcılar maske kullanımını hapishane ile ilişkilendirmişlerdir.

Boğulmak

- Boğulmak gibidir çünkü nefes almakta sıkıntı yaşıyorum.
- Boğulmak gibidir. Çünkü Takınca nefes alamıyorum.

Bununla birlikte bazı katılımcıların ise maske kullanımını boğulmak ya da nefessizlik ile ilişkilendirdikleri anlaşılmaktadır.

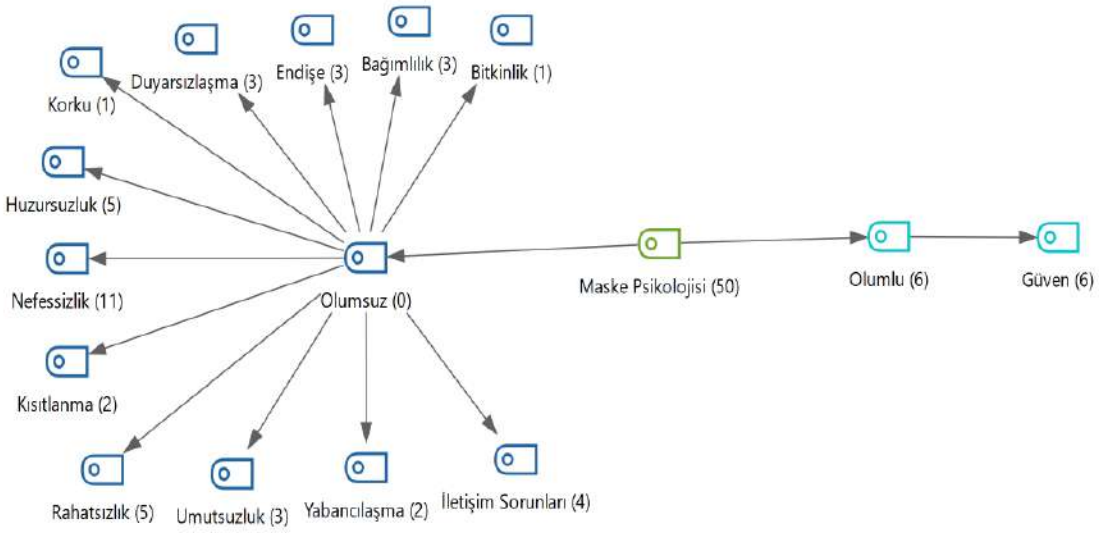
Ceza

- Ceza Gibidir Çünkü Kendimizi Cezalı Gibi Görüyoruz.
- Ceza gibidir. Çünkü nefes almamızı kısıtlıyor.

Aynı şekilde bazı katılımcılar ise maske kullanımını ceza kavramıyla ilişkilendirmiş ve maske kullanımının ceza gibi olduğunu ifade etmişlerdir.

Maskenin Psikolojik Etkileri

Bu başlık altında katılımcıların maske kullanımına ilişkin psikolojik deneyimlerine ilişkin analiz sonuçları yer almaktadır.



Şekil 1. Maske Kullanımının Psikolojik Etkilerine İlişkin Tema ve Alt Temalar

Şekil 1'de görüldüğü gibi tıpkı metafor çalışmasında olduğu gibi katılımcıların ikiye ayrıldıkları görülmektedir. Bir kısmın maske takmanın olumlu psikolojik etkilerinden bahsederken diğer bir kısmının ise olumsuz psikolojik etkileri ele aldıkları görülmektedir. Buna ilişkin olumlu katılımcı ifadelerinden bazıları aşağıdaki gibidir:

- Psikolojik bir etki yaratmadı bende aksine koruduğunu düşünüyorum sıcak olsa da sağlık için mecburuz (K12).
- Etrafta bu kadar bilinçsiz birey varken kolay kolay maske takmaktan vazgeçeceğimi sanmıyorum. En azından güvende hissettiriyor. (K43).
- Yorucu ve yıkıcı ama sonu güzel olacaksa dayanmaya değer. Sonuçta bir güven alanı oluşturuyor (K23).
- Yüzümün bir kısmı görünmediği için sosyal ortamlarda daha rahat hissediyorum. Biraz boğucu ama az da olsa virüse karşı bir kalkan olduğu için güvende hissetmemi sağlıyor. (K32)

Yukarıdaki katılımcı ifadeleri dikkate alındığında, katılımcılardan bazılarının maske takmanın olumsuz bir duruma sebebiyet vermediğini aksine kendilerini pandemi sürecinin olumsuz etkilerinden koruduğunu belirtmişlerdir. Özellikle maske kullanımın güven alanı oluşturduğuna dair çeşitli ifadelerin olduğu görülmektedir.

Olumsuz İfadeler

Katılımcı cevapları analiz edildiğinde katılımcıların çoğunlukla maske kullanımın olumsuz psikolojik yansımalarından bahsettikleri görülmektedir. Buna ilişkin bazı ifadeler aşağıda yer almaktadır:

Nefessizlik: Katılımcıların sıklıkla dile getirdikleri önemli olumsuz psikolojik etkilerden birisinin, maske takmanın özellikle nefes alamda zorluğa sebep olduğu ve bu durumun soluk alamıyormuş gibi bir his oluşturduğu söylemi dile getirilmiştir. Buna ilişkin bazı ifadeler şu şekildedir:

- Nefes almakta zorluk çekiyorum normalde de rahatsızlığımdan dolayı nefes almakta güçlük çekiyordum. Maske daha da kötü hale getiriyor (K13).

- Kendimi kapalı alanda nefessiz kalmış psikolojisi ile yaşıyorum. Bu durum panik durumumu artırıyor (K21).
- Psikolojimi bozuyor çünkü nefes darlığına sebep oluyor (K37).
- İlk zamanlarda çok kötü hissediyordum ama artık gerekli olduğunu düşünüyorum. Nefes almayı, yaşamı zorluyor ve bu beni üzüyor tabii ki psikolojik olarak zorluyor (K40).

Huzursuzluk: Katılımcıların maske ile ilgili sık dile getirdikleri diğer bir olumsuz psikolojik etki ise huzursuzluktur. Buna ilişkin çeşitli ifadeler aşağıda sunulmuştur:

- Bazen güvende hissetmekle birlikte çoğu zaman da huzursuz hissettirmekte. (K18).
- Dışarıya çıkarken normalde telefon cüzdan gibi eşyaları kontrol ediyordum ancak pandemi sürecinde önceliğim maske oldu. Maskenin olmayışı tedirgin ediyor artık beni huzursuz ediyor (K24).
- Maske kullanmak ilk başlarda geçici olduğunu düşündüğüm için pek bir etki yapmadı ancak ne zaman zorunlu ve kalıcı hale geldi işte o zaman özgürlüğünüzün kısıtlandığını bir süre sonra maskenin boğuculuğunu fark ettim (E9).
- Nefes almamı kısıtladığı için ve hayat kalitemi düşürdüğünden beni çok rahatsız ediyor ancak bir taraftan da az çok koruyor fikri de bir rahatlık hissi veriyor ancak olumsuz duygular daha ağır basıyor (K42).

Rahatsızlık: Yine katılımcıların maske ile ilgili sık dile getirdikleri diğer bir olumsuz psikolojik etki ise maskenin oluşturduğu rahatsızlık hissidir. Buna ilişkin çeşitli ifadeler aşağıda sunulmuştur:

- Havalar ısındıkça maske kullanmak çok zorlamaya başlıyor özellikle kulaklarımız o ipe dayanamıyor (K3).
- Hayatımın her yerinde olduğundan dolayı çok fazla rahatsızlık duyuyorum (K11).
- Kanaatli yaşamı hatırlattı ama aynı zamanda da özel gereksinimli bir birey olmadan(bir zedelenme veya yetersizlik sahibi olmadan) engel ile yaşamanın sıkıntısını verir insana (E3).

Duyarsızlaşma: Bazı bireyler maske kullanımıyla birlikte, özellikle pandemi sürecinde duyarsızlaşmanın söz konusu olduğunu belirtmişlerdir. Buna ilişkin bazı ifadeler şu şekildedir:

- Alıştım artık çevremde insanlar öldüğünden zoruma gitmiyor severek takıyorum (K9).
- İlk zamanlar çok zorluyordu nefes almamıza engeldi sanki ama gün geçtikçe pandemi dönemiyle ne kadar önemli olduğunu sağlığımızı koruduğunu anladık (K14).

Endişe: Katılımcılardan bazıları ise maske kullanımının endişe ve kaygıya yol açtıklarını belirtmişlerdir. Buna ilişkin bazı ifadeler sunulmuştur.

- Sadece her an her yerde hastalık bulaşacak gibi hissediyorum (K2).
- İnsanların arasına rahat karışamıyoruz artık. En yakınımızda bile uzağız (K38).

Katılımcı ifadeleri dikkate alındığında, maskenin çeşitli olumsuz etkilerinin olduğu görülmektedir. Bununla birlikte şekil 1'de de görüldüğü üzere maske kullanımının oluşturduğu farklı olumsuz psikolojik etkilerin de ifade edildiği görülmektedir (kısıtlanma, korku ve bitkinlik gibi).

Tartışma

Pandemi süreci ile birlikte, salgının hızlı yayılımını önlemek için bireylere önerilen maske kullanımı toplumda vazgeçilmez bir konuma gelmiştir. Önceleri bireylerin önem vermedikleri maske hâlihazırda aşı, hijyen ve mesafe ile birlikte güncelliğini korumaktadır. Ani bir şekilde toplum hayatının önemli bir öznesi haline gelen maske kullanımının, bireylerin zihinlerinde nasıl yer edindiğini tespit etmenin önemli olmasından dolayı bu çalışma yapılmıştır. Bu kapsamda ilk önce metafor çalışması yapılmış ve sonuçları incelendiğinde, katılımcıların genel olarak maskeyi iki ana kategoride ele aldıkları görülmektedir. Okan (2020) pandemi sürecinin psikolojik etkilerini incelediği çalışmasında benzer sonuçlara ulaşmıştır. Kimi katılımcılar maskenin koruyucu öneminden dolayı maskeyi olumlu bir noktada konumlandırmaktadır. Özellikle maske kullanımının hayati önemine vurgu yapılmış ve maskenin virüsü önemli oranda durdurduğunu düşünmektedirler. Kimi katılımcı ise, maskenin olumsuz etkisine vurgu yapmışlardır. Özellikle maskenin hapishane, nefessizlik, boğulma ve ceza gibi kavramlarla ilişkilendirilmiştir. Araştırma kapsamında yapılan ikinci alışma ise, maske kullanımının psikolojik etkilerinin incelenmesidir. Katılımcılara yöneltilen sorulara verilen cevaplara kaldığında, metafor çalışmasında olduğu gibi, kimi katılımcıların olumlu psikolojik bir süreçten bahsettikleri diğer bir grubun ise olumsuz psikolojik noktaya vurgu yaptıkları görülmektedir. Olumlu olarak ifade edenlerin özellikle maskenin güvenilirliğine vurgu yapmışlardır. Maske kullanımının olumsuz psikolojik etkilerine bakıldığında, çok sayıda alt temanın oluştuğu görülmektedir. Bunların özellikle; nefessizlik, duyarsızlık, rahatsızlık, huzursuzluk, endişe ve başka alt temalar olduğu görülmektedir. Benzer bir sonuca Okan ve Okan (2021) yaptıkları çalışmada ulaşmışlardır. Önceleri bireyler için bir anlam ifade etmeyen bir objenin, pandemi süreciyle birlikte yaşamın bir parçası haline gelmesinin çeşitli psikolojik etkilerinin olması beklenen bir durumdur. Aynı zamanda daha önceki alışkanlıklar yerine yeni alışkanlıklara alışmanın kolay olmadığı bilinmektedir. Dolayısıyla maske kullanımının bireylerdeki algılarının iki boyutlu olarak ele alındığı bu çalışmanın önemli bir boşluğu doldurması beklenmektedir. Bununla birlikte hem araştırmacı hem de uygulayıcılar için çeşitli önerilerde bulunulabilir:

- Bu çalışmada sınırlı sayıda bireye ulaşılmıştır. Daha kapsamlı bir araştırmanın planlanarak, daha çok kişiye ulaşılması bu çalışmanın sonuçları hakkında daha sağlıklı bilgilere ulaşılmasını sağlayacaktır.
- Toplumun tüm kesimlerinin maske taktığı bilinmektedir. Maske takmanın psikolojik yönünün belli yaş aralığında etkisinin farklı olup olmadığının araştırılması önemli olacaktır.
- Bu araştırmada gerek matafor çalışması ve gerekse de ikinci çalışmada, katılımcı deneyimlerinin çift yönlü olduğu görülmektedir. Bunun sebeplerinin incelendiği nitel araştırmaların yapılması faydalı olacaktır.

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NOKTÜRNAL ENÜREZISLI ÇOCUKLARDA MESANE-BAĞIRSAK DISFONKSIYONU ILE UYKU, PSIKOLOJIK DURUM VE YAŞAM KALITESI ARASINDAKI İLIŞKİ

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ÖZET

Bu çalışmanın amacı noktürnal enürezis (NE)'li çocuklarda mesane-barsak semptomları ile uyku, psikolojik durum ve yaşam kalitesi arasındaki ilişkiyi araştırmaktı. NE'li 40 çocuk çalışmaya dahil edildi. Çocukların fiziksel ve klinik özellikleri kaydedildi. Mesane-barsak disfonksiyonları Mesane ve Bağırsak Disfonksiyon Ölçeği (MBDÖ) ile, işeme bozukluğu semptomları İşeme Bozuklukları Semptom Skoru (İBSS) ile, uyku Çocuk Uyku Alışkanlıkları Anketi (ÇUAA) ile, anksiyete Çocuklar için Sosyal Anksiyete Ölçeği-Yenilenmiş Biçim (ÇSAÖ-YB) ile, çocukluk çağı depresyonu Çocuklar için Depresyon Ölçeği (ÇDÖ) ile, yaşam kalitesi Pediatrik İnkontinans Anketi (PİA) ile değerlendirildi.

MBDÖ ile İBSS ve uyku ($p=0,007$; $r=0,417$, $p=0,006$; $r=0,424$), anksiyete ($p<0,001$; $r=0,576$, $p=0,003$; $r=0,457$), depresyon ($p=0,004$; $r=0,448$, $p<0,001$; $r=0,572$) ve yaşam kalitesi ($p=0,001$; $r=0,517$, $p<0,001$; $r=0,579$) arasında orta derecede korelasyon bulundu. MBDÖ ve ÇUAA alt skorlarından uykuya dalmanın gecikmesi ($p=0.016$; $rho=-0.378$), uyku süresi bozuklukları ($p=0.001$; $rho=0.511$), parasomni ($p=0.039$; $rho=0.328$), ve uykuda solunumun bozulması ($p=0.001$; $rho=0.511$) arasında korelasyonlar vardı. İBSS ile ÇUAA alt skorlarından yatma zamanı direnci ($p=0,004$; $rho=0,448$), uyku süresi bozuklukları ($p=0,001$; $rho=0,503$), parasomni ($p=0,044$; $rho=0,320$), ve uykuda solunumun bozulması ($p=0.035$; $rho=0.334$) arasında korelasyonlar vardı. MBDÖ ve İBSS ile diğer parametreler arasında anlamlı ilişki yoktu ($p>0.05$).

Bu çalışmada NE'li çocuklarda mesane-barsak semptomları ile uyku problemleri, anksiyete, depresyon ve yaşam kalitesinin etkilenimi ile ilişki olduğu bulundu. Bu çocukların tedavisinde uyku problemleri, anksiyete, depresyonun azaltılması ve yaşam kalitelerinin artırılması için mesane-barsak semptomlarının iyileştirilmesi düşünülmelidir.

Anahtar Kelimeler: Noktürnal enürezis, uyku, depresyon, anksiyete

THE RELATIONSHIP BETWEEN BLADDER-BOWEL DYSFUNCTION AND SLEEP, PSYCHOLOGICAL STATUS AND QUALITY OF LIFE IN CHILDREN WITH NOCTURNAL ENURESIS

ABSTRACT

The aim of this study was to investigate the relationship between bladder-bowel symptoms and sleep, psychological status and quality of life in children with nocturnal enuresis (NE). Forty children with NE were included in the study. Physical and clinical characteristics of the children were recorded. Bladder-bowel dysfunctions with Bladder and Bowel Dysfunction Questionnaire (BBDQ), voiding disorder symptoms with Dysfunctional Voiding Symptom Score (DVSS), sleep with Children's Sleep Habits Questionnaire (CSHQ), anxiety with Social Anxiety Scale for Children-Revised Form (SASC-RF), childhood depression with Children's Depression Inventory (CDI), quality of life with Paediatric Incontinence Questionnaire (PIN-Q) were evaluated.

A moderate correlation was found between BBDQ and DVISS, and sleep ($p=0.007$; $r=0.417$, $p=0.006$; $r=0.424$)**,** anxiety ($p<0.001$; $r=0.576$, $p=0.003$; $r=0.457$), depression, ($p=0.004$; $r=0.448$, $p<0.001$; $r=0.572$), and quality of life ($p=0.001$; $r=0.517$, $p<0.001$; $r=0.579$). There were correlations between the BBDQ and the sub-scores of the CSHQ with sleep onset delay ($p=0.016$; rho=-0.378), sleep duration disorder ($p=0.001$; rho=0.511), parasomnia ($p=0.039$; rho=0.328), and sleep-disordered breathing ($p=0.001$; rho=0.511). There were correlations between the DVISS and the sub-scores of the CSHQ with bedtime resistance ($p=0.004$; rho=0.448), sleep duration disorder ($p=0.001$; rho=0.503), parasomnia ($p=0.044$; rho=0.320), and sleep-disordered breathing ($p=0.035$; rho=0.334). There were no significant relationship between BBDQ and DVISS with other parameters ($p>0.05$).

In this study, a correlation was found between bladder-bowel symptoms, and sleep problems, anxiety, depression and quality of life impact in children with NE. Improvement of bladder-bowel symptoms should be considered in the treatment of these children in order to reduce sleep problems, anxiety, depression and increase their quality of life.

Key words: Nocturnal enuresis, sleep, depression, anxiety

1. GİRİŞ

Uluslararası Çocuk Kontinans Derneği'ne göre noktürnal enürezis (NE), en az 5 yaşında olan çocuklarda en az üç ay boyunca ayda en az bir kez uyku sırasında istemsiz idrara çıkma durumudur (1, 2). NE'nin Türkiye'de prevalansı %7.5-16.2'dir (3-5). Genellikle somatik, psikososyal ve çevresel faktörlerin etkileşimi ile ilişkili bir hastalık olarak kabul edilmektedir. NE patofizyolojisinde kalıtsal bozukluk, uyku sırasında antidiüretik hormon salgısının anormal sirkadiyen ritmi, mesane disfonksiyonu, anormal uyku, uyarılma güçlükleri, nöropsikolojik bozukluklar ve beynin gelişimsel gecikmeleri etkilidir (6-8). NE'li çocuklarda noktürnal poliüri, mesane kapasitesinde azalma gibi mesane sorunları tek başına görülmez, bunlara konstipasyon ve anal inkontinans gibi barsak sorunları da eşlik edebilir (1, 9). Bu nedenle bu çocuklarda mesane ve barsak fonksiyonları birlikte değerlendirilmiştir (10, 11).

Uyuyan bir birey için uyanma bilgisi önce talamusa daha sonra kortikal bölgelere aktarılır (12). NE'li çocuklarda talamus ile serebellum, frontal lob, parietal lob ve presantral girus gibi beyin bölgeleri arasındaki bağlantının azaldığı belirtilmektedir (13). Beyin-mesane diyaloğunda bozulmaya yol açan gelişimsel gecikme NE'nin patogenezinde de etkilidir (7, 8, 14). Ayrıca, NE ve uyku sorunları arasındaki ilişki, çelişkili sonuçlar nedeniyle hala tartışmalıdır. Bazı araştırmalar NE'si olan ve olmayan çocukların uyku mimarilerinde hiçbir farklılık bulmamıştır (15, 16). Bununla birlikte, diğer çalışmalar NE'nin bozulmuş uyku ve diğer birçok uyku

problemi ile ilişkili olduğunu bulmuştur (17-19). Bu kapsamda NE'li çocuklarda uyku problemleri ile mesane problemleri arasındaki ilişkinin araştırılması önemlidir.

Pediatrik üroloji ziyaretlerinin %40'ında mesane ve barsak disfonksiyonu görülmektedir (20). Ancak bilgilerimize göre NE'li çocuklarda mesane-barsak disfonksiyonu prevalansı ile ilgili literatürde çok az sayıda çalışmaya rastlanmıştır (11). NE, bireyin gelişimini, benlik saygısını ve okul performansını etkileyerek çeşitli derecelerde psikososyal sorunlara ve sosyal izolasyona yol açabilen karmaşık bir bozukluktur (21). Ayrıca NE, ruhsal bozukluklarda artışa neden olabilir ve çocukların yaşam kalitesini etkileyebilir (22, 23). NE'li çocuklara eşlik eden mesane-barsak disfonksiyonunun varlığı bu çocukların yaşam kalitelerini ve psikososyal durumlarını daha da etkileyebilir (24). Çünkü bazı çalışmalar mesane-barsak fonksiyon bozukluklarının yaşam kalitesini (25, 26) ve psikososyal durumu da azalttığını göstermiştir. Bu bağlamda NE'li çocuklarda mesane-barsak disfonksiyonu ile uyku, psikolojik durum ve yaşam kalitesi arasındaki ilişkinin araştırılmasına ihtiyaç vardır.

2. ARAŞTIRMA VE BULGULAR

Çalışma tasarımı ve katılımcılar

Mevcut çalışma, gözlemsel-kesitsel tasarıma sahiptir. Çalışma örneği İstanbul, Türkiye Gaziosmanpaşa Eğitim ve Araştırma Hastanesi Çocuk ve Ergen Psikiyatrisi Polikliniği'nden alınmıştır. Çalışma Helsinki Deklarasyonu kurallarına uygun olarak yapıldı. Etik onayı Ankara Yıldırım Beyazıt Üniversitesi Etik Kurulu tarafından verilmiştir (Onay tarih ve numarası: 29.05.2019-22).

Katılımcıların dahil edilme kriterleri, 7-18 yaş arası bir çocuk olmak, çalışmaya katılmaya gönüllü olmak ve bir pediatrik ürolog tarafından "Uluslararası Çocuk Kontinans Derneği" (1) ne göre NE tanısı almış olmaktı. Dahil edilmeme kriterleri, kronik bir hastalığı (kronik böbrek yetmezliği, diyabet, kanser vb.), nörolojik bir hastalığı olmak ve değerlendirmeleri tamamlayamamak idi. Tüm ebeveynlerden ve çocuklardan yazılı bilgilendirilmiş onam alındı. Tüm ölçekler psikiyatrist görüşmesinin ardından uygulandı.

Dahil edilme kriterlerini karşılayan 12 hasta ile bir pilot çalışma yapıldı. Çalışmanın birincil bulgusu MBDÖ ve ÇUAA arasındaki ilişkiydi. $\rho=0.46$, $\alpha=0.05$ tip I hata, $\beta=0.20$ tip II hata etkisi ile %80 güce ulaşmak için 34 hastanın çalışmaya dahil edilmesi gerektiği hesaplandı. Değerlendirme sürecini tamamlayamayan hasta oranı %20 olarak alındı. Bu nedenle çalışmaya 40 hastanın dahil edilmesine karar verildi. Çalışma için gerekli örneklem büyüklüğü G*Power (G*Power Versiyon 3.0.10, Franz Faul, Universität Kiel, Almanya) paket programı ile hesaplandı.

Değerlendirmeler

Çocukların yaşı (yıl), vücut kitle indeksi (VKİ), cinsiyeti, eğitim durumu, NE süresi ve gece inkontinansı kaydedildi. Çocuklarda idrar kaçırmaya bağlı mesane ve barsak fonksiyon bozuklukları ve işeme bozukluğu semptomlarının şiddeti, uyku alışkanlıkları ve uyku ile ilgili problemler, anksiyete, depresyon ve yaşam kalitesi değerlendirildi.

Çocuklarda mesane ve barsak disfonksiyonu semptomlarının şiddeti Mesane ve Bağırsak Disfonksiyon Ölçeği (MBDÖ)'nin Türkçe versiyonu ile değerlendirildi. Bu anket 14 sorudan oluşmaktadır. Toplam puanın 11 veya daha yüksek olması MBD tanısı için gösterge olarak kabul edilir. Toplam puan 0 ile 52 arasında değişmektedir ve toplam puan arttıkça semptomların şiddeti de artmaktadır (27).

Çocukların işeme bozukluğu semptomlarının şiddeti İşeme Bozuklukları Semptom Skoru (İBSS)'nun Türkçe versiyonu ile değerlendirildi. On üç soru gündüz semptomlarını, gece semptomlarını, işeme alışkanlıklarını, bağırsak alışkanlıklarını değerlendirir. Ondördüncü soru,

bu semptomlarla ilişkili olarak yaşam kalitesi üzerindeki etkiyi değerlendirmektedir. Ölçeğin toplam puanı 0 ile 35 puan arasında değişmektedir (28).

Çocukların uyku alışkanlıkları ve uyku problemleri Çocuk Uyku Alışkanlıkları Anketi (ÇUAA)' nin Türkçe verisyonu ile değerlendirildi. Anket ayrıca çocuğun uyku alışkanlıkları (yatma zamanı, uyanma zamanı ve günlük uyku süresi) hakkında üç açık uçlu soru içermektedir. Ebeveynler tarafından geriye dönük olarak doldurulan sekiz alt boyut yatma zamanı direnci, uykuya dalmanın gecikmesi, uyku süresi bozuklukları, uyku kaygısı, parasomniler, uykuda solunumun bozulması, gece uyanmaları ve gün içinde uykululuk olarak tanımlandı. Bu anketten elde edilen puanın artması uyku problemlerinde artışa işaret etmektedir (29).

Çocukların kaygıları, Çocuklar İçin Sosyal Anksiyete Ölçeği-Yenilenmiş Biçim (ÇSAÖ-YB) ile değerlendirildi. 18 maddelik ÇSAÖ-YB, 5'li Likert tipi bir öz bildirim ölçeğidir. ÇSAÖ-YB tek boyutludur ve toplam puan bazında değerlendirilir. Ölçekten alınabilecek puanlar 18-90 arasında olup, puanlar arttıkça sosyal kaygı düzeyi de artmaktadır (30).

Çocukluk çağı depresyonu, Çocuklar için Depresyon Envanteri (ÇDE)'nin Türkçe versiyonu ile değerlendirildi. Ölçek 27 sorudan oluşmakta ve her soru 0, 1 ile 2 arasında puanlanmaktadır. Bu ölçek 0-54 arasında puanlanmaktadır. Toplam puanın yüksek olması, depresyon düzeyinin arttığını gösterir (31).

Üriner inkontinansın çocuğun yaşam kalitesine etkisi Pediatrik İnkontinans Anketi (PİA)'nin Türkçe versiyonu ile değerlendirildi. 20 sorudan oluşan ankette her soru 0 ile 4 arasında puanlanmaktadır (0=hayır, 1=neredeyse hiç, 2=bazen, 3=sık sık, 4=her zaman). Toplam puan 0 ile 80 puan arasında değişmektedir. Toplam puanın artması çocuğun yaşam kalitesinin olumsuz etkilendiği anlamına gelmektedir (32).

Değişkenlerin normal dağılıma uygunluğu görsel (histogram ve olasılık grafikleri) ve analitik yöntemlerle (Shapiro-Wilk testi) incelenmiştir. Analizlerde parametreler ortalama (X)±standart sapma (SD) ile normal dağılım gösteren değişkenler, medyan ve minimum-maksimum (min-maks) değerleri ile normal dağılım göstermeyen değişkenler ve kategorik değişkenler sayı (n) yüzde (%) olarak sunuldu. NE'li çocuklarda mesane-barsak semptomlarının şiddeti ile uyku, psikolojik durum ve yaşam kalitesi arasındaki ilişkiler Pearson ve Spearman korelasyon testleri kullanılarak analiz edildi. İstatistiksel analiz ve hesaplamalar için IBM SPSS Statistics 21.0 (IBM Corp. Yayınlandı 2012. IBM SPSS Statistics for Windows, Sürüm 21.0. Armonk, New York, ABD) kullanıldı. İstatistiksel hata olasılığı $p<0.05$ olarak kabul edildi.

Bulgular

NE'li 49 çocuk çalışmaya dahil edildi. Dahil edilme kriterlerini karşılamadıkları için 9 çocuk çalışma dışı bırakıldı. Toplamda 40 çocuk çalışmayı tamamladı. Çocukların ortanca yaşı 9 (7-15) yıl olup, çoğunluğu erkektir (n=28, %70). Araştırmaya katılan çocukların fiziksel ve demografik özelliklerine ilişkin tanımlayıcı bulgular Tablo 1' de gösterildi. Araştırmaya katılan çocuklarda NE'nin ortalama süresi 36 (12-96)/ay ve insidansı 1 (0.33-3)/hafta idi. Ayrıca çocukların MBDÖ ve İBSS sırasıyla 19 (9-38) ve 18.5 (9-34) idi. Bu çalışmada çocukların %92,5'inde (n=37) uyku sorunu, %57,5'inde (n=23) depresyon varlığı saptandı. NE'li çocukların klinik parametreleri ve ölçek puanları Tablo 2'de gösterildi.

Table 1: NE'li çocukların fiziksel ve demografik özellikleri

Fiziksel ve Demografik Özellikleri	NE'li Çocuklar (n=40)
Yaş (median (min-maks), yıl)	9 (7-15)
Beden Kitle İndeksi (median (min-maks), kg/m^2)	17.42 (13.85-29.38)
Cinsiyet (n, (%))	

Kız	12 (30)
Erkek	28 (70)
Eğitim Durumu (n, (%))	
İlkokul	29 (72.5)
Ortaokul	11 (27.5)

min: minimum, maks: maksimum, kg: kilogram, m^2: metrekare, n: sayı, %: yüzde, NE: noktürnal enürezis

Table 2: NE'li Çocuklarda Klinik Parametrelerin Değerleri

Klinik Parametreler	**n=40**
NE süresi (median (min-max), ay)	36 (12-96)
Gece inkontinansı (median (min-max))	1 (0.33-3)
MBDÖ (X±SS)	20.50±6.75
İBSS (X±SS)	19.65±6.32
ÇUAA toplam skor (X±SS)	54.65±9.76
Yatma zamanı direnci (medyan (min-maks))	10 (6-17)
Uykuya dalmanın gecikmesi (medyan (min-maks))	1 (1-3)
Uyku süresi bozuklukları (medyan (min-maks))	3 (3-8)
Uyku kaygısı (medyan (min-maks))	8 (4-12)
Parasomniler (medyan (min-maks))	12 (8-20)
Uykuda solunumun bozulması (medyan (min-maks))	3 (3-8)
Gece uyanmaları (medyan (min-maks))	3 (3-8)
Gün içinde uykululuk (medyan (min-maks))	14 (8-21)
ÇSAÖ-YB (X±SD)	47.87±16.35
ÇDÖ (X±SD)	21.65±10.46
PİA (X±SD)	43.05±15.96

X: ortalama, SS: standart sapma, NE: nokturnal enurezis, MBDÖ: Mesane-Barsak Disfonksiyon Ölçeği, İBSS: İşeme Bozuklukları Semptom Skoru, ÇUAA: Çocuk Uyku Alışkanlıkları Anketi, ÇSAÖ-YB: Çocuklar için Sosyal Anksiyete Ölçeği- Yenilenmiş Biçim, ÇDÖ: Çocuklar için Depresyon Ölçeği, PİA: Pediatrik İnkontinans Anketi.

NE'li çocuklarda MBDÖ ile uyku (p=0,007; r=0,417), anksiyete (p<0,001; r=0,576), depresyon (p=0,004; r=0,448) ve yaşam kalitesi (p=0,001; r=0,517) arasında korelasyon vardı (Tablo 3). NE'li çocuklarda İBSS ile uyku (p=0,006; r=0,424), anksiyete (p=0,003; r=0,457), depresyon (p<0,001; r=0,572) ve yaşam kalitesi (p<0,001; r=0,579) arasında korelasyon vardı (Tablo 3).

Ayrıca MBDÖ ile ÇUAA alt puanları arasındaki ilişkiler incelendiğinde; uykuya dalmanın gecikmesi (p=0.016; rho=-0.378), uyku süresi bozuklukları (p=0.001; rho=0.511), parasomni (p=0.039; rho=0.328) ve uykuda solunumun bozukluğu (p=0.001; rho =0.511) korele olduğu bulundu (Tablo 3). İBSS ile ÇUAA alt puanları arasındaki ilişki incelendiğinde; yatma zamanı direnci (p=0,004; rho=0,448), uyku süresi bozuklukları (p=0,001; rho=0,503), parasomni (p=0,044; rho=0,320) ve uykuda solunumun bozulması (p=0,035; rho=0,334)) ilişkili olduğu bulundu (Tablo 3). Diğer parametrelerle MBDÖ ve İBSS arasında anlamlı bir ilişki görülmedi (p>0,05, Tablo 3).

Table 3: NE'li Çocuklarda Mesane-Barsak Semptomları ile Uyku, Psikolojik Durum ve Yaşam Kalitesi Parametreleri Arasındaki İlişki

	MBDÖ		**İBSS**	
Parameters	**p**	**r/rho**	**p**	**r/rho**
ÇUAA-toplam puan	0.007*	0.417[a]	0.006*	0.424 [a]
Yatma zamanı direnci	0.382	0.142[b]	0.004*	0.448 [b]
Uykuya dalmanın gecikmesi	0.016*	-0.378 [b]	0.588	-0.088 [b]
Uyku süresi bozuklukları	0.001*	0.511 [b]	0.001*	0.503 [b]
Uyku kaygısı	0.109	0.257 [b]	0.939	-0.012 [b]

Parasomniler	0.039*	0.328 [b]	0.044*	0.320 [b]
Uykuda solunumun bozulması	0.001*	0.511 [b]	0.035*	0.334 [b]
Gece uyanmaları	0.538	0.100 [b]	0.138	0.238 [b]
Gün içinde uykululuk	0.056	0.305 [b]	0.293	0.171 [b]
ÇSAÖ-YB	<0.001*	0.576 [a]	0.003*	0.457 [a]
ÇDÖ	0.004*	0.448 [a]	<0.001*	0.572 [a]
PİA	0.001*	0.517 [a]	<0.001*	0.579 [a]

*p<0.05, [a]Pearson korelasyon katsayısı=r, [b]Spearman korelasyon katsayısı=rho, MBDÖ: Mesane Barsak Disfonskiyon Ölçeği, İBSS: İşeme Bozuklukları Semptom Skoru, ÇUAA: Çocuk Uyku Alışkanlıkları Anketi, ÇSAÖ-YB: Çocuklar için Sosyal Anksiyete Ölçeği- Yenilenmiş Biçim, ÇDÖ: Çocuklar için Depresyon Ölçeği, PİA: Pediatrik İnkontinans Anketi.

3. SONUÇ

Bu çalışmada, NE'li çocuklarda mesane-barsak semptomları ile uyku problemleri, anksiyete, depresyon ve yaşam kalitesinin ilişkili olduğu bulundu.

Uyku problemleri ile NE arasındaki ilişki, çelişkili sonuçlar nedeniyle tartışmalı bir konudur (15, 17). Örneğin Mikkellsen ve ark.(15), enürezisin uyku problemleri ile ilişkili olduğunu desteklemezken, Esposito ve ark. (17), anormal bir uyku sonucu NE'nin ortaya çıkabileceğini bildirmişlerdir. Ma ve ark.nın (33) çalışmasında, ÇUAA alt başlıklarının NE ile ilişkili olduğu bulunmuştur. Azevedo Soster ve ark. (34), NE'nin uykuda solunumun bozulması ve parasomniler gibi diğer uyku bozukluklarıyla ilişkili olduğunu bildirmişlerdir. Biz de NE'li çocuklarda mesane barsak disfonksiyonu ile uyku alt başlıklarından yatma zamanı direnci, uykuya dalmanın gecikmesi, uyku süresi bozuklukları, parasomni ve uykuda solunum bozukluğunun ilişkili olduğunu bulduk. Sonuç olarak bu çalışmaya göre NE'li çocuklarda mesane bağırsak disfonksiyonu ile uyku problemleri ilişkilidir. Böylece NE'li çocuklarda mesane bağırsak problemlerinin azaltılması uyku problemlerinin azaltılmasında etkili olabilir.

NE, çocuğun sosyal ve duygusal yaşamını olumsuz etkilemekle birlikte yaşam kalitesini bozabilecek klinik bir durumdur. Salihi ve ark.nın çalışmasında asemptomatik çocuklarla kıyaslandığında NE'li çocuklarda yaygın anksiyete bozukluğu, panik bozukluk, okul fobisi ve sosyal anksiyetenin daha fazla olduğu bulunmuştur (35). Mota ve ark. 6 ve 11 yaşlarındaki çocuklarda NE ile psikiyatrik bozukluklar arasında önemli ilişki olduğunu ifade etmiştir (36). Kılıçoğlu ve ark., bir çalışmasında da NE'li çocukların, sağlıklı çocuklara göre yaşam kalitelerinin daha kötü olduğunu belirtmişlerdir (21). İşcan ve ark., NE'nin çocukların yaşam kalitesini olumsuz etkilediğini ve yaşam kalitesinde en çok etkilenen alanların benlik saygısı, duygusal iyilik hali olduğunu göstermişlerdir (37). Ayrıca literatürde mesane bağırsak disfonksiyonunun çocukların psikolojik durumunu ve yaşam kalitesini olumsuz etkilediği de bildirilmiştir (24, 33). Dolayısıyla NE'nin ve mesane-barsak disfonksiyonunun psikolojik durum ve yaşam kalitesini etkilediği düşünüldüğünde NE'li çocuklarda mesane-bağırsak disfonksiyonu ile psikolojik durum ve yaşam kalitesi ilişkisinin incelenmesi önemlidir. Bu kapsamda yaptığımız çalışmada NE'li çocuklarda mesane barsak disfonksiyonu ile psikolojik durum ve yaşam kalitesi arasında ilişki bulduk. Dolayısıyla, bu çocukların tedavisinde anksiyete, depresyonun azaltılması ve yaşam kalitelerinin artırılması için mesane-barsak semptomlarının iyileştirilmesi düşünülmelidir.

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CASE-REPORT: DETECTION OF ADVANCED PANCREAS CANCER AFTER SUFFERING FROM COVID-19

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ABSTRACT

The results of examination & treatment of a man born in 1957 with a diagnosis of Advanced Pancreatic Cancer after suffering from COVID-19 were analyzed.

In 2015, the patient underwent coronary bypass surgery for unstable angina pectoris.

In September 10, 2020 the patient was infected by SARS-2 COVID-19 (test was positive). Computed tomography (CT) of the chest cavity revealed: opacities of ground glass (GGO) - 50% of the total volume, consolidation and linear opacities in the lungs. Conclusion: atypical viral pneumonia at the peak of the disease.

Abdominal CT with double contrast was performed additionally. CT scan of the pancreas and liver without pathology.

The patient redirected to the COVID Hospital, where was treated.

After 5 month of suffered COVID-19 the patient feel girdle pains in the epigastrium and turned to us again.

In February 23, 2021 Abdominal CT with double contrast was performed. CT scan identified «Carcinoma of the tail of the pancreas. Tumor invasion into the collar and vein of the spleen. Tumoral thrombosis of the splenic vein. Metastatic lesions in the portohepatic region and around the celiac trunk 36 mm in size and less. Diffuse metastatic liver disease. Lymphadenopathy in the paraaortic and mesenteric areas». The patient was administered to chemotherapy (Gemsitabin+Nab-Paxitaxel+Tarceva).

Conclusion

We hope that the observed such cases of exacerbation and deterioration of the course of some chronic diseases, as well as the development of tumors of various origins, which are often encountered after suffering COVID-19, is a signal for world researchers and clinicians in the postpandemic period.

Key Words: COVID-19, Advanced pancreatic cancer, computed tomography, ground-glass opacities, polychemotherapy, complete cure, case report

AİLEVİ AKDENİZ ATEŞLİ HASTALARDA KALP HIZI TÜRBÜLANSI VE KALP HIZI DEĞİŞKENLİĞİ

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ÖZET

Amaç: Ailevi Akdeniz ateşi (FMF), tekrarlayan ateş ve seröz membran iltihabı ile seyreden otoimmün bir hastalıktır. Kardiyovasküler hastalıklar, otoimmün hastalıklarda önde gelen mortalite ve morbidite nedenidir. Kalp hızı değişkenliği (HRV) ve kalp hızı türbülansı (HRT), kardiyak otonomik fonksiyonlarının değerlendirilmesinde kullanılır. Bu çalışmanın amacı, FMF'li hastalarda kardiyak otonomik fonksiyonları, sağlıklı kontrollerle karşılaştırmaktır.

Materyal ve Metod: Çalışmaya atak dönemi dışında olduğu tespit edilen, 44 FMF'li hasta, kontrol grubuna ise 42 sağlıklı gönüllü alındı. Hastaların 24 saatlik ambulatuar elektrokardiyogram kayıtları yapıldı. Türbülans eğimi ve türbülans başlangıcı (TO) dahil, HRV ve HRT'nin parametreleri hesaplandı.

Bulgular: İki grup arasında HRV ve HRT parametrelerinde anlamlı fark saptanmadı.

Sonuç: FMF hastalarında otonomik disfonksiyonun var olup olmadığını saptamak için daha geniş popülasyonlarda, farklı yöntemlerin kullanıldığı çalışmalar yapılmalıdır.

Anahtar Kelimeler: FMF, HRV, HRT.

HEART RATE TURBULENCE AND HEART RATE VARIABILITY IN PATIENTS WITH FAMILY MEDITERRANEAN FEVER

SUMMARY

Objectives: Familial Mediterranean fever (FMF) is an autoimmune disease characterized by recurrent fever and serous membrane inflammation. Cardiovascular diseases are the leading cause of mortality and morbidity in autoimmune diseases. Heart rate variability (HRV) and heart rate turbulence (HRT) are used to evaluate cardiac autonomic functions. The aim of this study is to compare cardiac autonomic functions in patients with FMF with healthy controls.

Materials and Methods: The study included 44 patients with FMF who were out of the attack period, and 42 healthy volunteers. 24-hour ambulatory electrocardiogram recordings of the patients were performed. The parameters of HRV and HRT, including turbulence slope and turbulence onset (TO), were calculated.

Results: There was no significant difference in HRV and HRT parameters between the two groups.

Conclusion: Studies using different methods in larger populations should be conducted to determine whether autonomic dysfunction is present in patients with FMF or not.

Keywords: FMF, HRV, HRT.

IMPACT OF NSAID USE AFTER LUMBAR SURGERY: META-ANALYSIS

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Introduction

The aim of this study is to evaluate the studies examining the effectiveness of NSAID use in the postoperative follow-up of patients who underwent spinal surgery.

Methods

This study is a meta-analysis and systematic study of post-operative NSAID use in patients undergoing spinal surgery, particularly regarding their effects on pain levels, opioid use, complications, and hospital stay.

Results

799 studies on NSAID use and spine surgery were identified from Pubmed, google and research gate websites. 19 of them were included in the study. The studies were randomized, prospective, and retrospective controlled studies. Discectomy, laminectomy, and fusions were performed in the surgeries. Ketorelac injection was given to the patients most frequently after surgery as an NSAID. He had a significantly lower visual analog score (VAS) in NSAID treatments given at the 1st and 12th hours after surgery. This group also had considerably lower postoperative opioid consumption and hospital stay. The 7 fusion studies of arthrodeses had a very low "odd" rate, however, they were not significantly different in the long term in the subgroups with respect to smoking rate.

Conclusion

It can be recommended to add NSAID treatment to analgesic treatment after severe surgeries such as spine surgery, due to the need for hospitalization, low pain score and low opioid medication. In addition, it is also striking that no complications were detected in the meta-analysis. Since gastrointestinal problems of NSAIDs are generally long-term problems, they can be used to increase the comfort of patients after short-term heavy surgeries. In addition, NSAID treatments may have side effects on kidney functions. However, no significant short-term effects have been reported on patients.

Keywords. Spine, fusion, surgery, NSAID

LOMBER CERRAHİ SONRASI NSAİİ KULLANIMININ ETKİSİ: META-ANALİZ

Giriş

Bu çalışmanın amacı omurga cerrahisi yapılan hastaların ameliyat sonrası takiplerinde NSAİİ kullanımının etkiniliğini inceleyen çalışmaları değerlendirmektir.

Metodlar

Bu çalışma özellikle ağrı seviyeleri, opoid kullanımı, komplikasyonlarını ve hastanede kalma süreleri üzerine etkileri ile ilgili olarak omurga cerrahisi yapılan hastalarda ameliyat sonrası NSAİİ kullanımı ile ilgili meta-analiz ve sistematik bir çalışmadır.

Sonuçlar

Pubmed, google ve research gate web sitelerinden NSAİİ kullanımı ve omurga cerrahisi ile ilgili olarak 799 çalışma tespit edildi. Bunların 19'u çalışmaya dahl edildi. Çalışmalar randomize, prospektif ve retrospektif kontrollü çalışmalardı. Ameliyatlarda diskektomi, laminektomi, ve füzyonlar yapılmıştı. Ameliyat sonrası en sık hastalara NSAİİ olarak Ketorelak enhejsiyon verilmişti. Ameliyat sonrası 1. ve 12. saat verilen NSAİİ tedavilerde önemli derecede düşük görsel analog skora (visual analog score:VAS) sahipti. Bu grup ayrıca oldukça düşük ameliyat sonrası opoid tüketimine ve hastanede kalma süresine sahipti. Artrodezlerle ilgili 7 füzyon çalışması oldukça düşük "odd" oranına sahipti, bununla birlikte, sigara içme oranına göre alt gruplarda uzun dönemde çokda farklı değildi.

Sonuç

Omurga cerrahisi gibi ağır cerrahiler sonrası NSAİİ tedavisinin analjezik olarak sağlanmasına eklemek hastanede kalma, düşük ağrı skoru ve düşük opoid ilaç ihtiyacına duyulması nedeniyle tavsiye edilebilirnir. Ayrıca hiçbir şekilde komplikasyonun meta-analizde tespit edilmemesi ayrıca göze çarpan bir durumdur. NSAİİ'ların gastointestinal sorunları genelde uzun dönemde ortaya çıkan sorunlar olması nedeniyle, kısa süreli ağır cerrahiler sonrası hastaların konforunu artırmak amaçlı kullanılabilinir. Ayrıca NSAİİ tedaviler böbrek fonksiyonları üzerine yan etkileride bulunabilinir. Ancak yine kısa dönemde etkileri önemli derecede hastalara etkisi bildirilmemiştir.

Anahtar Kelimeler. Omurga, füzyon, cerrahi, NSAİİ

AİLEVİ AKDENİZ ATEŞİNDE KARDİYAK FONKSİYONLARIN EKOKARDİYOGRAFİ İLE DEĞERLENDİRİLMESİ

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ÖZET

Amaç: Kronik inflamatuvar hastalıklar kalp tutulumu yapabilmektedir. Ailevi Akdeniz ateşi (FMF) de kronik inflamatuvar bir hastalıktır. Atak dışı dönemde de subklinik inflamasyon devam etmektedir. Çalışmamıza koroner arter hastalığı risk faktörlerini taşımayan, FMF'li hastalar alındı. Hastaların transtorasik ekokardiyografi ile sistolik ve diyastolik kalp fonksiyonları değerlendirildi. FMF'in, kalp fonksiyonlarına etkisi tespit edilmeye çalışıldı.

Materyal ve Metod: Çalışmaya atak dönemi dışında olduğu tespit edilen, 44 FMF'li hasta, kontrol grubuna ise 42 sağlıklı gönüllü alındı. Tüm olguların ekokardiyografileri yapıldı.

Bulgular: Hasta grubunda beyaz küre sayısı, trombosit sayısı, CRP ve ürik asit miktarı, kontrol grubuna göre sayısal olarak daha yüksekti. FMF'lilerde HDL-kolesterol, kontrol grubuna göre anlamlı düzeyde daha düşüktü ($p<0.05$). Hasta grubunda, kontrol grubuna göre MPV (Ortalama trombosit hacmi), PDW (Trombosit dağılım genişliği), sedimentasyon hızı ve glukoz değerleri anlamlı düzeyde yüksek saptandı ($p<0.05$). Hastaların serum fibrinojeni 276 ±49.4 mg/dl tespit edildi. Mitral E dalga hızı, mitral DT (Deselerasyon zamanı), triküspit E dalga hızı, triküspit E/A oranı, pulmoner S ve D dalga hızı, İVRT (İzovolümetrik gevşeme zamanı), İVKT (İzovolümetrik kontraksiyon zamanı) ve MPİ'i (Miyokardiyal performans indeksi) her iki grup arasında istatistiksel olarak anlamlı farklı saptandı ($p<0.05$). Hasta grubunda MPİ ve İVRT kontrol grubuna göre istatistiksel olarak anlamlı yüksek bulundu ($p<0.001$). Grupların mitral Sm, Em, Am dalga hızı, mitral Em/Am oranı ve triküspit St dalga hızı benzerdi. Tiküspit Et, triküspit At dalga hızı ve triküspit Et/At oranı ise her iki grup arasında anlamlı düzeyde farklı bulundu ($p<0.05$). Hasta grubunda, kontrol grubuna göre triküspit Et dalga hızı ve triküspit Et/At oranı sayısal olarak düşük saptandı.

Sonuç: FMF'li hastalarda düzenli kolşisin tedavisi, atakları önlesede subklinik inflamasyon devam etmektedir. Kısmende olsa inflamasyonu önlemek için, mutlaka düzenli kolşisin kullanılmalıdır. Çalışmamızda FMF'li hastaların sağ ve sol ventrikül diyastolik fonksiyonlarının bozulduğunu tespit ettik. FMF'li hastaların periyodik muayenelerinin ve ekokardiyografilerinin düzenli yapılmasının faydalı olacağı sonucuna vardık.

Anahtar Kelimeler: FMF, Ekokardiyografi.

EVALUATION OF CARDIAC FUNCTIONS IN FAMILY MEDITERRANEAN FEVER BY ECHOCARDIOGRAPHY

SUMMARY

Objectives: Chronic inflammatory diseases can involve the heart. Familial Mediterranean Fever (FMF) is also a chronic inflammatory disease. Subclinical inflammation continues in the non-attack period. Patients with FMF who did not have coronary artery disease risk factors were included in our study. Systolic and diastolic heart functions of the patients were

evaluated by transthoracic echocardiography. We tried to determine the effect of FMF on heart functions.

Materials and Methods: The study included 44 patients with FMF who were out of the attack period and 42 healthy volunteers were included in the control group. Echocardiography was performed in all cases.

Results: The white blood cell count, platelet count, CRP and uric acid levels were numerically higher in the patient group than in the control group. HDL-cholesterol was significantly lower in patients with FMF compared to the control group ($p<0.05$). MPV (Mean platelet volume), PDW (Platelet distribution width), sedimentation rate and glucose values were found to be significantly higher in the patient group compared to the control group ($p<0.05$). Serum fibrinogen of the patients was 276 ± 49.4 mg/dl. Mitral E wave velocity, mitral DT (Deceleration time), tricuspid E wave velocity, tricuspid E/A ratio, pulmonary S and D wave velocity, IVRT (Isovolumetric relaxation time), IVCT (Isovolumetric contraction time) and MPI (Myocardial performance index) we found a statistically significant difference between the two groups ($p<0.05$). MPI and IVRT were found to be statistically significantly higher in the patient group than in the control group ($p<0.001$). Mitral Sm, Em, Am wave velocity, mitral Em/Am ratio and tricuspid St wave velocity were similar in the groups. Ticuspid Et, tricuspid At wave velocity and tricuspid Et/At ratio were significantly different between the two groups ($p<0.05$). The tricuspid Et wave velocity and tricuspid Et/At ratio were found to be numerically lower in the patient group compared to the control group.

Conclusion: Although regular colchicine treatment prevents attacks in patients with FMF, subclinical inflammation continues. Regular colchicine should be used at least partially to prevent inflammation. In our study, we found that the right and left ventricular diastolic functions of patients with FMF were impaired. It can be concluded that periodic examinations and echocardiography of patients with FMF would be beneficial.

Keywords: FMF, Echocardiography.

1.GİRİŞ

Ailevi Akdeniz ateşi (FMF), Türkler, Araplar, Yahudiler ve Ermenilerde sık görülen, otozomal resesif geçişli bir hastalıktır. Hastalık, tekrarlayan ateş ile birlikte karın ağrısı, plevrit, perikardit, peritonit ve artritle seyreder. En önemli komplikasyonu renal amiloidoza bağlı böbrek yetmezliğidir (1-3). Atak dönemi dışında da subklinik inflamasyonun devam ettiği bilinmektedir (4,5).

Hastalığa neden olan MEFV (Mediterranean Fever) geni, 16. kromozomun kısa kolunda bulunmaktadır. MEFV geni, sağlıklı bireylerde pyrin ya da marenostrin adı verilen proteini üretmektedir (1,2). Pyrin 781 aminoasit içeren, 86 kDa ağırlığında pozitif yüklü bir proteindir. Özellikle periferal kan granülositlerinin sitoplazmasında bulunur. Uyarılmamış nötrofillerde pyrin çok az bulunur veya yoktur. Pyrin proteini stres anında inflamasyonu sınırlayan bir proteindir. FMF hastalığında, pyrin görevini yerine getiremez ve inflamasyon atakları engellenemez. Sonuçta hastalarda ateş, karın ağrısı ve serozit tablosu gelişir (5,6).

Atak döneminde, fibrinojen, sedimentasyon, CRP, IL-1 (interlökin 1), IL-2, IL-6, TNF-α (tümör nekroz faktörü-alfa), serum amiloid A ve makrofaj, inflamatuvar protein-1α gibi birçok sitokinin serumda düzeyi artmaktadır (3).

Hastalarda, plevral ve perikardiyal inflamasyona bağlı göğüs ağrısı olabilir. Perikardit gelişebilir, ancak tamponad ve konstrüktif perikardit nadirdir (1-3).

Kronik inflamatuvar hastalıklar (romatoid artrit, sistemik lupus eritematosuz ve skleroderma) çeşitli yollarla kalp tutulumu yapabilmektedir. FMF de kronik inflamatuvar bir hastalıktır. Bu nedenle FMF'li hastalar da kardiyovasküler tutulum açısından risk altındadır (7). Bugüne kadar bu konuda yeterli çalışma yapılamamıştır.

Bu veriler doğrultusunda; koroner arter hastalığı risk faktörlerini taşımayan, atak dönemi dışında olduğu tespit edilen FMF'li hastaların transtorasik ekokardiyografi ile sistolik ve diyastolik kalp fonksiyonlarını değerlendirerek, sağlıklı bireylerle karşılaştırdık. Böylece FMF'in kalp fonksiyonlarına olan etkisini tespit etmeye çalıştık.

2.MATERYAL VE METOD

Hasta çalışma grubu:

Çalışma grubunu, FMF tanısı konmuş olan 18 yaşından büyük hastalar oluşturdu. Tüm hastaların tanısı Tel-Hoşhomer tanı kriterleri esas alınarak konulmuştu. Çalışmaya klinik ve laboratuvar verileri sonucuna göre, atak dönemi dışında olduğu tespit edilen, yaş ortalaması 33.7 ± 9.0 arasında, 24'ü erkek, toplam 44 FMF'li hasta alındı. Hastalar bilgilendirildikten ve onamları alındıktan sonra çalışmaya dahil edildi.

Çalışmaya alınmama kriterleri:

Çalışmaya diyabetes mellitüs, hipertansiyon, anemi, hiperlipidemi, FMF atağı dönemindeki hastalar, koroner arter hastalığı, ekokardiyografide duvar hareket bozukluğu, üre, kreatinin yüksekliği veya böbrek yetmezliği, yakın zamanda geçirilmiş serebrovasküler hastalığı, kronik obstriktif akciğer hastalığı, BMİ (Beden kitle indeksi) 35 kg/m²'den fazla, sol ventrikül kütlesi erkeklerde 125 g/m², kadınlarda ise 110 g/m²'den fazla, bilinen başka inflamatuvar hastalıklar, ciddi kapak hastalığı, bilinen amiloidoz, hipertirodisi olanlar, sigara içenler, alkol kullananlar, gebeler, çalışmaya katılmaya onay vermeyenler alınmadı.

Tüm hastaların hastalık başlangıç yaşı, tanı yaşı, hastalığa eşlik eden bulguları, kolşisin kullanım süresi, alınan kolşisin dozu, düzenli ilaç kullanım öyküsü, genetik analizi, böbrek fonksiyon testleri, serum elektrolit düzeyleri ve tam kan sayımı değerlendirildi.

Sağlıklı kontrol grubu:

Çalışmaya hasta grubu ile yaş ve cinsiyet yönünden benzer, yaş ortalaması 32.8 ± 7.5 olan, 22'si erkek, toplam 42 sağlıklı gönüllü alındı. Kontrol grubunu oluşturan bireylerin ailesinde FMF'li hastalar yoktu, sigara ve alkol kullanmıyorlardı. Tıbbi öykülerinde bilinen herhangi bir hastalığı yoktu ve laboratuvar bulguları normal (biyokimyasal testleri, hematolojik testleri, sedimentasyon düzeyi ve serum TSH, T3 ve T4 düzeyi) olarak saptandı.

Ekokardiyografi

Tüm incelemeler iki boyutlu, M-mode, PW (Pulsed Wave) Doppler ve doku Doppler donanımı olan ekokardiyografi cihazı ile yapıldı. İnceleme tüm gruplara aynı kişi tarafından uygulandı. Ekokardiyografi sessiz bir ortamda, sol yan yatar pozisyonda ve hasta sakin, rahat solunum yapar durumda yapıldı. Ölçümler, parasternal pencereden uzun aks ve apikal pencereden 4 ve 5 boşluk görüntülerinden alındı. Tüm ölçümler hasta soluğunu verirken, elektrokardiyografik kayıt eşliğinde 25 cm/sn hızda, 3 ardışık ölçümün ortalaması hesaplanarak elde edildi.

Ölçümler için, mitral kapak bölgesinde sample volüm annuler çizginin, 1 cm üstündeki mitral kapakçık uçlarına, eş gelen nokta üzerine koyularak pulse Doppler kayıtları alındı. Deselerasyon zamanını ölçmek için E akım hızının en yüksek noktası ile azalarak bazal çizgiye indiği nokta arasındaki süre ölçüldü. Mitral kapak E ve A akım hızlarının en yüksek değerleri bulunarak, E/A oranı hesaplandı. IVRT için, sample volümü mitral kapakçık

uçlarına denk gelecek şekilde yerleştirdikten sonra, transduser LV çıkış yoluna doğru yönlendirildi. Aort Doppler akımı görüldüğünde, aort akımının bittiği nokta ile mitral akımın başladığı nokta arası ölçülerek IVRT bulundu. Hastaların MPİ'leri hesaplandı.

Sol ventrikül M-mode ölçümleri Amerikan Ekokardiyografi Cemiyeti önerilerine uygun olarak yapıldı ve sol ventrikül ejeksiyon fraksiyonu Teicholtz's formülü ile hesaplandı. Parasternal uzun eksen görüntülerden M-Mode yöntemi ile sol ventrikül sistol sonu ve diyastol sonu çaplarıyla anteriyor septum ve arka duvar diyastolik kalınlıkları ölçülerek, sol ventrikül kütlesi cihaz tarafından otomatik olarak belirlendi. Sağ atriyum ve sağ ventrikül çapları ölçüldü.

Pulmoner Ven Pulsed Wave Doppler Akımı: Pulmoner ven dalgaları, apikal dört boşluk görüntüde Pulsed wave sample volümü, sağ üst pulmoner venin 1 cm üstüne yerleştirilerek elde edildi. Sample volümün yerinin doğruluğu, renkli Doppler görüntüleme rehberliğinde onandı. Böylece; pulmoner sistolik ileri dalga (Ps), pulmoner ileri diyastolik (Pd) ve pulmoner diyastolik geri akımı (Ra) ölçüldü.

Doku Doppler Ekokardiyografi; Uygun kazanç ayarı yapıldıktan sonra, apikal dört boşluktan inceleme yapıldı. Sistolik hız (S) ile erken (E) ve geç (A) diyastolik hızlar ile bunların oranları (E/A) ölçüldü. Doppler ölçümleri, kayıt hızı 100 mm/sn olacak şekilde ayarlanarak yapıldı. Sol ventrikül doku Doppler değerlendirmesi, apikal dört boşluk pozisyonunda pulse wave Doppler ışını, mitral anulusun sol ventrikül arka duvarına yakın, kısmına yerleştirilerek yapıldı. Sağ ventrikül doku Doppler değerlendirmesi ise apikal dört boşluk pozisyonunda pulse wave Doppler ışını, triküspit anulusunun sağ ventrikül serbest duvarıyla birleşme yerine yerleştirerek yapıldı. Kayıtlar sırasında Doppler ışınının endokard veya epikarda değil, miyokard üzerine yerleştirilmesine dikkat edildi. Her olguda tüm pozisyonlar için, 3 kalp atımında arka arkaya ölçümler yapılarak ortalamaları alındı.

İSTATİKSEL DEĞERLENDİRMELER

Çalışmada elde edilen bulgular değerlendirilirken, istatistiksel analizler için SPSS (Statistical Package for Social Sciences) for Windows paket programı kullanıldı. Çalışma verileri değerlendirilirken, tanımlayıcı istatistiksel metodların (Ortalama±Standart sapma) yanı sıra, niceliksel verilerin karşılaştırılmasında, normal dağılım gösteren parametrelerin gruplar arası karşılaştırmalarında student-t testi, normal dağılım göstermeyen parametrelerin gruplar arası karşılaştırmalarında ise Mann Whitney-U test kullanıldı. Parametrelerin grup içi karşılaştırmalarında paired sample-t testi kullanıldı. Niteliksel verilerin karşılaştırılmasında ise Ki-Kare testi kullanıldı. Sonuçlar %95'lik güven aralığında, anlamlılık ise $p<0.05$ düzeyinde değerlendirildi.

3.BULGULAR

Çalışma gruplarının genel özellikleri:

Çalışmaya 24 erkek (%54.5), 20 kadın (% 45.5) toplam 44 FMF'li hasta, kontrol grubuna ise 22 erkek (%52,4), 20 kadın (%47,6), toplam 42 sağlıklı gönüllü birey alındı. Her iki grupta yaş ortalaması, cinsiyet, sistolik ve diyastolik kan basıncı, boy, kilo, beden kitle indeksi ve kalp hızı değerleri benzerdi. Grupların temel karekteristik özellikleri Tablo 1'de verildi

Tablo I: Grupların temel karakteristik özellikleri

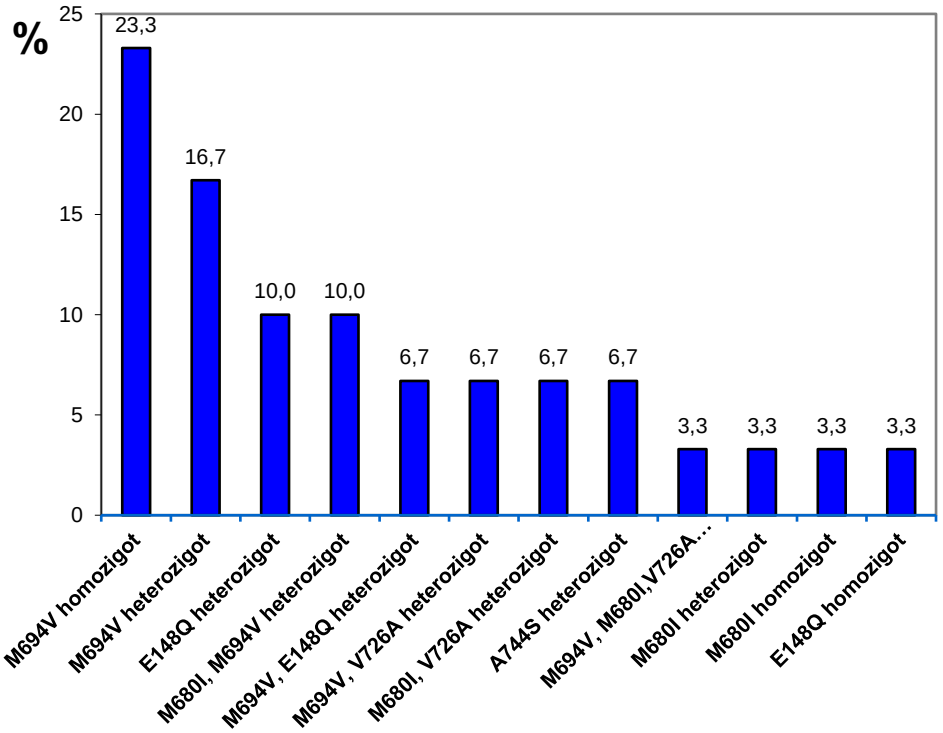
	FMF (n=44) (Ort±SD)	Kontrol (n=42) (Ort±SD)	p*
Yaş (yıl)	33.7 ± 9.0	32.8 ± 7.5	0.600
Boy (cm)	166 ± 8.6	170 ± 8.9	0.063
Kilo (kg)	69.9 ± 13.8	68.7 ± 11.7	0.666
BKİ (kg/m²)	25.3 ± 4.4	23.8 ± 2.7	0.059
Kalp Hızı (atım/dk)	73.1 ± 7.1	74.3 ± 7.6	0.352
Sistolik KB (mmHg)	108.5 ± 7.2	110.8 ± 12	0.282
Diyastolik KB (mmHg)	68.8 ± 6.4	69,3 ± 6,9	0.759
Cinsiyet (Erkek %)	54,5	52,4	0.841

BKİ: Beden kitle indeksi, KB: Kan basıncı. * Ki-Kare testi, student-t testi.

Çalışmaya alınan hastalar günde 1 veya 2 mg kolşisin kullanmaktaydı. Hastaların sadece 32'si (%72.7) düzenli ilaç kullanıyordu. 28'nin (%63.6) ailesinde FMF'li bireyler bulunurken, 16'sında (%36.4) yoktu. Hastaların 33'nün (%75) tipik veya atipik göğüs ağrısının olduğu tespit edildi.

Atak döneminde 43 hastanın (%97.7) temel şikayeti yüksek ateş ve karın ağrısı iken, 1 hastanın ise temel şikayetinin eklem ağrısı olduğu tespit edildi. Hastaların tanı konulduğundaki ortalama yaşı 26.4 ± 8.9, hastalık süresi ise 7.7 ± 6.9 yıldı.

Genetik analizi yapılan 30 hastanın mutasyon sonuçları şekil 1'de görülmektedir. Buna göre en sık M694V mutasyonunun bulunduğu tespit edildi.



Şekil-1: FMF'li 30 hastamızın genetik mutasyon dağılımı

Çalışma gruplarının laboratuvar özellikleri:

Grupların laboratuvar özellikleri Tablo 2'de görülmektedir. Hasta ve kontrol grubundaki olguların serum kreatin, trigliserid, total kolesterol, LDL-kolesterol, ürik asit, hemoglobin, hematokrit ve trombosit sayıları benzerdi. Hasta grubunda beyaz küre sayısı, trombosit sayısı, CRP ve ürik asit değeri, kontrol grubuna göre daha yüksekti, fakat aralarında istatistiksel olarak anlamlı bir farklılık yoktu. FMF grubunda serumdaki HDL-kolesterol kontrol grubuna göre olarak daha düşük bulundu ($p<0.05$). Hasta grubunda, kontrol grubuna göre mean platelet volümü (MPV), trombosit dağılım genişliği (PDW) ve sedimentasyon, glukoz istatistiksel olarak anlamlı yüksek saptandı ($p<0.05$). Hastaların serum fibrinojeni 276 ± 49.4 mg/dl tespit edildi.

Tablo II: Grupların laboratuvar özellikleri.

	FMF (n=44) (Ort±SD)	Kontrol (n=42) (Ort±SD)	p*
Glukoz (mg/dl)	94.3 ± 7.8	90 ± 8.7	**0.010**
Kreatin (mg/dl)	0.7 ± 0.2	0.8 ± 0.1	0.092
TG (mg/dl)	110.2 ± 41.2	122 ± 47	0.232
TK (mg/dl)	169 ± 35	174 ± 17	0.333
LDL (mg/dl)	109 ± 23	105 ± 19	0.377
HDL (mg/dl)	47 ± 13	53 ± 12.1	**0.028**
WBC (uL)	6.849 ± 1402	6.424 ± 1419	0.166
Hemoglobin (g/dl)	14.8 ± 1.5	14.7 ± 1.2	0.852
HCT (%)	43.7 ± 4.3	43.3 ± 3.4	0.627
PLT (uL)	257.909 ± 601.63	241.905 ± 457.87	0.170
PDW (fl)	13.7 ± 2	12.8 ± 1.4	**0.026**
MPV (fl)	10.9 ± 0.9	10.5 ± 0.8	**0.019**
ESR (mm/sn)	10.1 ± 9.5	4.9 ± 3	**0.001**
CRP (mg/l)	4.3 ± 1.8	3.8 ± 1.7	0.247
Ürik asit (mg/dl)	4.6 ± 1	4.2 ± 0.9	0.062

TG: Trigliserid, HDL: Yüksek dansiteli lipoprotein, TK: Total kolesterol, LDL: Düşük dansitel lipoprotein, MPV: Mean platelet volumü, PDW: Trombosit dağılım aralığı, PLT: Platelet sayısı, WBC: Beyaz küre sayısı, HCT: Hemotokrit, CRP: C reaktif protein, ESR: Sedimentasyon. * Student-t testi.

Çalışma gruplarının ekokardiyografik özellikleri:

Hasta ve kontrol grubundaki olguların M-mode ve iki boyutlu ekokardiyografi ile saptanan değerleri karşılaştırıldı. Konvansiyonel ve doku Doppler ekokardiyografi ile sol ventrikül konvansiyonel ekokardiyografik parametreleri, sistolik ve diyastolik fonksiyonları saptandı.

Konvansiyonel Ekokardiyografi:

Hasta ve kontrol grubundaki olguların, sol ventrikül diyastol sonu çapı, sol ventrikül sistol sonu çapı, ejeksiyon fraksiyonu, interventriküler septum kalınlığı, arka duvar kalınlığı, sol ventrikül kütlesi, sol atriyum çapı, aort çapı, sağ ventrikül çapı ve sağ atriyum çapı benzerdi. FMF'li hastaların hiçbirinde perikardiyal effüzyon saptanmadı. Grupların konvansiyonel ekokardiyografi bulguları Tablo 3 ve Tablo 4'de verildi.

Tablo III: Grupların konvansiyonel ekokardiyografi bulguları.

	FMF (n=44) (Ort±SD)	Kontrol (n=42) (Ort±SD)	p*
SVDSÇ (mm)	45.2 ± 3.6	46.5 ± 3.2	0.075
SVSSÇ (mm)	26.6 ± 3.1	27.12 ± 2.3	0.416
EF (%)	71.6 ± 6.3	71.5 ± 5.1	0.956
SVK (gr)	83 ± 17	87 ± 14.4	0.229
İVS (mm)	10 ± 1.5	10.1 ± 1.3	0.701
PW (mm)	9.5 ± 1.1	9.4 ± 1.5	0.673
LA (mm)	33.9 ± 2.7	34.2 ± 1.8	0.540
AO (mm)	28.4 ± 2.7	28.5 ± 2.3	0.832
RV (mm)	32.8 ± 1.7	32.4 ± 1.7	0.322
RA (mm)	24.1 ± 1.0	24.1 ± 0.9	0.842

SVDSÇ: Sol ventrikül diyastol sonu çapı, SVSSÇ: Sol ventrikül sistol sonu çapı, EF: Ejeksiyon fraksiyonu, İVS: İnterventriküler septum kalınlığı, PW: Arka duvar kalınlığı, SVK: Sol ventrikül kütlesi, LA: Sol atriyum çapı, AO: Aort çapı, RV: Sağ ventrikül çapı, RA: Sağ atriyum çapı. * Student-t testi, Mann Whitney-U test.

Hasta ve kontrol grubundaki olguların, pulse wave Doppler ekokardiyografi bulguları karşılaştırıldığında, mitral A dalga akım hızı, mitral E/A oranı, triküspit A dalga akım hızı ve pulmoner A dalga akım hızları benzerdi.

Mitral E dalga hızı, mitral DT, triküspit E dalga hızı, triküspit E/A oranı, pulmoner S ve D dalga hızı, İVRT, İVKT ve MPİ, kontrol grubundan istatistiksel olarak farklı bulundu ($p<0.05$). FMF grubunda, MPİ ve İVRT kontrol grubuna göre istatistiksel olarak anlamlı yüksek bulundu ($p<0.001$).

Tablo IV: Grupların pulse wave Doppler ekokardiyografi bulguları.

	FMF (n=44) (Ort±SD)	Kontrol (n=42) (Ort±SD)	p*
Mitral E (cm/sn)	71.6 ± 11.2	80.2 ± 12.2	**0.001**
Mitral A (cm/sn)	54 ± 9.6	57.4 ± 9.0	0.097
Mitral E/A (cm/sn)	1.3 ± 0.2	1.4 ± 0.2	0.144
Mitral DT (msn)	191.1 ± 25.3	206 ± 27.2	**0.011**
Triküspit E (cm/sn)	56.2 ± 9.4	63.2 ± 12.0	**0.004**
Triküspit A (cm/sn)	43.1 ± 7.6	45.8 ± 7.5	0.104
Triküspit E/A (cm/sn)	1.3 ± 0.2	1.4 ± 0.2	**0.022**
Pulmoner S (cm/sn)	51.6 ± 9.5	58.7 ± 8.9	**0.001**
Pulmoner D (cm/sn)	39 ± 8.8	44.5 ± 7.5	**0.001**
Pulmoner A (cm/sn)	30.4 ± 8.2	32.3 ± 5.2	0.206
İVKT (msn)	78.4 ± 11.9	71 ± 5.5	**0.001**
İVRT (msn)	85.4 ± 9.3	72.3 ± 5.4	**<0.001**
MPİ (%)	0.65 ± 0.02	0.49 ± 0.03	**<0.001**

İVRT:İzovolümetrik relaksasyon zamanı, İVKT:İzovolümetrik kontraksiyon zamanı, MPİ: Myokard performans indeksi, E:Erken diyastolik zirve akım, A:Geç diyastolik zirve akım, DT:E dalga deselerasyon zamanı, Pulmoner S:Pulmoner ven sistolik akım hızı, Pulmoner D:Pulmoner ven diyastolik akım hızı, Pulmoner A:Pulmoner diyastolik geri akımı. * Student-t testi, Mann Whitney-U test.

Doku Doppler Ekokardiyografi:

Hasta ve kontrol gruplarının mitral Sm, mitral Em, mitral Am dalga hızı, mitral Em/Am oranı, triküspit St dalga hızı benzerdi. Triküspit kapağın doku Doppler parametreleri karşılaştırıldığında; Tiküspit Et, triküspit At dalga hızları ve triküspit Et/At oranı kontrol grubundan istatistiksel olarak farklı bulundu ($p<0.05$). Hasta grubunda, kontrol grubuna göre triküspit Et dalga hızı, triküspit Et/At oranı daha düşük saptandı. Grupların doku Doppler ekokardiyografi bulguları Tablo 5'de verildi.

Tablo V: Grupların doku Doppler ekokardiyografi bulguları.

	FMF (n=44) (Ort±SD)	Kontrol (n=42) (Ort±SD)	p*
Mitral Sm (cm/sn)	14.1 ± 2.8	13.7 ± 2.3	0.430
Mitral Em (cm/sn)	19.3 ± 3.4	20 ± 3.5	0.414
Mitral Am (cm/sn)	13 ± 2.5	12.3 ± 2.6	0.189
Mitral Em/Am (cm/sn)	1.5 ± 0.3	1.6 ± 0.4	0.092
Triküspit St (cm/sn)	15.2 ± 2.4	15 ± 2.2	0.738
Triküspit Et (cm/sn)	17 ± 2.9	18 ± 2.5	**0.031**
Triküspit At (cm/sn)	14 ± 3.2	13 ± 3.0	**0.037**
Triküspit Et/At (cm/sn)	1.3 ± 0.2	1.5 ± 0.2	**0.003**

S: Sistolik dalga hızı, E: Erken diyastolik dalga hızı, A: Geç diyastolik dalga hızı.
* Student-t testi, Mann Whitney-U test.

4.SONUÇ

FMF, seröz zarlarda inflamasyonla seyir eden otozomal resesif geçişli bir hastalıktır. Hastalığa neden olan gen MEFV genidir. MEFV geni, sağlıklı bireylerde pyrin ya da marenostrin adı verilen proteini üretmektedir.

Pyrin proteini stres anında inflamasyonu sınırlayan bir proteindir. FMF hastalığında pyrin proteini görevini yerine getiremez ve inflamasyon atakları engellenemez. Sonuçta hastalarda ateş, karın ağrısı ve serozit tablosu gelişir.

FMF'in ülkemizde görülme sıklığı 1/1000 olarak bildirilmektedir. Taşıyıcılık oranı ise değişik araştırmalarda % 15-34 olarak rapor edilmiştir. Bir başka deyişle ülkemizde her beş kişiden biri taşıyıcı konumdadır. Bu durum, FMF'in ülkemiz için önemli bir sağlık sorunu olduğunu göstermektedir.

Atak dönemlerinde, FMF'de fibrinojen, sedimentasyon, CRP, IL1, IL-2, IL-6, TNF-α, serum amiloid A, makrofaj inflamatuvar protein-1α gibi birçok sitokinin serumdaki düzeyleri artmaktadır. Bu inflamatuvar proteinlerden CRP ve fibrinojenin ateroskleroz gelişimindeki yeri bilinmektedir.

Kollajen doku hastalıkları gibi, kronik inflamatuvar bir hastalık olan FMF, çeşitli yollarla kalp tutulumu yapabilmektedir. Düzenli kolşisin tedavisi, atakları önlese de subklinik inflamasyon devam etmektedir. Subklinik inflamasyonun sürekli olması aterosklerozun gelişimini hızlandırmaktadır.

Kısmen de olsa inflamasyonu önlemek için, mutlaka düzenli kolşisin kullanılmalıdır. Çalışmamızda FMF'li hastalarda sağ ve sol ventrikül diyastolik fonksiyonlarının bozulduğunu tespit ettik. Bu nedenle FMF'li hastaların periyodik muayenelerinin ve ekokardiyografilerinin

yapılması gerektiği düşüncesindeyiz. Bu yolla FMF'lilerin kalplerinde oluşabilecek hastalıkların tanısı ve tedavisi daha erken yapılabilecektir.

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MEME KORUYUCU CERRAHİ YAPILAN VE İNTRAOPERATİF CERRAHİ SINIR POZİTİF GELEN OLGULARDA REEKSİZYON MATERYALİNDE POZİTİFLİK ORANLARIMIZ

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AMAÇ: Meme kanseri kadınlarda en sık görülen ikinci kanserdir. Meme koruyucu cerrahi (MKC) uygun hastalarda giderek artan oranlarda uygulanmaktadır. MKC'de en önemli noktalardan birisi temiz cerrahi sınırları sağlamaktır. Bu sunumda MKC yaptığımız hastalarda intraoperatif değerlendirmede cerrahi sınır pozitif gelenlerde yaptığımız reeksizyon sonuçlarını paylaşmayı amaçladık.

HASTALAR VE YÖNTEM: Ocak 2015- Ocak 2021 tarihleri arasında meme kanseri nedeniyle opere edilen ve MKC yapılan 312 hastanın hastane veri sisteminde kayıtlı dosyaları, ameliyat notları ve patoloji raporları geriye dönük olarak tarandı. İntraoperatif değerlendirmede cerrahi sınır pozitif olduğundan reeksizyon yapılan 21 hasta çalışmaya alındı. Ortanca yaş 52 (Aralık 25-73) idi. Cerrahi sınır <1mm olması pozitiflik olarak kabul edildi.

SONUÇLAR: Çalışmaya alınan ve cerrahi sınr pozitifliği nedeniyle reeksizyon yapılan 21 hastadan 4'ünde reeksizyon materyalinde pozitiflik mecuttu (%19). Bu 4 reeksizyon materyalinin tamamında cerrahi sınırların negatif olduğu görüldü. Hiçbir hastada 3. Kez eksizyon yapılmadığı saptandı.

TARTIŞMA: MKC'nin temel amacı hasta güvenliğinden ödün vermeden en iyi kozmetik sonucu alabilmektir. Güvenlikten kastedilen geride tümör bırakmamaktır. Cerrahi sınır negatif olmayan hastalarda lokal-bölgesel yineleme oranları artmaktadır. İntraoperatif cerrahi sınır değerlendirmesi tekrarlayan ameliyat gereksinimlerini ortadan kaldırır. Biz intraoperatif cerrahi sınır değerlendirmesinin rutin uygulanmasını öneriyoruz.

Anahtar Sözcükler: Meme kanseri, meme koruyucu cerrahi, cerrahi sınır pozitifliği

OUR POSITIVITY RATES IN REEXCISION MATERIAL IN PATIENTS WHO UNDERWENT BREAST-CONSERVING SURGERY AND HAD SURGICAL MARGINS POSITIVE INTRAOPERATIVE

OBJECTİVE: Breast cancer is the second most common cancer in women. Breast-conserving surgery (BCS) is increasingly being applied to eligible patients. One of the most important points in BCS is to provide clean surgical margins. In this presentation, we aimed to share the results of reexcision performed in patients with positive surgical margins in the intraoperative evaluation of patients who underwent BCS.

PATİENTS AND METHODS: The files, surgery notes and pathology reports of 312 patients who were operated for breast cancer and underwent BCS between January 2015 and January 2021 were retrospectively reviewed in the hospital data system. Since the surgical margin was positive in the intraoperative evaluation, 21 patients who underwent reexcision were included in the study. The median age was 52 (December 25-73). Surgical margin <1mm was accepted as positivity.

RESULTS: Of the 21 patients included in the study who underwent reexcision due to positive surgical margins, 4 (19%) had positive reexcision material. Surgical margins were negative in all of these 4 reexcision materials. It was determined that none of the patients underwent excision for the third time.

CONCLUSIONS: The main purpose of BCS is to get the best cosmetic result without compromising patient safety. What is meant by safety is not to leave a tumor behind. Local-regional recurrence rates increase in patients with non-negative surgical margins. Intraoperative surgical margin assessment eliminates the need for repetitive surgery. We recommend routine application of intraoperative surgical margin assessment.

Keywords: Breast cancer, breast conserving surgery, surgical margin positivity

COMPARISON OF ANXIETY AND CORONAPHOBIA LEVELS IN ADULTS WITH AND WITHOUT COVID-19 VACCINATION

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ABSTRACT

The current development and deployment of vaccinations are critical for combatting the COVID-19 pandemic. The emotional factors may affect the attitudes towards the COVID-19 vaccine. However, no study has been found that compares anxiety and coronaphobia levels in adults with and without the COVID-19 vaccine in the Turkish population. Therefore, this study aimed to compare the anxiety and coronaphobia levels in adults with and without COVID-19 vaccination. Ninety-six participants (participants with vaccination (n:54, age: 29.44±10.02 years, body mass index (BMI): 24.02±4.51 kg/m2), participants without vaccination (n:42, age: 27.88±8.20 years, BMI: 24.14±3.70 kg/m2)) included in the study. Anxiety level with Coronavirus Anxiety Scale (CAS) and coronaphobia level with COVID-19 Phobia Scale (C19P-S) was assessed. To compare the anxiety and coronaphobia levels of groups the Independent Samples T test was used when parametric assumptions were met, and the Mann-Whitney U test was used, if not. The physical and demographic characteristics of groups were similar ($p>0.05$). The CAS scores of groups were similar ($p=0.795$). There were no differences between groups in terms of C19P-S total score ($p=0.745$) and its subscales scores (psychological ($p=0.530$), psycho-somatic ($p=0.869$), social ($p=0.985$), and economic ($p=0.753$)). In this study, it was found that the anxiety and coronaphobia levels of the participants with and without the COVID-19 vaccine were similar. Therefore, emotional factors may not affect the choice of the COVID-19 vaccine.

Keywords: COVID-19, vaccine, anxiety, coronaphobia

KOVİD-19 AŞISI OLAN VE OLMAYAN YETİŞKİNLERİN ANKSİYETE VE KORONAFOBİ SEVİYESİNİN KARŞILAŞTIRILMASI

ÖZET

KOVİD-19 aşıların mevcut gelişimi ve yaygınlaştırılması KOVİD-19 salgınıyla mücadele için kritik öneme sahiptir. Duygusal etkenler KOVİD-19 aşısına karşı tutumu etkileyebilmektedir. Buna rağmen, Türk popülasyonunda KOVİD-19 aşısı olan ve olmayan yetişkinlerin anksiyete ve koronafobi seviyelerini karşılaştıran bir çalışmaya rastlanmamıştır. Bu nedenle, bu çalışmada KOVİD-19 aşısı olan ve olmayan yetişkinlerin anksiyete ve koronafobi seviyelerinin karşılaştırılması amaçlandı. Doksan altı katılımcı (aşı olan (n:54, yaş: 29.44±10.02 yıl, beden kitle indeksi (BKİ): 24.02±4.51 kg/m^2), aşı olmayan (n:42, yaş: 27.88±8.20 yıl, BKİ:

24.14±3.70 kg/m^2)) çalışmaya dâhil edildi. Anksiyete seviyesi Koronavirüs Anksiyete Ölçeği (CAS) ile ve koronafobi seviyesi Koronavirüs-19 Fobisi Ölçeği (C19P-S) ile değerlendirildi. Grupların anksiyete ve koronavirüs seviyelerinin karşılaştırılmasında parametrik test varsayımları gerçekleştiğinde Bağımsız Örneklem T testi, gerçekleşmediğinde Mann-Whitney U test kullanıldı. Grupların fiziksel ve demografik özellikleri benzerdi ($p>0.05$). Grupların CAS skorları benzerdi ($p=0.795$). Grupların C19P-S toplam skoru ($p=0.745$) ve alt grup skorlarında (psikolojik ($p=0.530$), psiko-somatik ($p=0.869$), sosyal ($p=0.985$), ve ekonomik ($p=0.753$)) fark yoktu. Bu çalışmada, KOVİD-19 aşısı olan ve olmayan katılımcıların anksiyete ve koronafobi seviyelerinin benzer olduğunu bulundu. Bu nedenle duygusal etkenler KOVİD-19 aşı tercihini etkilemeyebilir.

Anahtar kelimeler: KOVİD-19, aşı, anksiyete, koronafobi

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious and pathogenic virus caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a type of coronavirus detected in Wuhan, China. In March 2020, World Health Organization made the assessment that COVID-19 can be characterized as a pandemic [1].

Vaccination stimulates the immune system to develop antibodies to fight a specific infectious agent in the body. The current development and deployment of vaccinations are critical for a long-term approach to combatting this pandemic [2,3]. However, vaccine hesitancy, skepticism, refusal, and anti-vaccine movements are all important roadblocks to getting a vaccine [4]. Moreover, anxiety and fears related to COVID-19 may affect the vaccine willingness/acceptance [5]. Previous studies reported that emotional situations may affect vaccine opinion [6], and coronaphobia and anxiety may be related to COVID-19 vaccination acceptance [5,7].

Studies indicated that emotional situations related to COVID-19 may affect the vaccination preference [5-7]. However, according to our knowledge, no study has been found that compares anxiety and coronaphobia levels in adults with and without the COVID-19 vaccination in the Turkish population. Therefore, the current study was aimed to compare the level of anxiety and coronaphobia in adults with and without COVID-19 vaccination.

METHODS

This case-controlled study was conducted in line with the principles of the Declaration of Helsinki. It was approved by Ankara Yildirim Beyazit University Ethics Committee (Approval date and number: 30/07/2021-09). The study was carried out as a web-based assessment via an online form in August and September 2021. The study included adults. The inclusion criteria were being adults aged between 18-50, being a volunteer to participate in the study, and being able to read and complete online questionnaires in the national language. The exclusion criteria were: missing information in the evaluation form, having a history of COVID-19 infection, having active infection of it, and having physiological disease (regular anti-depressant uptake. Participants were selected through the snowball sampling method in accordance with the inclusion and exclusion criteria Written informed consent was obtained from each participant.

Sex, age, body mass index, marital status, education years, smoking and alcohol use, presence of chronic disease, exercise habits (at least three times a week in the last 3 months), monthly income, living place, job status, and history of COVID-19 were recorded.

The Turkish version of the Coronavirus Anxiety Scale (CAS) was used to assess the COVID-19 anxiety level. The CAS is a self-report tool designed to measure the levels of dysfunctional

anxiety associated with COVID-19. It is made up of five items employing a 5-point Likert scale (i.e., responses ranging from never to almost every day in the last 2 weeks). Should the total score equal 9 or higher, dysfunctional anxiety is likely [8].

The level of coronaphobia was assessed by the COVID-19 Phobia Scale (C19P-S) developed by Arpaci et al. to assess coronaphobia level. C19P-S is a self-reported questionnaire consisting of 20 items and four, i.e., psychological, psychosomatic, economic, and social, subscales. All items are rated on a 5-point scale from "strongly disagree (1)" to "strongly agree (5)". The total score ranges from 20 to 100 points; the higher the score, the higher is the level of coronaphobia [9].

Statistical analyzes and calculations were carried out via IBM SPSS Statistics 22.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.). The distributions of the continuous variables were examined by using visual (histograms, probability plots) and analytical methods (Shapiro–Wilk test). Descriptive values of categorical variables with frequency (n) and percentage (%), normally distributed continuous variables with mean ± standard deviation (SD), and non-normal distributed continuous variables with median (Interquartile range) were provided. For comparing categorical values of groups Chi-square test or Fisher's exact test (if the lowest expected value were below two or the eye-cell count, which is the expected value less than five, was above 20%) were used. To compare the continuous variables of groups the independent samples t-test was used when parametric assumptions were met, and the Mann-Whitney U test was used, if not. A P-value < 0.05 was considered statistically significant.

RESULTS

One hundred thirty-six participants (participants with vaccination (n:68), participants without vaccination (n:68)) were assessed for eligibility. Fourteen participants with vaccination groups (having COVID-19 history (n:12), regular anti-depressant uptake (n:2)) and twenty-six participants without vaccination groups (having COVID-19 history (n:25), regular anti-depressant uptake (n:1)) were excluded. Study was completed ninety-six participants (participants with vaccination (n:54), participants without vaccination (n:42)).

The physical and demographic characteristics (age, body mass index, education year, gender, marital status, smoking and alcohol use, presence of chronic disease, exercise habits, monthly income, and employment status) of groups were similar ($p>0.05$).

The CAS scores of groups were similar ($p=0.795$). There were no significant differences between groups in terms of C19P-S total score ($p=0.745$) and its subscales scores (psychological ($p=0.530$), psycho-somatic ($p=0.869$), social ($p=0.985$), and economic ($p=0.753$)) (Table 1).

CONCLUSION

In this study, it was found that the anxiety and coronaphobia levels of the participants with and without the COVID-19 vaccine were similar. Therefore, emotional factors may not affect the preference of the COVID-19 vaccine.

Table 1. Comparing physical and demographic characteristic of groups

	Participants without vaccination group (n:42)	Participants with vaccination group (n:54)	p
Age (years, median (IQR))	26.50 (15.50)	24.50 (17.50)	0.477[a]
BMI (kg/m2, median (IQR))	24.03 (4.00)	23.85 (5.00)	0.833[a]
Education years (median (IQR))	16.00 (2.00)	16.00 (2.00)	0.371[a]
Gender (n (%))			
Female	22 (52.4)	26 (48.1)	0.681[b]
Male	20 (47.6)	28 (51.9)	
Smoking (n (%))			
Yes	12 (28.6)	20 (37.0)	0.383[b]
No	30 (71.4)	34 (63.0)	
Alcohol consumption (n (%))			
Yes	5 (11.9)	11 (20.4)	0.270[b]
No	37 (88.1)	43 (79.6)	
Chronic diseases (n (%))			
Yes	3 (7.1)	2 (3.7)	0.651[c]
No	39 (92.9)	52 (96.3)	
Exercise habits (n (%))			
Yes	7 (16.7)	16 (29.6)	0.140[b]
No	35 (83.3)	38 (80.4)	
Marriage status (n (%))			
Married	16 (38.1)	23 (42.6)	0.656[b]
Single	26 (61.9)	31 (57.4)	
Monthly income (n (%))			
< 3000 TL	23 (54.8)	22 (40.7)	0.388[b]
3000-5000 TL	7 (16.7)	11 (20.4)	
> 5000 TL	12 (28.6)	21 (38.9)	
Place of residence (n (%))			
Metropolis/City	39 (92.9)	49 (90.7)	1.000[b]
Town/Village	3 (7.1)	5 (9.3)	
Employment status (n (%))			
Employee	19 (45.2)	19 (35.2)	0.318[b]
Not employee	23 (54.8)	34 (64.8)	

IQR Interquartile range, *BMI* Body Mass Index, *n* Number, *TL* Turkish liras
[a]Mann Whitney U, [b]Pearson Chi Square, [c]Fisher's Exact Test

Table 2. Comparing COVID-19 anxiety and coronaphobia levels of groups

	Participants without vaccination group (n:42)	Participants with vaccination group (n:54)	p
Coronavirus Anxiety Scale Score (Median (IQR))	0.00 (1.00)	0.00 (1.00)	0.795[a]
COVID-19 Phobia Scale Scores			
Psychological (X±SD)	15.07±6.36	15.88±6.26	0.530[b]
Psycho-somatic (X±SD)	21.38±8.76	21.66±8.03	0.869[b]
Social (Median (IQR))	11.00 (4.00)	11.00 (6.25)	0.985[a]
Economic (Median (IQR))	6.00 (4.00)	5.00 (4.00)	0.753[a]
Total (Median (IQR))	39.00 (21.25)	40.00 (20.25)	0.745[a]

IQR Interquartile range, *X* Mean, *SD* Standard deviation, *n* Number
[a]Mann Whitney U, [b]Independent Samples T test

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LUMBOSAKRAL PEDİKÜL VİDA UYGULANAN HASTALARDA AMELİYAT SONRASI TAKİP

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Giriş

Lumbosakral vida yerleştirilmesi vertebra ameliyatlrında güvenli ve etkili bir tekniktir. Genel uygulamada aşırı hareketlerden kaçınılarak, torakolomber ortozler ameliyat sonrası genelde 2-3 ay aralığında kullanılırlar. Biz 50 hastanın 1 ay gibi kısa süre bu ortezleri kullanmaları halinde ve daha erken dönemde fizik hareketlere başlamaları halinde sonuçlarını değerlendirdik.

Metodlar

Elli hastaya lumbosakral vida ile enstrümentasyon ve lateral kemik füzyon ameliyatı sonrası torakolomber ortez uygulandı. Ortalama yaş 66.5 yıl idi (45-83 yıl). 29 kadın, 21 erkek hasta ameliyat edildi. Cerrahi endikasyonlar dejenratif spondilolistesiz, istmik spondilolistesiz, post laminektomi spondilolistesiz ve şiddetli spondilosiz idi. Tek veya 2 seviye füzyon L2-3 ve L5-S1 arasına uygulandı. Vida boyutları 5.5 ile 7.5 x 40mm idi (toplam 188 vida uygulandı). Ameliyat sonrası röntgenler 2, 4, 6. aylarda çekildi.

Sonuçlar

Elli hastanın erken dönem takiplerinde segmental instabilite veya vida kırığı saptanmamıştır. Çalışmadaki hastalara benzer ameliyat yapılmış 300 hastada, daha uzun, mobilizasyonu engelleyen ortezlerle karşılaştırıldığında, bu çalışmadaki daha ince, daha küçük ortez kullanan, daha erken mobilize olan hastalarda, hasta uyumu daha yüksekti. 1 ay sonrası kontrollerde fizik tedavi başlandı ve korse-ortez kullanımı bırakıldı. İşe dönemye 1 ay erken başlandı. Dolaysıyla ameliyata bağlı sosyaekonomik baskı bizim hastalarda daha az oldu. 6 aylık takipde bizim hastalarda vizyol analg skoru ise daha düşüktü.

Sonuç

Spinal cerrahide endikasyonların, kriterlerin ve tekniklerin gelişmesine paralel olarak postoperatif gelişmelerde olmaktadır. Hastalar üzerindeki ameliyat sonrası erken mobilizayon, ruhsal baskılar, sosyaekonomik baskıları azaltma açısından, ortez kullanımının kısa süre tutlması bu gelimelere katkısı olabilir.

Ortez kullanımının süresinin uzaması, lomber kaslarda atrofiye neden olarak, lomber kas kütlesinin azalmasına neden olur. Azalan kas kütlesi, lomber stabiliteyi zorlayarak, hastanın yaşamında lomber yükün artmasına neden olarak, spondiloz gibi, lomber disk hernisi gibi yeni patolojilerin ortaya çıkmasına neden olabilir. Bu nedenle cerrahi sonrası lomber korse kullanımın süresinin kısa tutulmasını önermekteyiz

Aanhtar Kelimer: Ortez, lumbosakral, vida, cerrahi

POSTOPERATIVE FOLLOW-UP IN PATIENTS WHO UNDERWENT LUMBOSACRAL PEDICLE SCREWS

Aim

Lumbosacral screw placement is a safe and effective technique in vertebral operations. In general practice, excessive movements are avoided and thoracolumbar orthoses are generally used between 2-3 months after surgery. We evaluated the results of 50 patients if they used these orthoses for a short period of time such as 1 month and if they started physical movements in an earlier period.

Methods

Fifty patients underwent thoracolumbar orthosis after instrumentation with lumbosacral screw and lateral bone fusion surgery. The mean age was 66.5 years (45-83 years). 29 female and 21 male patients were operated. Surgical indications were degenerative spondylolisthesis, isthmic spondylolisthesis, post laminectomy spondylolisthesis, and severe spondylosis. Single or 2-level fusion was applied between L2-3 and L5-S1. Screw sizes were from 5.5 to 7.5 x 40mm (a total of 188 screws were applied). Postoperative x-rays 2, 4, 6 . taken in months.

Results

No segmental instability or screw fracture was detected in the early follow-up of 50 patients. In the 300 patients who underwent similar surgery to the patients in the study, patient compliance was higher in the earlier mobilized patients using the thinner, smaller orthoses in this study, compared with the longer, immobilization-inhibiting orthoses. After 1 month, physical therapy was started at the controls and the use of corset-orthosis was discontinued. The work period was started 1 month early. Therefore, the socioeconomic pressure associated with the surgery was less in our patients. Visiol analg score was lower in our patients in the 6-month follow-up.

Conclusion

In parallel with the development of indications, criteria and techniques in spinal surgery, postoperative developments occur. Keeping orthosis use for a short time may contribute to these developments in terms of early postoperative mobilization, mental pressures, and reducing socioeconomic pressures on patients.

Prolonging the use of orthoses causes atrophy in the lumbar muscles, resulting in a decrease in lumbar muscle mass. Decreased muscle mass can lead to the emergence of new pathologies such as spondylosis, lumbar disc herniation, forcing the lumbar stability, causing an increase in the lumbar load in the patient's life. Therefore, we recommend keeping the lumbar corset use short after surgery.

Keywords: Orthosis, lumbosacral, screw, surgery

DESTAN YAPISINDA DEJENERATIF ZAMAN

Prof. Dr. Ramil ALIYEV
Bağımsız araştırmacı

ÖZET

Dejeneratif zaman, dejenerasyon, dejenerat yeni terimlerdir. Bu terimler en çok psikolojide kullanılır. Azerbaycan ve Türk folklorunda ilk defa folklor metnine tarafımızca uygulanmıştır. Dejeneratif zaman, mitolojik bir zaman dilimidir ki orada mitolojik imgelerin faaliyeti onların psikolojik bozuntularının etkisi altında gerçekleşir. Aynı şey Salur Kazan'ın Ejderha ile savaşı için de söylenebilir. Kült ve kült karşıtı düzeyleri bu mücadelenin temelinde yatar. Salur Kazan'ın, kült düzeyinde kutsal bir kuş olarak kabul edilen kaza bağlantısı vardır. Kaz ve Ejderha ongun olduğu dönemde aralarında düşmanlık yoktu. Mitolojik bilincin gelişme sürecinde bu denge bozuldu ve Ejderha atamızın bilincinde bir kült karşıtı oldu. Bu açıdan bakıldığında dejeneratif zamanlarda kaz kült seviyesini Salur Kazan'a aktardığında Ejderha kült karşıtı düzeyinde kalmıştır. Bu nedenle ilkin mite göre aralarında bir mücadele olduğu söylenebilir. Daha sonraki bilinç süreçlerinde bu motif destanı da etkilemiş ve Basat'ın Tepegöz ile mücadelesine ve Kazan han'ın Şokli Melik ile mücadelesine aktarılmıştır. Tarihsel zamanlar değişmiş olsa da, mücadelenin kökeni hâlâ Salur Kazan'ın Ejderha ile savaşının ilişkili olduğu motiftedir.

Bu tür motiflerin merkezinde uyku görmenin ve mit dünya görüşünün ortaya çıkışı durar. Mit yapılarının oluşumunda uyku görme olgusu da rol oynar. Eski atalarımız da erken uykularında alışılmadık sahnelerle karşılaştıklarında anlamı anlamaya çalıştılar. Bir de alt mitoloji denen bir kavram var. Bu kavram, atalarımıza da uykular aracılığıyla aşılanmıştır. Salur Kazan ve Ejdeha'nın da alt mitolojiden süzülmüş imgeler olduğunu görüyoruz.

Anahtar Kelimeler: Dejeneratif zaman, Salur Kazan, Ejderha, Basat, Tepegöz, mit, ongun

DEGENERATIVE TIME IN EPOS STRUCTURE

SUMMARY

Degenerative time, degeneration, degenerate are new terms. These terms are most commonly used in psychology. For the first time in Azerbaijani and Turkish folklore, it was applied to the folklore text by ourselves. Degenerative time is a mythological time period in which the activity of mythological characters takes place under the influence of their psychological disorders. The same can be said about Salur Gazan's struggle with the dragon. Their cult and anti-cult levels are at the root of this struggle. Salur Gazan has a cult attachment to the goose which is considered a sacred bird. There was no enmity between the Goose and the Dragon when they were ongon. In the process of the development of mythological consciousness, this balance was disturbed, and the Dragon became an anti-cult in the consciousness of our ancestor. In this respect, in degenerative times, the goose passed its cult level to Salur Gazan, while the Dragon remained at the anti-cult level. For this reason, according to the original myth, it can be said that there was a struggle between them. In the later processes of consciousness, this motif also influenced the epos, and was passed on to Basat's struggle with the Cyclopes and Gazan khan's struggle with Shoklu Malik. Although historical times have changed, the root of the struggle is still the motive of Salur Gazan's battle with the Dragon.

At the heart of such motives is the emergence of dreaming and mythical worldview. The phenomenon of dreaming also plays a role in the formation of myth structures. Our ancient ancestors also tried to understand the meaning when they encountered unfamiliar scenes in their early dreams. There is also a concept called sub-mythology. This concept is instilled to our ancestors through dreams. We see that Salur Gazan and the Dragon are also images that are filtered from sub-mythology.

Keywords: Degenerative time, Salur Kazan, Dragon, Basat, Cyclop, myth, ongon

Dejeneratif zaman, destan zamanında yaşayan tarihi bir kahramanın varlığının biyolojik, fiziksel, psikolojik, manevi ve ruhsal olarak bozulduğu döneme ait geçmiş bir zamandır, psikolojik bilinçte, sadece İyilik ve Şer'in var olduğu ve hasta bilinçte algılanan boyutsuz, müddetsiz, fiziksel olmayan bir mit zamanıdır, folklor kahramanının zamanını bırakıp gittiği ve geçmiş zamanda yaşadığı bir dünyadır. Böyle bir zamanda yaşayan kahraman dejenerat bir insan statüsündedir (dejenerat - ruhsal parçalanmaya maruz kalan bir kişi; soyundan ayrılmış bir adam; ruhsal bozukluğu olan bir adam anlamında).

Dejenerasyon, Fransızca bir kelimedir ve üç anlamda kullanılır: kendi özelliklerini kaybetmek (yozlaşma), kendinden uzaklaşmak (soysuzlaşmak); bozulma, parçalanma (bozunum).

Fiziksel ve psikolojik olarak yeniden doğuş ve değişim, insanlarda meydana gelen dejeneratif süreçlerdir. Örneğin Şokli Melik dejenerat bir şahısdır. Dejeneratif zamanda, eski zamana dönen yozlaşmış şahıs, birbirleriyle etkileşime giren kahramanlar ve anti kahramanlardır. Dejenerasyon, dejeneratif kelimelerinin anlamı, "Kitab-i Dede Korkut" kahramanlarının fiziksel, psikolojik, ruhsal, manevi özelliklerine göre daha iyi açıklanabilir. Destan kahramanlarının mitolojik bilincindeki dejeneratif zaman, bir mit zamanıdır ve bu bilinci henüz terk etmedikleri için onlar dejeneratif zamana dönebilirler. Arkaik dünyanın dev insanları bile bedenlerindeki eterin yardımıyla zamanlarını değiştirebiliyorlardı. Örneğin 5 milyon yıl önce yaşayan Atlantisliler, maddi olmayan bir forma bürünebilen eterik varlıklardı (Погорелов С. 2014: 223 - 228).

Destandaki tarihsel şahısların çoğu, Dede Korkut, Kazan han, Şokli Melik, Kan Turali ve diğerleri dejenerat olmuş. Örneğin Kazan han, Şokli Melik ile beş kez karşı karşıya geldi. Bu karşılaşma her gerçekleştiğinde, bu süreç onun psikolojik bilinçini etkilemelidir. "Salur Kazan'ın evinin yağmalandığı boy"da, karısının, annesinin, oğlunun ve elinin Şokli Melik tarafından ele geçirilmesi ve bu yönde gerçekleşen diğer işlemler, Kazan'ın soysuzlaşmasına ve ruhsal bozukluğa yol açmalıdır. Bunun sebebi Salur Kazan'ın "Salur Kazan'ın tutsak olup oğlu Uruz çıkardığı boy" ve "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"ndaki sözleridir. "Mere sen benim namert gözüm! Kara çelik kılıcın keskinliğinden korkmazdın, sahar oklar temreninden bunalmazdın, on altı batman kâfir gürzü başıma vuruldu pörtlemedin. Ejderha dedikleri bir yılandır, bunda ne var ki bulanırsın, kanlanırsın? Senin gibi namert göz, benim gibi mert yiğitte neyler?" (Ekici M. 2019: 57); "Yedi başlı ejderhaya yetüp vardım, Heybetinden sol gözüm yaşardı. Hey gözüm, namert gözüm, muhannet gözüm, Bir yılandan ne var ki korktun! – dedim" (Kitab-i Dede Korkut 1978: 146) mısralarının alt katmanında uyuyan "ejderhaya dönüşebilen" (Rzasoy S. 2020: 377) Salur Kazan'ın hanki sebepten sol gözünü oymasında ve mitolojik körlük motifinde aranmalıdır. Bu, tek gözlü Kazan'ın Ejderha'dan olumsuz özellikler almasına neden olur. Bu, Ejderha'nın onun üzerindeki olumsuz etkisidir. Bu nedenden ruhsal olarak bozulmuş olan kahraman ile uzun süredir bozuk olan Şokli Melik'in dejeneratlar gibi birbirleriyle yüzleştiğini (5 kez) görüyoruz. "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyunda (Ekici M. 2019) Salur Kazan da ejderhayla en az iki kez karşılaştı. Boyda anlatılan terslik ve inatçılık, Salur Kazan'ın dejenerasyona uğramış psikobilincinin etkisiyle oluşmuştur. "Salur Kazan'ın yedi başlı Ejderhayı öldürmesi boyu"nda

dejeneratif zamanda Salur Kazan'ın Basat'la ve Ejderha'nın Tepegöz'le güçlü genetik bağlantısı olduğu için propan zamanda Basat figürü zayıf bir şekilde gelişti ve dejeneratif zamanın bir figürü olarak kaldı. Güçlü kişiliği nedeniyle dejeneratif zamanda ise sadece Salur Kazan'ın imgesi, onun Ejderha ile savaşı üstün oldu. "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyu, tarihsel zamanda anlatıcının bilincinde Kazan han ile Şokli Melik arasındaki savaşla telafi edildi.

Fakat boy ve destandaki dejeneratif zaman nasıl belirlenir? "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nda Ejderha'nın yozlaşması, olumsuz karakterinin ortaya çıkmasında ilk şart olarak ortaya çıkıyor. Basat'ın destandaki tasviri, dejeneratif bir zamanda yaşadığını gösteriyor mu? Burada da asıl koşul, dejeneratif zamanda destan kahramanının mitolojik kahramana nece dönüşmesidir. İşte bu durumda, kahramanın tarihsel koşulu kullanarak dejeneratif zamana transfer etmesidir.

Yozlaşmanın ikinci temel koşulu, psikolojik bilinçte negatif veya pozitif bir karakterin "yeni bir tarihsel zamanda" ölmesi ve geçmiş bir tarihsel zamanda yeniden doğması algısıdır. Şokli Melik'e destan zamanında ölen bir kişi olarak bakarsak, başka bir boyda yeniden doğuşu geçmişte ölümünün bir paradigması gibi görünüyor.

Mitoloji, eski insanların geleceklerini tarihsel geçmişlerinden dejeneratif bir şekilde öğrenmek için kullandıkları bir dizi yöntemlerin topluluğudur. Dejeneratif zaman, uzay ve kaos arasındaki mücadeleyi yansıtan bir düşünme modelidir. Bu problemin incelenmesi, dejeneratif bir zamanda Salur Kazan'ın hem mitolojik hem de destandaki imgesinin restorasyonunu içerir.

"Kitab-i Dede Korkut" 12'li Türk sayı sistemine uygun bir destan tipidir ve oradaki boyların kadim kalıplarındaki kahramanlar dejeneratif içeriğe tabidir ve şu ya da bu nedenle destan kapalı bir türdür (dejenerasyon da kapalıdır). Bu, kapalı olanı koruyan destansı yapının ezoterik potansiyelidir.

Vatikan ve Dresden'den tamamen farklı olan "Kitab-i Dede Korkut" destanının üçüncü nüshasının Salman Mümtaz'ın kütüphanesinde olması, alimin bütün kitaplarıyla birlikte Kuran-ı Kerim olarak da kabul edilerek 9 Ekim 1937'de NKVD bahçesinde yandırılması barede Azerbaycan Komünist Partisi Merkez Komitesi Birinci Sekreteri olan İmam Daşdamirov'un sorusuna cevap verildi.

Şeki'nin en büyük entelektüeli, büyük üstad, eğitimcisi, pedagogu, kütüphanecisi, hattatı, Arapça ve Farsça iyi bilen Abdulgani Nuhavi Halisekarizade'nin kütüphanesinde 2.000'den fazla el yazması ve kitap korunmuştu. Bu kütüphanenin birçok okuyucusu vardı, kitap okumağa alanların isimleri - öğrencileri, yerel entelektüeller ve diğerlerinin isimleri A. Nuhavi'nin defterine yazılmıştı. Abdulkerim Imanzadeh'e göre, aldıkları kitapları iade etmeyenlerin listesinde Salman Mümtaz ve Veli Huluflu da yer aldı. Yirminci yüzyılın ilk on yıllarında (Bolşevik döneminde), kütüphanenin kitapları arabalarda toplandı ve meydanda yakıldı (P. F. Kazimi, 2010, № 3, s.59-66). Duyduğuma göre Salman Mümtaz'ın kütüphanesinde bulunan "Kitab-ı Dede Korkut"taki destan sayısı şimdikinden fazlaymış. Prof. Dr. Kamandar Şerifli taassuf içinde diyor: "Keşke Abdulgani Efendi "Kitab-i Dede Korkut"u Alexander Duma'ya verseydi! Verseydi kalırdı..." A. Duma Abdulgani Efendi'nin zamanında Şeki'ye geldi. Görüşmeleri hakkında bilgi yok. O dönemde Abdulgani Efendi Şeki'nin kadısı idi.

Türk kıyameti boyların dejeneratif işareti gibi

Destanda "Kitab-i Dede Korkut" boylarının Türk sayı sistemine göre sıralanışını görüyoruz. "Tepegöz Boyu" ezoterik doğası gereği kadim Türk kıyametinin sembolü olur. Destanın son 12. boyunda iki Oğuz elinin karşı karşıya gelmesi, eski Türk kıyametinin başlanmasının

işaretidir. Boyda, Takfur kalesi'nde 16 yıl tutuklu bulunan Beyrek, Takfur'un kızıyla evlendikten sonra döneceğine söz veren ancak geri dönmeyen Beyrek Aruz tarafından öldürüldü (bu, kurdun Kıyamet günü en son yok olacağının bir işaretidir). Aruz'u öldürmesi ile Kazan han'ın kurtarma işlevi kıyametin sonunu gösterir. "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nda (Ekici M., 2019) Salur Kazan'ın Ejderhayı öldürmesi kurtarma işlevini açıklamıyor. Bu sadece uzay ve kaosun yüzleşmesidir. Bu, boyun olay örgüsü ile karıştırılmış kozmik bir mitin olay örgüsüdür. Boyda Kazan han daha çok mitolojik bir kahramandır, mit kahramanıdır, bu yüzden kurtarıcı rolünü yerine getirmez. "Kitab-i Dede Korkut"ta ise destansı bilincin ürünü olarak her yapıda (2, 3, 4 kez) Türk kıyamet günü tekrarlanmalıdır (Kiyametten sonraki tarihi uygarlıkların mitolojik dünya görüşünde olumlu algılanan tanrılar, mabutlar, yeni uygarlığın mitolojik dünya modelinde kutsallıklarını yitirirler, tapılmazlar. Ejderha için de aynı şey söylenebilir). "Kitab-i Dede Korkut"'un birçok boylarında - özellikle birinci, sekizinci ve onikinci boylarda - Kıyamet ile ilgili dejeneratif görüşler vardır.

"Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nda da Kıyamet Günü mitinin, "Tepegöz boyu"nda Kıyamet Günü tasavvurlarının korunduğunu görüyoruz. Kıyamet düşüncesi, dünyanın sonunun metafizik ilkel bir görüşüdür ve Kıyamet günü fikri, tarihsel bilinçte Dünyanın Son Günü olarak algılanır. Kıyamet Günü eskatolojik mitlerde, Kıyamet düşüncesi eskatolojik boylarda yaşar. Kitab-i Dede Korkut'taki Kiyamet Günü zamanının boylardaki matematiksel modelleri ve küçük bir Kıyamet Günü modeli temelinde tarafımızca analiz edildi ("Matematiksel mitoloji" kitabımda).

Zerdüşt öğretileri ve metinlerde yozlaşma

Avesta'da uygarlık ve dünya görüşünün değişmesi nedeniyle Devuş (Dev) mabudu'na ibadet etmenin yasaklandığını görüyoruz (Tahmasip M. H. 1960: 21). "Dara'nın oğlu Kserkes'in adıyla ilgili "Devler Hakkında Kitab"ın 35 - 47. satırları, devlere tapınmanın yasaklanmasına ayrılmıştır." (Tahmasip M.H. 1960: 21). Buna göre de, Cüce'nin kötü bir ruh olarak algılandığı alt mitolojik çağdan sonra, yeni bir mitolojik dünya görüşü ona bir kahraman olarak yaklaştı). Azerbaycan folklorunda da özellikle masallarda ejderha ile ilgili olay örgüsüne rastlıyoruz. "Melikmammad" masalında Zümrüt Kuşu'nun civcivlerini yiyen ejderhadır. Masal kahramanı Melikmammad'ın Ejderha ile mücadelesinin arsasında, Zümrüt Kuşu'nun Ejderha ile çatışmasını görüyoruz. Zümrüt kuşu yumurtadan her defa civciv çıkardığında, Ejderha gelir ve yavrusunu yer. Melikmammad, onların aralarındaki çatışmaya son verir (Azerbaycan masalları. Beş ciltte. Cilt IV, 2005: 169 - 179). Masala göre, Zümrüt Kuşu ve Ejderha mit karakterleri, karanlık dünyanın yaratıklarıdır. Masal, Melikmammad'ın kökeninin kuşla bağlantılı olduğunu gösteriyor. Melikmammad'ın Ejderhayı öldürmesi de karanlık dünyada gerçekleşir. Melikmammad'ın ışıklı dünyanın sakini olması, Zümrüt Kuşu'nun Kazan Han'a dönüşmesine neden olur. Metin ayrıca Kazan Han'ın bu nedenle karanlık dünyada yaşadığını da anlatıyor.

Böylece, "Melikmammad" masalında, Zümrüt Kuşu ongunu'nun Ejderha ongunu üzerine zafer kazandığını görüyoruz. Bu sebepten de Salur Kazan da yedi başlı ejderhayı yener. Kuş ongununa inanç, ejderhaya olan inancın yerini alır.

Salur Kazan'ın Ejderha ile savaşının temelinde, mitolojik tefekkürdeki (alt metinsel düşüncede) ejderha ile ejderhanın savaşı durar. Mitolojik bilinçte, "Ohhayla Ahmed" masalında olduğu gibi, ejderhâlârdan biri, diğeriyle mücadelesinde güçlü olan ejderhadan kurtulmak için sihirin yardımıyla sol göz gibi çeşitli nesnelere dönüşebilir. Efsaneye göre de, ejderha, insan derisindeki bir yılanı takip eder. Cesur bir adam bu ejderhayı öldürür ve yılanı kurtarır (Bahaeddin Ö. Ankara: 1995: 568).

Ejderhayla ilgili en eski Oğuznâme'nin olay örgüsünü, birbirlerinin arsaları temelinde oluştuğuna göre üç bölüme ayrılabiliriz: Melikmammad'ın ejderhâlârla savaşı, zeki Cüce'nin aptal Dev'le savaşı hakkında masalların temelinde dayanan küçük olay örgüleri, Salur Kazan'ın Ejderha ile savaşını anlatan eski Oğuznâme, Basat'ın Tepegöz ile mücadelesini anlatan Oğuznâme.

Birincisinde, mit döneminin bitiminden sonra (veya sonuna doğru) masallarda, Tepegöz ve Dev ("Tepegöz'ün Masalı", "Melikmammad" Masalı) kahramanla yüzleşmenin ikinci tarafı veya katılımcısı olarak oluşturulur. "Melikmammad" Masalında, kahramanın 2 ejderha ile yaptığı savaştan "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nun temelinde eski Oğuznâme'nin (Ejderha'nın Ejderha ile savaşı) yapısını restore etmek mümkündür. Böylece mitolojik düşüncede sol gözünü oymakla (alt metinsel düşüncede Ejderha, Kazan'ın sol gözünü etkiler ve onu bir ejderhaya dönüştürür (Rzasoy S. 2020: 377), buna göre de sol göz Şer'e işaret eder) Salur Kazan ejderhaya dönüşür (Rzasoy S. 2020: 374). Melikmammad'ın iki ejderha ile mücadelesi ve masalın yapısı, en eski çağda bile ejderha sayısının iki olduğunu göstermektedir. Artık ilk aşamada mit yapılarına alay etme ile, azmanlığa karşı Cüce'nin aklıyla buluşuruz.

İkincisinde, Kazan'ın Ejderha ile savaşı, büyük hacimli bir Oğuznâme'dir, "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu" ise bunun kısaltılmış bir şeklidir. Üçüncüsünde (Basat ve Tepegöz) Ejderha'nın Tepegöz'e dönüştürüldüğünü ve yeni bir Oğuznâme yaratıldığını görüyoruz.

Dejeneratif zamanda Ejderha'yla Salur Kazan

Çin ve Türk mitolojisi de dahil olmak üzere antik dünyanın tüm halklarında ejderha önce iyiliksever gücü sonra da bir kötülük gücü oldu. Çin folklorunda yayılan "Mulan Şarkısı"nda ana karakterler Mulan ve ona bir kült olarak yardım eden yakın sırdaşı küçük ejderha Muşu'dur (Aliyev R. 2014: 356 - 357).

Çin ve İran mitolojisinde karanlık bir dünyada yaşayan Ejderha, Güneş Tanrısı'nın düşmanıdır. Onların aralarında bir mücadele var. Bu kavga Ahriman'dan güc alan Ejderha'nın Güneş'i yutmasıyla sonuçlanır. Türk mitolojisinde Ejderhayı rüyada görmek güç, kuvvet almak demektir. Ejderha, diğer halklarda da erbuka, buka, moga, bokey, Bapi han, Zilant olarak bilinir. Ejderha ile savaş, geçici bir ölüm ve yeniden doğuş eylemi olarak ilk başlangıcın bir göstergesidir. Burada, Ejderha ile savaşın olay örgüsü, onun icracısının, yani mitolojik dünya görüşünde Ejderha ile özdeşleştirilen kültürel kahramanın tersleşmesiyle bağlantılıdır ("Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nda Salur Kazan Ejderhayı öldürmeye çalışır). Bu konuyu açıklamada uyku ve kan (Ejderha'nın kanı) önemlidir. Ejderha'nın kahramanı yenmesi için rüyada gösterdiği pasiflik, uyku ve uyanış arasındaki bağlantıyla tam tersi oluyor. Özellikle bu boyda uyku ve kanın dejeneratif bir işlevi vardır, kahramanların zamandan zamana geçişinde önemli rol oynarlar. Boyda dejeneratif zaman gizli bir katmandadır.

Destanın birçok boyunda Salur Kazan'ın tulu kuşun yavrusu, ümmet aslanı, Karacuğ'un kaplanı, konur atın eyesi, Han Uruz'un ağası, Bayındır han'ın damatı, Oğuzların komutanı, cesur bir savaşçı, nazik bir koca, baba ve kardeş olarak katılımını görüyoruz. Ancak onu mitolojik zamana bağlayan şey dejeneratif zamandaki varlığıdır. Tarihsel zamanda kahramanın hayatı bizim zamanımızdaki gibi tahayyül edilirse, dejeneratif zamanda Salur Kazan geçmişin bir figürü olur. Salur Kaza'nın mitolojik geçmişi mitlerde ve eski Oğuz yazıtlarında bulunabilir.

"Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"ndaki Salur Kazan'ın Ejderha ile savaşının motifinin dejeneratif formunu Kazak mitolojisindeki Kazan beyin Tepegöz (Ejderha) ile mücadelesinden bahseden rivayetde görebiliriz.

Bek Kazan şunları söyledi: "Depe-Göz aşırı bir çığlıkla ayağa kalktı (ejderha Kara oren kopdi Depe-Göz – Kazakça), Onu Tanrı'nın tahtının önünde çevreledim ama yakalayamadım. Depe-Göz kızgın bir aslan gibi ayağa kalktı; Onu kalın bir kamışlıkta kuşatmaya aldım, ama yakalayamadım". Serikbol Kondybay, Tobekoz'un buradaki bir ejderha ve bir aslana benzetilmesinin edebi veya sanatsal bir araç olarak değerlendirilemeyeceğini, Depe-Göz'ün bu sıfatları gerçekten kabul ettiğini belirtiyor ("Сказал бек Казан: "Черным криком (драконом Kara oren kopdi Depe-Göz) поднялся Депе-Гэз; перед лицом престола божьего я окружил его, но не мог взять. Свирепым львом поднялся Депе-Гэз; в густым камышах я окружил его, но не мог взять". Уподобление здесь Тобекоза (Депе-Гэза) дракону и льву нельзя считать литературно-художественным приемом, вполне вероятно, что он действительно принимает эти облики). (Серикбол Кондыбай 2008: 320). "Kitab-i Dede Korkut"ta da Kazan han Basat'a "Kara evren goptı Depegöz! Arş yüzünde çevirdim, alımadım Basat! Kara kaplan goptı Depegöz! Kara kara dağlar çevirdim, alımadım Basat! Kalın sazlarda çevirdim, alımadım Basat!" (Kitab-i Dede Korkut 1978: 119) diyor.

"Kitab-i Dede Korkut" destanında Kazan - Basat süblimasyon edilebilen kahramanlardır. "Basat'ın Tepegöz'ü Öldürmesi boyu" ile "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nu karşılaştırırsak, birincisinin daha mükemmel bir boy olduğunu, ikincisinin henüz bir boy olarak gelişmediğini, ancak kahramanların bir kozmogenetikte birleştiğini söyleyebiliriz. Örneğin "Basat boyu"nda matematiksel boyutlar, 2/1, 3/1 ve 4/1 kesirler bu boyun matematiksel yapısını oluşturur. "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyunda insanları yutan, Oğuzlara zarar veren Ejderha ile Kazan arasında bir çelişki yoktur. Her ikisi de göksel kökene sahip olduklarından, aralarındaki savaş da gökte gerçekleşir ("Semâ savaşı" motifi). Serikbol Kondybay, Tulu kuşunun Kazak dilinde Degelek kuşunun (ejderha) isimlerinden biri olduğunu, Tulu ve Degelek kelimeleri arasındaki yakınlığı gördüğünü belirtiyor (Серикбол Кондыбай 2008: 346 – 350).

Basat ve Tepegöz dejeneratif zamanda. "Kitab-i Dede Korkut" destanının farklı boylarının imgelerinin dejeneratif zamana (Şokli Melik, Kazan han, Beyrek, Deli Dumrul, Basat, Tepegöz), farklı destan boylarının (Deli Dumrul boyu, Basat'ın Tepegöz'ü öldürdüğü boy, Kanlı Koca oğlu Kan Turali'nin boyu, Salur Kazan'ın evinin yağmalanması boyu, Dirse han oğlu Bogaç boyu, Kazan beyin oğlu Uruz beyin tutsak olduğu boy, Salur Kazan'ın tutsak olup oğlu Uruz çıkartığı boy ve diğer boylarda) bazı arsaların dejeneratif zamanla ilgili olduğu görülmektedir.

Destanın boylarının kendi oluşma yolları, boy yapısı, dejeneratif zaman yapısı (en az yedi boyda) ve şiiriyeti vardır. Destan için gerekli olan bu özellikleri "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyuna uyguladığında, metnin alt içeriği ortaya çıkar. Her iki boyda Kazan, Basat, Ejderha ve Tepegöz'ün kendi özellikleri var. Mesela Basat aslan sütü ile büyümüş, Kazan han tulu kuşun yavrusudur (ikisi de totem kökenli), Ejderha kuşa, yılana, Tepegöz'e dönüşebilir ve onunla temas halindeki kahraman da bu özellikleri alabilir (Kazan'ın tepesinde Ejderha'nın kafa derisini gördüklerinde, Kazan han'ın Ejderha'ya dönüştüğünü düşünürler. Bu özellik Basat'ın Tepegöz'ün olumsuz özelliklerini edinmesinde kendini gösterir (boylarda mit bilinci hâlâ canlı olduğu için özellikleri bu metinlere de kolayca dahil edilir). Eğer "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyunda Ejderha bir kült yok, kült karşıtı olsaydı ("Kitabi-Dede Korkut"ta Tepegöz'ün bir kült karşıtı olduğunu görüyoruz, onun bir kült karşıtı olması destana dönüşümde rol oynamış gibi görünüyor), bu metin de bir destan biçiminde olacaktı. Yani mit bilinci, Ejderhayı olumlu kült karşıtı olarak tanımlayamazdı. Kazan, Ejderha'nın kafa derisini kendi kafasına örter ve onunla ilişgili ritüel

yaşadı. S. Rzasoy, Salur Kazan'ın ejderhanın derisini kafasına örtmesini onun ejderhanın derisine girmesi diyor ("Kazan'ın yedi başlı ejderha'ya dönüşmesi" ritüeli, Rzasoy S. 2020: 401). Kazan iktidarı ele geçirdiğinde, güç elde etmek için ejderhayı öldürmesi gerekir (Rzasoy S. 2020: 392). Basat ise bu "ritüelin" dışındadır. Yani bu inanç Salur Kazan'ın bilinçaltında yaşar ve Basat'ın bilinçaltında Tepegöz'e dair ritüel bir inanış yoktur (Burada Oğuz'un kuş modeli ile Kazan han'ın kuş modeli ve Ejderha'nin yılan-kuş modeli birbirine uyumludur).

"Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nda savaş motifinin yardımıyla Ejderhayı yenmek için Salur Kazan'ın yozlaştırılması gerekiyor. Çünkü Ejderha, koruyucusu Ahriman'dan uyku yoluyla güç ve güç alır. Güçlerinin eşit olması için, kahramanın evvelki geçmişinden, mitolojik patronundan (örneğin Güneş'ten) enerji alması gerekir. "Kitab-i Dede Korkut"ta Tepegöz ve Basat'ın da birbirleriyle savaşmak için kısaca da olsa dejeneratif bir zamanda yaşamaları gerekiyor. Basat'ın uzun yıllar aslan bakımı altında yaşaması ve onun sütü ile beslenmiş olması, kahramanın dejeneratif zamana olan bağlılığını sağlamaktadır. Destanda hem Basat hem de Tepegöz ikili bir zamanda yaşıyor - dejeneratif ve destan zamanı. Bu özelliğinden dolayı "Kitab-i Dede Korkut"ta iki Basat ve iki Tepegöz anlatıcının bilincinde yaşamaktadır. Saha-Yakut'larda, aşağı dünyanın şer ruhları 7 kabileye bölünmüş ve liderlerine Arsan Duolay adı verilmiştir. Eski Türk dilinde du - iki, lay, lu / luo ejderha anlamına geliyordu. Arsan Duolay'ın iki (ejderha) yavrusu vardır: Buor Mangalay (yukarı dünyanın sahibi) ve Luo haan (aşağı dünyanın sahibi) (Yengi O., Bahtiyar T. /Bextiyartuncay.files.wordpress.com, 21). Ejderha'nın Tepegöz'e mitolojik yakınlığını görür ve "Basat'ın Tepegöz'ü Öldürmesi" boyunda, Tepegöz'ün dilinden söylenen "Ala gözden ayırdın, yigit, beni!" (Kitab-i Dede Korkut 1978: 123) cümlesinden yola çıkarak, "Ala Göz"ün ışıklı dünya, "Kara Göz"ün ise Tepegöz'ün soyunu yaşatan karanlık dünya olduğunu düşünüyoruz. Dejeneratif zamanın yardımıyla Ala Göz'ün ışıklı dünyanın, Kara Göz'ün ise karanlık dünyanın sahibi olmak düşüncesi destandan restore edilebilir.

"Kitab-i Dede Korkut"ta Basat daha kişiselleştirilmiş, bu yüzden bu özellik boyda hissedilmiyor, ancak Kazan "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyunda mitolojik dünya görüşünden henüz ayrılmadığı için dejeneratif zamanda uzun süre yaşadığı çok açık.

Dejeneratif zamanda uyku görme ve ses. Sesin binlerce yıldır kozmik zamanda yaşıyor olması yozlaşma sürecine de katkı sağlıyor, ses aynı zamanda uyku görmede de rol oynar. "Salur Kazan'ın evi yağmalandığı boy"da Karaca Çoban'ın rüyası buna bir örnek. Folklor metinlerinde de nefes (ejderha, yılan nefesi) ve ses (insan sesi, hayvan sesi, nefesi) dejeneratif zamanla iletişim araçlarından biridir.

Sesin dönmə özelliği vardır. Bu özelliği "İskender Zil-Karneyn" masalında ve "Boynuzlu İskender" rivayetinde buluyoruz. "Boynuzlu İskender" rivayetinde diyor ki İskender'in başını traş eden kuaförler, bu sırrın açığa çıkmaması için kafasındaki boynuzları gördükleri için öldürülmüşlerdir. Son berber bu sırrı ifşa etmeyeceğine söz verir. Bu sırrı aylarca, yıllarca saklıyor ama sonuna kadar sürmüyor, bir kuyu buluyor ve bu kuyuya üç kez "İskender'in boynuzu var, boynuzu" diyerek hayatını bu gizemden kurtarıyor. Kuyuyu toprakla örter. Bir süre sonra bu kuyu üzerinde sazlıklar bitti. Sonra bir çoban gelir, sazlıkları keser ve flüt yapar. Her flüt çaldığında, "İskender'in boynuzu var, boynuzu" sesleri etrafa yayılıyor. Bu ses İskender'e ulaşır. Gizemli sırr açığa çıkar. İskender berberi çağırıyor, ona bu sırrı neden yaydığını sorar. Berber, bu davada kendisinin suçlu olmadığı konusunda ısrar ediyor. Ama berber bunu bile bilmiyor ki dönme sesin spesifik özelliğidir. Anlatımda kusurlu ve mükemmel insan imgeleri birbirine karşı çıkılır. İskender yedi filozoftan dersini öğrendi ve mükemmel bir adam oldu (www.anl.az). Ama berbere inandı ve onu öldürmedi. İskender ayrıca sesin dönme doğasını da bilmiyordu. Buradaki sesin dolaşımı, ruhun dönme özelliği ile

ilgilidir. Sesin dolaşımı kozmik bir harekettir ve Allah'ın izni ile ses döner ve bir varlıktan diğerine girer, yani ses kaybolmaz. Ses, ruhun muvazenesidir. Her canlının bir ruhu olduğu için, ses aynı zamanda fiziksel durumlarının da bir göstergesidir. Uzayda, yani alt dünyada, üst dünyada ve orta dünyada seyahat eder ve yeniden yaşamak için maddi varoluşa kavuşur. Anlatıma göre ses, kuyu vasıtasıyla üç kez dolanma sürecinden geçerek ritmini ve varlığını çoban flütünde yaşatır. Buradan sesin maddi olduğu, insanın maddi olmadığı sonucu çıkar. Dünyadan kaç İskender'ler gelip gitti, ancak bir İskender "İskender'in boynuzu var, boynuzu" sesinde yaşadı.
Gökce'den toplanan Tepegöz ile Ellaz'ın savaşı hakkındaki metinde sesin dönüşü hakkında bir başka bilgi bulunur (Vatan yurt dışında kaldı. 1993: 74 - 76). Gökçe'de Ardaniş köyünün merasındaotlak yerinde bulunan mağara ağzındaki büyük kayalar taşlarla dövüldüğünde uzun bir kükreme ve yer altından sesler işitilir. Bu sesler, Ellaz tarafından mağaraya atılan Tepegöz'ün sesidir. Mağara yeraltı dünyasını gösterir ve Tepegöz de kendi mekânına, yeraltı dünyasına atılmıştır. Tepegöz'ün çığlıkları ve sesleri de ortalıkta dolaşarak bugün orta dünyada yaşayan insanların kulaklarına ulaşıyor. Bu mit, sesin dönüşüne bir örnektir. Bu mit, ses sirkülasyonunun bir örneğidir. Sesin sirkulyasyonuna en güzel örneklerinden biri, "Avazın iyi çıkıyor, okuduğun Kur'an olursa" atasözüdür. Bu atasözü, doğrudan Kuran'ın sesinin Allah'tan gelen ilahi bir ses olduğu anlamına gelmektedir.

Sesin ilahi bir ses olarak işlevi, uyku görmenin sadece fizyolojik bir süreç değil, aynı zamanda kozmik bir süreç olması gerçeğiyle yerine getirir. "Salur Kazan'ın evinin yağmalandığı boy"da da Karaca Çoban, muhtemelen uykusunda Salur Kazan'ın ailesi, annesi, Burla Hatun ve Uruz'un yakalandığı bilgisini aldı. Karaca Çoban, uyku sürecinde dejeneratif zamana girmiştir. Bu uyku görmede, yakalanan Kazan'ın annesi, Burla Hatun ve Uruz, mit karakterleri (destan karakterleri olarak değil) olarak dejeneratif zamanda (mit zamanında) yaşadıkları için önceki hallerine dönebilirler. Karaca Çoban'ın uykusu ile gerçek arasındaki bağlantı, kozmik ses (sinyal) tarafından yapılır. Bu nedenle uykuya tabu koymuşlar. İnsan mükemmel değildir. Bu yüzden uykusunu yorum yapmamak için ona tabu koydular çünkü tüm sırları bilse tanrı olmak gönlünden geçerdi. Tanrı mükemmeldir. Bu yüzden Karaca Çoban'ın hayaliyle karşılaşmıyoruz.

Ses, ruhun enerjisi olarak bedenin eterik bir unsurudur. A. Einstein bir keresinde fiziksel uzayı eter olarak adlandırmayı önerdi. Eter bir gaza benzediğinden, üç tür eylem vardır: kaotik, algılanan (rüzgar ve ses), dönen (kasırga, rüzgar, burulgan). Ses enerjidir. Vücuttan uçan ses, enerji formunda kozmik enerji olarak uzaya girer (Paşa Yagub 2020: 16, 94). Aynı zamanda bir sinyal, işaret görevini yerine getirir, ve uyku görenin bilinçaltına iletilir, kelimeye dönüşür. Sesin başka önemli bir işlevi, kahramanın doğumu ile ilgili olup, alkıştan, duadan (dua – ses) hamile kalan kadın motifi ile ilişkili. Bunun bir örneği, "Seyfelmulk" masalındaki Seyfelmulk'un ve "Dede Korkut"ta Bogaç, Banıçiçek ve Beyrek'ın doğumuna ilahi sesin (Kur'an sesi, dua) mucizevi katılımıdır.

Uyku görme sürecinde kişi dejeneratif zamanda yaşar. O, dejeneratif zamanda uykuda çok sevdikleriyle tanışır. Uykumuza giren yakınlarımız, ses vasıtasıyla evvelki şekile dönerler, canlanırlar ve dejeneratif zamana girerler. Mit, eski insanların uyku görme sürecinin bir sonucu olarak da çeşitli aşamalara geçer (Karl Abraham 2009: 73 – 142). Önce dünya görüşü, sonra bilinçaltı düşünceye dönüşür. Dejeneratif zamanda, ilkin mitin imgeleri ve olay örgüsü bir üyku görmenin ürünü olarak görünür ve bir değişmez varyant olarak, sonraki varyantların temelini oluştururlar. Ejderha'nın imgesi de alt mitolojiden zamanımızın atasının bilinçaltına aktarılır. Ejderha'nın yaşı, Çin mitolojisinde 5.000 yıldan fazladır ve Türk mitolojisi onu binlerce yıl önce cephaneliğine dahil etmiştir. Bu nedenle dejeneratif zamanda Salur Kazan'ın yedi başlı Ejderha'yla savaşını görebiliriz). "Melikmammad" öyküsünde, kahraman karanlık bir dünyaya düştükten sonra mitteki zamanına, ongun yaşamına dönüşür. Bu süreçten

geçmeden Melikmammad ejderhayı yenemezdi. Masal, mite zaman itibarile destandan daha yakın olduğu için, bu süreç daha yüksek bir algıya sahip bir kişiye daha nettir ve destanda bu süreci görmek ve onu restore etmek (yenilemek) gerekir.

Soruna ikinci bir yaklaşım, Beyrek'in Aruz tarafından öldürülmesiyle ilgilidir. Kozmogenetikte, Ejderha'nın Salur Kazan tarafından öldürülmesinde, atın ve kuşun (Aruz) totem karşıtı (negatif kurt) ile mücadelesini görebiliriz. Salur Kazan destanda yenilenmiş bir dönemde yaşamış olsaydı Ejderha ile mücadelesi mitte gördüğümüz gibi pasif olmazdı (çünkü onun onqunudur). Hem Salur Kazan hem de Ejderha bu mücadelede pasiftir. Bunu destan bilincine uygularsak, Salur Kazan'ın "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi" boyunda dejeneratif zamanda yaşamaya alışdığını görürüz (Kazan han, mitin kahramanı olarak Oğuznâme'de ve "Kitab-i Dede Korkut"un kahramanı olarak destanda dejeneratif zamanda yaşıyor, kaosun ortadan kalkmasında Kazan'ın dejeneratif işlevi ortaya çıkıyor). Herhangi bir mite bakarsak, hayvan-kahramanın zihnimizde (hayvanların kaybettiği deri) yozlaştığını görürüz. Destansı bilinç, onların restore olunmasını gerektirir. Öyleyse, mit bilincinin destanın bilinci haline gelmesi için, kahramanların önce geri dönüşü, sonra bu süreç içinde yeniden restore olunması gerekir. "Kitab-i Dede Korkut"ta Basat ve Tepegöz böyle bir yenilenme sürecinden geçerler (biyolojik ve ruhsal olarak bozulma ve değişim, reenkarnasyon, restorasyon), ancak anlatıcı, destanın yapısını açıklamak için onların kozmogenetiklerini kullanır. Bu süreç doğal olarak gerçekleştiğinde destan mükemmeldir ("Basat'ın Tepegöz'ü Öldürmesi boyu"nun başında onun aslan sütü ile beslendiğini kastediyoruz).

"Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nun kahramanı anlatıcının tefekküründe yozlaşmıştır ve onun destanın kahramanı olarak yenilenmesi mitolojik bilincin alt katmanında olarak kalır, sadece alt mitolojik bilinçten yeni çevreye (tarihsel bilinç) yalnız ozanın bilinçinde dönüşür. Destan, ataerkil dönemin bir ürünüdür. Bu şu demek ki boy, mit anlatıcısının bilinçinde yozlaşmaya uğrar, ancak destan anlatıcısının bilincinde yenilenmez, yani, kahramanın Oğuz zamanında yaşadığı hissedilir. Bunlar mit ve destanın düzenlilikleridir.

Dini bilinç ve dejeneratif zaman. Hıristiyanlık ve İslam'ın kabulünden sonra, Kazan han'ın Ejderha ile savaşının motifi, "Musa peygamber'in Ejderhayı öldürmesi" ve "Hz. Ali'nin Ejderhayı öldürmesi" dini motiflerine bırakıldı. Folklorda bu tür rivayetlerin ve destanların ortaya çıkmasıyla bağlantılı olarak, bu metinlerde mitolojik öğeler atılır ve metinler anlatı ve destanın gereklerine uyarlanır. Örneğin Musa Peygamber ile ilgili rivayette, onun el ağacı, "Ejderha Destanı"nda ise Hazret Ali'nin Zulfugar kılıcı fetişleştirildi. Musa ile ilgili rivayet, bir gün Musa'nın bir köye gittiğini ve orada kimseyle karşılaşmadığını, sadece bir horoz gördüğünü söyler. Horoz onu insan diliyle selamlıyor. "Adımı nereden biliyorsun?" Peygamber soruyor. Horoz, "Buraya sadece Musa Peygamber gelebilir" diye cevap verdi. "İnsanlar nerede?" Peygamber sorar. "Ben 70 yıldır burada yaşıyorum. Kimseyi görmedim. Devam edin orada bir ağabeyim var, 85 yaşında, belki biliyor." Musa onun yanına gider ve 85 yaşındaki yaşlı (horoz) soruya cevap veremez, peygamberi 95 yaşındaki kardeşine gönderir, bu da hiçbir şey hatırlayamıyor, 100 yaşındaki annesine gönderir. 100 yaşındaki anne bunu açıklıyor ki ejderha bütün insanları yuttu.

Diyor o tepeden yükselen dumanı görüyorsun, bu ejderhanın nefesi. Musa oraya gider, Ejderha onu görür ve onu içeri çekmeye çalışır. Musa peygamber, Ejderha'ya zeytin ağacından yapılmış sihirli el ağacını atar. Ejderha el ağacını yutar ve ölür. Bundan sonra Ejderha tarafından yutulan insanlar midesinden çıkıp peygambere teşekkür ettiler (Демидов, С.М. 2020: 123 – 124). Rivayette Hz.Musa kurtarıcı rolünü oynar.

Salur Kazan'ın mitolojik geçmişi ile Hz. Musa (as) 'ın katıldığı bu metin arasında uzak bir bağlantı vardır. Bu rivayette, Salur Kazan'ın kendi ongunu olan kaz ile horoz arasında yakın bir ilişki vardır. Horoz ve kaz, kutsal kuşlar gibi eski atalarımızın ongun yaşamındaydı. Horoz ve kaz ile Ejderha arasındaki genetik ilişki, ongun inancıyla bağlantılıdır. Ejderha'nın bir totem veya ongun olarak faaliyeti, onun daha sonraki mitolojik bilinçte bir totem karşıtı haline gelmesi ve horoz ve kazın ona bu pozisyondan kötü tavrı eski zamanlara dayanır. Dolayısıyla rivayette, Horoz'un Ejderha'yla birlikte savaşmak için Musa'nın yolunu beklediğini görüyoruz.

Horoz ile ejderha arasında bir çelişki vardır. Ejderha, Horoz'a tapınan insanları yuttu. Bu nedenle Horoz ongun faaliyetine devam edemez. Bu yüzden hevesle Musa'nın yolunu beklemektedir. Bu rivayette Musa dejeneratif zamanda hayatına devam ediyor. Bu yozlaşmayı yaratan da tüm metinlerde Ejderha'nın eski zamanda tasviri. Mitte ve boyda gördüğümüz Salur Kazan, Musa Peygamber'e transfer edildi.

Rivayet ve destanda, mitteki "Semâ Savaşı"nın yerini "Yer Savaşı" almıştır. "Ejderha Destanı"nda Hz.Ali Ömer, Ebubekir ve Osman ile birlikte vahşi Araplara zulmeden ejderhayı öldürmeye gider. Ancak Zülfugar Ejderhayı kesemedi çünkü bu savaş Tanrı'yı memnun etmedi. Zülfugar bir insan gibi dil açtı ve ondan Tanrı'ya müracaat etmesini istedi. Hz. Ali, Tanrı'nın onayını aldıktan sonra Zülfugar Ejderhayı keser (Namik Aslan 2016: 208 - 219).

Musa Peygamber ile ilgili bu rivayette Kıyamet Günü düşüncesi vardır. Horoz'un kıyamet gününde sonda ölen yaratık olacağı konusunda bir fikrim var. "Guggulu gu gibi kalma" ("guguk gibi kalmak") deyimsel ifadesi aynı zamanda Kıyamet Günü yalnız kalan son hayvana (Horoz totem, kıyametin sonunda kalan totemdir) bir işarettir. Bu ifade, eski Horoz totem dünya görüşünün Kıyamet Günü ile bağlantısını ifade eder. Horoz'un guggulu gu diyerek banlaması da, insanlara Kıyamet Günü hakkında bir uyarıdır.

Horoz'un Kıyamet Gününe kadar kalacağı fikri de "Horoz Masalı"nda yaşıyor. Masalda Horoz zulümden sonuna kadar dayanamadı ve tüyleri tıraşlanıp pilavın üzerine konulup yemek için padişaha sunulmasına rağmen, onun midesini yırtıp kaçtı. Horoz, bu hamle ile hayatının sonuna kadar totem olarak yaşama niyetini kanıtlar (www.youtube.com). Bütün metinlerden de anlaşılacağı üzere, totemizmde Kıyamet Günü düşüncesi yoktu ve kıyamet kavramı, tarih bilinci döneminde insanlarda oluşmuştur.

Sonuç

Salur Kazan'ın mitolojik yaşamının analizi, birçok bilim adamı tarafından yeni metodolojik yöntemler kullanılarak gerçekleştirildi. Bu araştırmacıların araştırmalarında Salur Kazan'ın analizi, tarihi, sosyal ve mitolojik yönlerine dayanmaktadır. Salur Kazan'ın mitolojik yaşamının incelenmesindeki yeni yöntemlerden biri, dejenerat bir kişi olarak dejeneratif zamanda kişiliğinin (ve imgesinin) incelenmesidir. Bu sorun, Salur Kazan'ın geçmiş yaşamındaki psikolojik bilincinin onun sosyal hayatı üzeindeki etkisi ile açıklanabilir. Geçmiş yaşamında ongun düzeyinde yaşadı ve sonra insan kimi tasavvur edildi ve kişiselleştirildi. Salur Kazan tarihi bir şahsiyet olarak kabul edilinceye kadar, Ejderha ve onunla savaşma motifi hayatının her zaman ilgi odağındaydı. Destanın kahramanı olarak Bayındır Han'dan sonra devleti yöneten han, Oğuzların sosyal hayat sahnesinde komutan olarak rol almıştır. Mitolojik Salur Kazan'dan tarihi Kazan Han'a geçişte destansı bilincin rolünü oynadı. Bu süreçte sadece Salur Kazan değil, yoldaşları da aynı şekilde mitolojik bir kahramandan feodal bir erkeğe dönüştü. Bu, yeni bir çağda yeni bir ortamda destanın yaratılmasının temelini atmak anlamına gelir. "Salur Kazan'ın yedi başlı Ejderhayı öldürmesi boyu" ve "Kitab-i Dede Korkut" destanının aynı köklere sahip olması, ikisinin de Oğuznâme yaratıcılığının ürünü olduğunu göstermektedir.

Böylelikle Azerbaycan folklor çalışmalarının bilimsel hükümlerinden yola çıkarak "Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi boyu"nun mitolojide önemli bir yeri olduğu ve "Kitab-i Dede Korkut" destanının Türkolojide görkemli bir yer kapladığı sonucuna varıyoruz.

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THE CHALLENGES OF THE FINANCIAL EDUCATION AND LITERACY: THE CASE OF SPAIN

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ABSTRACT

The education systems of european countries have seen the need to introduce financial education into national systems after the 2007-2008 crisis but little progress has been made until the economic crisis attracted by the COVID-19 pandemic and the situation has not changed very much. The scarce financial education received at home and in schools, together with poor saving and investment habits inherited from our families, present a scenario of unsustainable personal finances over time especialy in periods of economic crisis and of the public pension systems. The article presents the importance of financial education and financial literacy in the specific case of Spain, from an early age and its benefits in the future for those who embrace this type of education.

The financial education, as a subject of its own, does not exist in the educational system in Spain, so (for the moment) they are integrated in a more dispersed way in other subjects of Economics and related to entrepreneurship. This is not an isolated problem in Spain: many are the countries that fight against the financial carelessness of their citizens. In the most advanced countries, the Nordic countries especially, the message of caution and warning from international organizations has already penetrated and schools are beginning to dedicate resources and efforts to teach basic finance in primary and secondary, through games and practical cases.

The Ministry of Education is already preparing a new reform to, among other things, introduce compulsory financial education, although the rigidity of the spanish educational system would make it quite challenging. Spain, and particularly the Balearic and Canary Islands and the coastal area, are regions that are highly specialized in tourism and young people find a future job in this sector, generally in very poorly paid positions that turn the wheels of a vicious circle of their lifes as an adults.

Keywords: financial education, sustainable finance, investments, expenses, savings.

DEMOKRAT PARTİ DÖNEMİNDE TÜRK-İTALYAN İLİŞKİLERİ VE BU ÇERÇEVEDE CUMHURBAŞKANI CELAL BAYAR'IN 1959 İTALYA SEYAHATİ

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ÖZET

İtilaf Devletleri arasında Lozan Barış Konferansını ilk onaylayan devlet olan İtalya ile Cumhuriyetin ilk yıllarından itibaren dostane ilişkiler kurulmuştur. Bu durum Mussolini'nin 1930'lu yıllarda Türkiye'ye yönelik tavrı nedeniyle bozulmuştur. İkinci Dünya Savaşı yıllarında tamamen duran ikili ilişkiler 1947 yılında imzalanan Türk-İtalyan Ticaret Antlaşması ile yeniden başlamıştır.

Demokrat Parti'nin iktidara gelmesinden sonra Batı Bloğu ve İtalya ile olan bağlar kuvvetlenmiştir. 1951 yılında İtalya ile ilk defa kültürel alanda bir antlaşma imzalanmıştır. 1952 yılında yeni iktidarın ilk dış ziyareti Dışişleri Bakanı Fuat Köprülü tarafından bu ülkeye yapılmıştır. Türkiye'nin NATO üyeliği sonrasında İtalya Başbakanı ve Dışişleri Bakanı Giuseppe Pella, 12 Kasım 1953'te Türkiye'ye bir seyahat yapmıştır. Ankara'ya gelen Pella, Atatürk'ün naaşının Anıtkabir'e nakledilmesinden sonra burayı ziyaret eden ilk yabancı devlet adamı olmuştur. 1954 yılında Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü'nün Roma'yı seyahati dostluk bağlarını güçlendirmiştir.

İki devlet adamları arasındaki dostluk ziyaretleri 1957 yılında bu sefer İtalya Cumhurbaşkanı Giovanni Gronchi'nin Ankara'ya gelmesi ile cumhurbaşkanı düzeyine yükselmiştir. Gronchi'nin Celal Bayar'ı İtalya'ya yaptığı davet yaklaşık iki yıl sonra karşılık bulabilmiştir. 8 Haziran 1959 yılında Roma'ya varan Cumhurbaşkanı Celal Bayar'ın bu ziyareti kendi içinde yine birçok ilki barındırmıştır. 1960 askeri darbesi öncesinde siyasi olduğu kadar ekonomik bakımdan da zor durumda olan Türkiye, İtalya ile sorunlarına çare aramak istemiştir. Ayrıca ilk defa bir Türk Cumhurbaşkanı da Papa'yı ziyaret etmiştir. Bu bildiride ilk olarak Demokrat Parti Döneminde Türkiye'nin İtalya ile olan ilişkileri ele alınacaktır. Daha sonra Cumhurbaşkanı Celal Bayar'ın askeri darbe öncesi yaptığı İtalya ziyaretinin önemi üzerinde durulacaktır. Çalışmada başta dönemin basını olmak üzere Türk arşivleri, TBMM Zabıt Cerideleri, yerli ve yabancı diğer kaynaklardan yararlanılacaktır.

Anahtar Kelimeler: Demokrat Parti, Türkiye, İtalya, Celal Bayar.

TURKISH-ITALIAN RELATIONS IN THE DEMOCRAT PARTY PERIOD AND THE PRESIDENT CELAL BAYAR'S 1959 TRAVEL TO ITALY WITHIN THIS FRAMEWORK

ABSTRACT

Beginning from the first years of the Republic, friendly relations were established with Italy, which was the first state to approve the Lausanne Peace Conference among the Entente States. This situation deteriorated due to Mussolini's attitude towards Turkey in the 1930s. Bilateral

relations, which stopped completely during the Second World War, were resumed with the Turkish-Italian Trade Agreement signed in 1947.

After the Democrat Party came to power, the ties with the Western Bloc and Italy were strengthened. In 1951, a cultural treaty was signed for the first time with Italy. In 1952, the first foreign visit of the new government was made to this country by Foreign Minister Fuat Köprülü. After Turkey's NATO membership, Italian Prime Minister and Foreign Minister Giuseppe Pella made a trip to Turkey on 12 November 1953. Pella, who came to Ankara, became the first foreign statesman to visit *Anıtkabir* after Atatürk's body was transferred there. The trip of Prime Minister Adnan Menderes and Minister of Foreign Affairs Fuat Köprülü to Rome in 1954 strengthened the bonds of friendship.

Friendship visits between the statesmen of the two countries rose to the level of president in 1957, this time with the arrival of Italian President Giovanni Gronchi in Ankara. Gronchi's invitation of Celal Bayar to Italy was met two years later. This visit of President Celal Bayar, who arrived in Rome on June 8, 1959, contained many firsts within itself. Being in a difficult situation economically as well as politically before the 1960 military coup, Turkey wanted to find a solution to its problems with Italy. It was also the first time that a Turkish President visited the Pope. In this paper, firstly, Turkey's relations with Italy during the Democrat Party Period will be discussed. Then, the importance of President Celal Bayar's visit to Italy before the military coup will be elaborated. In the study, especially the press of the period, Turkish archives, the Minutes of the Turkish Grand National Assembly and other domestic and foreign sources will be used.

Keywords: Democrat Party, Turkey, Italy, Celal Bayar.

GİRİŞ

Türkiye, 1923 yılında Lozan Barış Antlaşması'nın imzalanmasından sonra Batılı ülkelerle ilişkilerini dostane seviyeye getirmek amacındaydı. İngiltere ile Musul meselesini bir an önce çözüme kavuşturan ve güney sınırlarını netleştirmek isteyen Türk devlet adamları Balkan sınırlarını da güvence altına almak istiyordu. Almanya'da artan anti-revizyonist akım ile İtalya'nın Akdeniz'de yaptığı manevralar Türkiye'nin barışçıl politikalarını tehlike altına atıyordu. İşte bu sırada, Türkiye Balkan Konferansını tertip ederek, bir bakıma, İtalya'nın Balkan devletlerini birbirine düşürerek ondan menfaat teminini önlemeye çalışmıştır. Hatta 1937 yılında Türkiye ile doğu komşuları arasında yapılan Sadabat Paktı, İtalyan tehlikesine karşı düşünülmüş bir tedbirdir.[1]

İkinci Dünya Savaşı yaklaşırken Montreux Boğazlar Sözleşmesi'nin İtalya tarafından geçte olsa 1938'de imzalanması Türkiye'nin Hatay Meselesi'nde daha rahat davranmasını sağlamıştır. Atatürk'ün ölümü ile savaş öncesi gerginlik tırmanmaktayken Türkiye sınır güvenliğini sağlamak için çeşitli paktlar imzalamaya başlamıştır. Bu gerginlik savaş sonrası en asgari düzeye inmiştir. Bununla birlikte Yalta görüşmelerinde Türkiye aleyhine gelişmelerin ortaya çıkmasıyla Türkiye Almanya ile müttefiklerine savaş ilan etmiş kısa bir süre sonra da savaş sona ermiştir. Türkiye 1945'te Birleşmiş Milletlere üye olmasından dolayı Sovyetler Birliği ile karşı karşıya gelmiştir. Dolayısıyla da Batı'ya daha da yaklaşmış

[1] Ahmet Özgiray, "Türk-İtalyan Siyasi İlişkileri (1921-1930)", E. Ü. Tarih İncelemeleri Dergisi, Sayı: 5, İzmir 1990, s.133-134.

ABD'nin yardımlarından her iki ülke de faydalanmış bu arada NATO içerisinde yer alan İtalya Türkiye'nin bu Pakt'a girmesine yardımcı olmuştur.[2]

Trablusgarp Savaşı sonrasında İtalya'nın işgaline bırakılan Rodos ve 12 Ada, 10 Şubat 1947'de imzalanan Paris Barış Antlaşması'nın 14. maddesiyle Yunanistan'a bırakılmıştır. Bu durum Soğuk Savaş'ın etkisini hissettirmeye başladığı bir dönemde Türkiye tarafından kabul görmüştür. Aynı dönemde Amerika Birleşik Devletleri'nin öncülüğünde, Sovyet yayılmacılığına önlemek amacıyla askeri bir pakt oluşturma çabalarına başlanmıştı. Türkiye, 4 Nisan 1949'da kurulan Kuzey Atlantik Antlaşması Teşkilatı'na (NATO) üye olmak için girişimde bulunsa da ilk başta başarılı olamamıştır. NATO'ya üyelik şansı olmadığını gören Türkiye, alternatif olarak Yunanistan, İngiltere, İtalya, Fransa ve Amerika Birleşik Devletleri'nin bulunduğu bir Akdeniz Savunma Paktı kurulmasını gerçekleştirmeye çalışmıştır. Amerika Birleşik Devletleri ve bu paktı Ortadoğu siyaseti bakımından engel olarak gören İngiltere'nin desteklemediği Akdeniz Paktı fikrinin gerçekleşmeyeceğini gören Türkiye, İtalya ile ilişkilerini ikili antlaşmalar yapmak suretiyle devam ettirmeye yönelmiştir.[3]

DEMOKRAT PARTİ İKTİDARI'NIN İLK YILLARINDA TÜRKİYE VE İTALYA

Akdeniz politikası nedeniyle Atatürk döneminde Türkiye için bir tehdit olarak kabul edilen İtalya, İkinci Dünya Savaşı'ndan sonra yayılmacı poltikalarını terk edince, Türk-İtalyan ilişkileri de gelişmeye başladı. Özellikle 1950'li yıllar, Türkiye-İtalya ilişkilerinde güvensizliğin büyük ölçüde ortadan kalktığı ve yeni bir dostluk ve dayanışmanın başladığı bir dönem oldu. Bunun ilk işareti, Türkiye ile İtalya arasında bir dostluk antlaşmasının imzalanması idi. Antlaşmayı imzalamak üzere 23 Mart 1950 günü Roma'ya giden Dışişleri Bakanı Necmeddin Sadak, ertesi gün, önce Dışişleri Bakanı Kont Carlo Sforza'yı, daha sonra İtalya Başbakanı Alcide De Gasperi'yi ziyaret etmişti. Türk-İtalyan Dostluk, Uzlaşma ve Adli Tesviye Antlaşması, 24 Mart 1950 günü Roma'da Türkiye adına Dışişleri Bakanı Necmeddin Sadak, İtalya adına da Dışişleri Bakanı Kont Carlo Sforza tarafından imzalanmıştır.[4] Cumhurbaşkanı Bayar, 1 Kasım 1950 tarihinde, "TBMM Dokuzuncu Dönem İkinci Yasama Yılı" açılış konuşmasında İtalya ile artan dostluk münasebetlerini şu cümlelerle dile getirmiştir:

> *"Cumhuriyet İtalya'sı ile son zamanlarda akdettiğimiz dostluk antlaşması, menfaat ve mefkûreleri bir olan iki memleket arasındaki bağları daha ziyade takviye eylemiştir. Akdeniz devleti ve Avrupa Konseyi azası olan her iki memleket arasındaki sıkı dostluk politikası, medeniyetimizin inkişafını sağlayacak olan Avrupa sulhunun ve iş birliğinin faydalı bir unsuru olacaktır."*[5]

23 Nisan 1951 tarihinde saat 16.30'da Ankara'da Cumhurbaşkanlığı Köşkü'nde Cumhurbaşkanı Celal Bayar'ın başkanlığında Başbakan Adnan Menderes, Dışişleri Bakanı Fuat Köprülü, Dışişleri Genel Sekreteri Faik Zihni Akdur'un iştirakiyle dış politika meselelerini konuşmak üzere bir toplantı yapılmıştır. Bu toplantıda hükümetle temas etmek üzere Ankara'ya davet edilmiş bulunan Paris Büyükelçisi Numan Menemencioğlu, Londra Büyükelçisi Cevat Açıkalın ve Roma Büyükelçisi Hüseyin Ragıp Baydur'la, Dışişleri Bakanlığı Birinci Daire Umumi Müdürü Orta Elçi Bülend Uşaklıgil, İkinci Daire Umum

[2] Türkan Cantemur, "Türkiye-İtalya İlişkileri (1930-1950)", 38. ICANAS (Uluslararası Asya ve Kuzey Afrika Çalışmaları Kongresi) Bildirileri, II. Cilt-Tarih ve Medeniyetler Tarihi, Ankara 2012, Atatürk Kültür, Dil ve Tarih Yüksek Kurumu Yayınları, s.801.
[3] Mevlüt Çelebi, "Atatürk Dönemi ve Sonrasında Türkiye-İtalya İlişkilerini Etkileyen Faktörler", Atatürk Araştırma Merkezi Dergisi, 31 (91), s.120.
[4] Çelebi, a.g.m., s.120.
[5] Yasama Yıllarında Cumhurbaşkanlarının Konuşmaları-1, Editör: Hasan Yılmaz, TBMM Basımevi, Ankara 2011, s.162.

Müdürü Orta Elçi Muharrem Nuri Birgi hazır bulunmuşlardır. Toplantı 3.5 saat devam etmiş ve saat 20.00'de sona ermiştir. Bu toplantıda Türkiye'nin İngiltere, Fransa ve İtalya ile münasebetleri, Atlantik Paktı ve Akdeniz Paktı meseleleri gözden geçirilmiş ve bu devletlerin Türkiye'nin emniyet bahsinde ki fikir ve kanaatleri hakkında ilgili büyükelçiler bazı açıklamalarda bulunmuşlardır. Toplantıdan sonra Cumhurbaşkanı Celal Bayar, Londra Büyükelçisi Cevat Açıkalın'ı ve Roma Büyükelçisi Hüseyin Ragıp Baydur'u akşam yemeğinde ağırlamıştır.[6]

> *"Ankara siyasi mahfillerinde yapılan tefsirlere göre; bu toplantı daha çok alakalı Büyükelçilerden izahat almak ve onlara Hükümetin Türkiye'nin emniyetini korumak için tuttuğu esaslı hareket hattını bildirmek maksadıyla yapılmıştır. Bu hususta Türk noktainazarı malum olduğundan yeni bir karar alınması bahis mevzuu olmamak lazım gelir. Bu bakımdan Türkiye'nin emniyeti davası her cepheden mütalaa edilmiş, gerek Atlantik Paktı muvacehesindeki durumumuz, gerek bir Akdeniz Paktı kurulması hakkındaki görüşümüz ve Birleşik Amerika ile ahdi bir şekilde bağlanmak hususundaki vaziyet etraflı bir şekilde gözden geçirilmiştir. Ayrıca muhtelif merkezlerde bulunan Büyük Elçilerimiz de bütün bu meseleler karşısında Fransa, İngiltere ve İtalya'nın durumlarını karşılıklı olarak birbirlerinden dinlemişler ve gerek Adnan Menderes, gerek Fuat Köprülü'nün beyanatları ile daha geniş bir surette tenevvü etmişlerdir. Siyasi mahfillerde yapılan tesirlere göre, Türkiye'nin dış politikasındaki prensipler sarihtir. Türkiye devamlı ve gediksiz bir barış cephesi kurulmasını şiddetle müdafaa etmektedir. Bundan hiçbir değişiklik bahis mevzuu olamaz. Bu bakımdan bu toplantının mahiyeti sırf alakalı devletlerin vaziyetleri hakkında bir noktai nazar teatisinden ibarettir, dense yeridir."*[7]

Celal Bayar, İtalya ile 17 Temmuz 1951'de kültürel alanda imzalanan ilk antlaşmadan kısa süre sonra, 1 Kasım 1951 tarihinde, Meclisin yeni yasama yılının açılış konuşmasını yapmıştır. Bayar bu konuşmada, Türkiye'nin Atlantik Paktına katılmasına ve başta Amerika olmak üzere İngiltere, Fransa, İtalya ve diğer dost devletlerle münasebetlere de değinmiştir. Cumhurbaşkanı, Akdeniz havzası devletlerinden İtalya'ya konuşmasında oldukça itinalı bir yer ayırmış ve İtalya'nın Birleşmiş Milletler üyeliğine de değinmiştir:

> *"Dünyanın bu nazik anlarında, memleketimize yaptığı askerî ve iktisadi yardımlarla, bizde, şükran duyguları uyandıran. Birleşik Amerika Devletleri başta gelmek üzere, pek yakında kendileriyle Atlantik Paktı camiası içinde de, işbirliği yapacağımız müttefiklerimiz İngiltere ve Fransa ile ve Paktın azası diğer dost devletlerle mevcut münasebetlerimizi daha da inkişaf ettirmeyi büyük bir samimiyetle arzu ediyoruz. Bugün dünya sulhunun müştereken korunması işindeki önemli hissesini takdir etmekte bulunduğumuz demokratik İtalya'nın, bu vazifesini, mevkiinin ehemmiyeti ile mütenasip bir nispette başarabilmesi için, Birleşmiş Milletler Teşkilâtı içinde yer almasını ve millî gayretlerini tahdit eden ahdî engellerden kurtulmasını temenni ederim. İspanya ile elçiliklerimizi, karşılıklı olarak büyükelçiliğe yükselttik. Bu Akdeniz Devletiyle, hür dünya arasında daha sıkı bir işbirliğinin kurulması, umumi barış menfaati bakımından her halde faydalıdır."*[8]

Şubat 1952'ye gelindiğinde Atlantik Paktına dâhil on iki memleket lüzumlu formaliteleri tamamlayarak Türkiye'nin Atlantik Paktına katılmasını kabul etmişlerdir. Formalitelerin tamamlanması üzerine ABD Dışişleri Bakanlığı tarafından Türkiye'nin Atlantik Paktına katılımı için resmi davetiye derhal Ankara'ya gönderilmiştir. Resmi davetin hükümete

[6] Zafer, 24 Nisan 1951.
[7] Zafer, 24 Nisan 1951.
[8] Yasama Yıllarında, s.180.

bildirilmesi üzerine Atlantik Paktına üyelik hakkındaki kanun tasarısı TBMM'de kabul edilmiştir. Bu gelişmeler olurken İtalya'nın, Türk ve Yunan kara kuvvetlerinin İtalyan General Marizio Lazzaro de Gastinglioni emrinde İtalya Komutanlığına verilmesine yönelik talebi ABD tarafından kabul desteklenmemiştir. Amerikan çevreleri, bir Türk generalinin Türk kuvvetlerine ve bir Yunan generalinin Yunan kuvvetlerine komuta edeceğini ve bunların amiral Carne'ye bağlı olacağını belirtmişlerdir.[9]

BAŞBAKAN DÜZEYİNDE KARŞILIKLI ZİYARETLER

Dışişleri Bakanı Fuat Köprülü'nün 22-23 Aralık 1952 tarihleri arasında gerçekleşen İtalya seyahatinden sonra üst düzey ilk ziyaret İtalya Başbakanı Pella tarafından gerçekleştirilmiştir. Demokrat Parti hükûmetinin daveti üzerine 12 Kasım 1953 tarihinde Ankara'ya gelen İtalya Başbakanı ve Dışişleri Bakanı Giuseppe Pella, Etimesgut Askerî Havaalanında başta Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü olmak üzere çok sayıda yerli ve yabancı davetli tarafından karşılanmıştır. Havaalanında yapılan resmi törenden sonra Cumhurbaşkanlığı Köşküne giderek özel defteri imzalayan Başbakan Pella şerefine Ankara Palas'ta bir akşam yemeği verilmiştir.[10]

Başbakan Pella Ankara ziyaretinin ikinci günü Anıtkabir'e gitmiş ve Atatürk'ü yeni istirahatgahında ziyaret eden başbakan seviyesinde ilk yabancı devlet adamı olmuştur. Pella aynı gün, Cumhurbaşkanı Celal Bayar tarafından Çankaya'da şerefine bir öğle yemeğine ve İtalya Büyükelçisi ve eşi tarafından verilen akşam yemeğine katılmıştır.[11]

13 Kasım günü Başbakanlıkta başlayan, Türk ve İtalyan heyetlerince yürütülen görüşmeler 14 Kasım günü sona ermiştir. İki ülke arasındaki siyasi, ekonomik ve kültürel münasebetlerin ele alındığı toplantılar sonunda bir ortak tebliği yayınlanmıştır. Başbakan Pella'nın Ankara ziyareti, Etimesgut Askeri Havaalanından Roma'ya hareketi ile sona ermiştir.[12]
Celal Bayar gibi ABD gezisi öncesi ve sonrasında İtalya'ya uğrayan diğer bir Türk devlet adamı Başbakan Adnan Menderes'tir. 30 Mayıs 1954 tarihinde ABD seyahatine çıkan Başbakan Menderes önce bir süre İtalya'nın Napoli Kenti'nde duraklamıştır. Burada Atlantik Paktı Güney Avrupa Kesimi Başkumandanı Amiral William Fechteler ile görüşmüş ve Newyork'a hareket etmiştir. Menderes, 7 Haziran'da Newyork'dan ayrıldıktan sonra da Napoli'ye uğramış ve oradan da Amiral Fechteler'in özel uçağı ile Atina'ya hareket etmiştir.[13]
Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü, Giuseppe Pella'nın ziyaretinin iadesi için 30 Ocak 1955 tarihinde yeniden İtalya'ya gelmiştir. Roma'da, İtalyan meslektaşı ile önemli görüşmeler yapan Menderes, Türk-İtalyan dostluğunun artarak devam etmesi gerektiği görüşü üzerinde durmuştur. Başbakan Adnan Menderes: *"…Yüksek insanlık idealine hizmet edebilmek için Türkiye ve İtalya hem kendi aralarında hem tarihin kaydettiği en geniş sulh ve emniyet teşkilatı olan Atlantik anlaşması topluluğu içinde sıkı iş birliği halindedirler*" cümlelerini sarf etmiştir.[14] Bu arada Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü, 1 Şubat'ta Papa Pius 12. ile kendi daveti üzerinde, Vatikan'da Papa'nın şahsi kütüphanesinde

[9] Yeni Sabah, 17 Şubat 1952.
[10] Cumhuriyet, 13 Kasım 1953; Ulus, 13 Kasım 1953; Vatan, 13 Kasım 1953.
[11] Cumhuriyet, 14 Kasım 1953; Ulus, 14 Kasım 1953; Vatan, 14 Kasım 1953.
[12] Cumhuriyet, 15 Kasım 1953 ; Ulus, 15 Kasım 1953; Vatan, 15 Kasım 1953.
[13] Özge Irmak, Adnan Menderes'in Yurt Dışı Gezileri, İstanbul Üniversitesi Atatürk İlkeleri ve İnkılap Tarihi Enstitüsü, Yüksek Lisans Tezi, İstanbul 2009, s.90.
[14] Cumhurbaşkanı Celal Bayar 1 Kasım 1955 tarihinde "TBMM Onuncu Dönem Üçüncü Yasama Yılı" açılış konuşmasında şu konuşmayı yapmıştır: "Ocak 1955'te, Başvekilimiz, Akdeniz havzasının emniyet, istikrar ve tealisi bakımından mühim mevkii ile mütenasip bir iş birliği zihniyeti gösteren, İtalya'yı ziyaret etmişlerdir. NATO içinde müttefikimiz olan bu devletle, karşılıklı münasebetlerimiz hergün memnuniyet verici bir şekilde artmakta ve rasanet bulmaktadır." Yasama Yıllarında, s.247.

görüşmüşlerdir. Yaklaşık iki ay şiddetli sağlık problemleri yaşamakta olduğundan Fransız Başbakanı Mendes ve Peru'nun yeni Vatikan Büyükelçisi Diomedes Alras Schreiber dışında hiçbir ziyaretçi kabul etmemiş olan Papa'nın Menderes ile görüşmek istemesi ve buna çok önem vermesi dikkat çekicidir. Görüşmenin bitiminde Papa, Menderes ve Köprülü'ye altın madalyalar vermiş, ayrıca Menderes'e kütüphanesinde bulunan tüm Türkçe kitapların ciltlenmiş bir listesini vermiştir. Papa-Menderes ve Köprülü görüşmesi, Vatikan ile Türkiye'nin siyasi ilişkilerinin yakınlaştırılmasına karar verilmesiyle neticelenmiştir.[15]

> *Görüşmelerin bitiminde iki ülke ortak bir bildiri yayınlayarak görüşmelerin kuvvetli bir işbirliği içinde gerçekleştirildiğini ve genel problemlere değinildiğini belirtmişlerdir. Her iki ülkenin de Atlantik ittifakına üye olması nedeniyle ittifakın önemi ve geliştirilmesi hakkında da görüşmeler yapılmıştır. İki ülke temsilcileri, ileride ittifakın barışa daha çok katkıda sağlayabilmesi adına öncelikle iktisadi ve sosyal konular olmak üzere bütün alanlarda ilişkilerin geliştirilmesi konusunda fikir birliğine varmışlardır.*[16]

CUMHURBAŞKANI DÜZEYİNDE KARŞILIKLI ZİYARETLER

1954 yılında uzun bir Amerika seyahatinde bulunan Cumhurbaşkanı Celal Bayar dönüş yolunda İtalya'ya da uğramıştır. Celal Bayar, eşi ve beraberindeki heyet 7 Mart günü Napoli'de beş saat kaldıktan sonra Gemlik muhribi ile Türkiye'ye hareket etmiştir. Bayar gelişlerinde olduğu gibi ayrılışlarında da kendilerini uğurlamaya gelen zevata veda ettikten sonra İtalya Cumhurbaşkanlığı protokol şefi Michela Secammaca ile Napoli Belediye Reisi Achille Lauro'ya kendisine karşı gösterilen misafirperverlikten dolayı teşekkür etmiş ve Napoli'de geçirdiği beş saat zarfında gördüğü hüsnü kabulden dolayı memnun olduğunu ifade etmiştir.[17]

Cumhurbaşkanı Celal Bayar'ın, 1 Kasım 1956 tarihinde yeni yasama yılı konuşmasında dış politika mevzularında yer alan şu cümleler Türk-İtalyan dostluğuna verilen önemi bir kez daha sergilemiştir:

> *"Pakistan-Afganistan münasebetlerinin düzelmek yoluna girdiğini gösteren bazı emareler bizi son derece bahtiyar etmektedir. (Bravo sesleri) Bu yolda elde edilecek her müspet neticenin, müşterek dostlarımız için olduğu kadar, muhitleri için de bir nimet sayılacağı şüphesizdir. Bu sene Cumhuriyet Bayramımızı, dört aziz dost memlekete mensup çok muhterem misafirlerimizle birlikte kutladık. Bunlar, sulhsever milletler camiası içinde ve Akdeniz havzasında büyük bir azimle daima yapıcı bir rol oynamış bulunan dost İspanya'nın Hariciye Nâzırı Ekselans Artajo; dost ve müttefik İran'ın Harbiye Nazırı ile, kıymetli dost ve müttefikimiz İtalya'nın Erkânı Harbiye Reisi ve ananevi dostumuz ve kıymetli müttefikimiz Alman milletinin yegâne mümessili olan Federal Almanya'nın Hava Kuvvetleri Kurmay Başkanıdır…*
>
> *Büyük dostumuz ve müttefikimiz Birleşik Amerika ile münasebet ve iş birliğimizin daima inkişaf etmekte olduğunu görmek ve söylemekle bahtiyarım. (Bravo sesleri) Bütün meselelerimizi, hakiki ve birbirinden emin dostlar arasında icap eden şekilde, tam bir samimiyet içinde beraberce ele almaktayız. Kıymetli dostumuz ve müttefikimiz İngiltere ile olan münasebetlerimiz de dostane bir anlayış havası içinde daima kuvvetlenmektedir. Fransa ile bilhassa iktisadi sahada çok hayırlı işlere girişildiğini, İtalya ile münasebetlerimizin her sahada inkişaf ettiğini kaydetmekten zevk duyarım."*[18]

Yukarıda yer alan bu konuşmadan sonra Türkiye ve İtalya arasındaki ilişkilerde karşılıklı ziyaretlerin cumhurbaşkanı düzeyinde gerçekleşmesi 1957 yılında olmuştur. Nitekim İtalya

[15] Irmak, a.g.e., s.104.
[16] Irmak, a.g.e., s.105.
[17] Yeni Sabah, 8 Mart 1954.
[18] Yasama Yıllarında, s.260.

Cumhurbaşkanı Giovanni Gronchi tarafından 11-13 Kasım 1957 tarihleri arasında Ankara'ya bir seyahat yapılmıştır. Bu seyahat sonrası Cumhurbaşkanı Celal Bayar'ın iade-i ziyareti ise ancak 1959 yılı sonunda gerçekleşebilecektir.
İtalya Cumhurbaşkanı Giovanni Gronchi, Cumhurbaşkanı Bayar'ın davetlisi olarak 11 Kasım 1957 tarihinde Ankara'ya gelmiştir. Dört gün sürecek olan bu ziyaretin ilk durağı Ankara Esenboğa Havaalanı olmuştur. Beraberinde kalabalık bir heyet bulunan Gronchi, Cumhurbaşkanı Celal Bayar ve Adnan Menderes ile birlikte Dışkapı'dan Çankaya yönüne doğru hareket etmiştir. Bu arada Ankara caddelerinin değişik yerlerine taklar yapılmış ve yollar Türk ve İtalyan bayrakları ile donatılmış bulunmaktadır.[19]

Cumhurbaşkanı Gronchi, Çankaya'da bulunan misafir köşkünde bir süre dinlendikten sonra Atatürk'ün kabrini ziyaret etmiştir. Akşam Çankaya Köşkü'nde Cumhurbaşkanı Bayar tarafından Gronchi şerefine bir akşam yemeği verilmiştir.[20]

12 Kasım günü iki ülke temsilcileri arasında başlayan siyasi ve ticari görüşmeler Dışişleri Köşkü'nde yapılmıştır. Devlet Başkanları seviyesinde olan ve iki saat süren bu toplantıda Rusların Orta Doğu'ya yönelik politikaları ve 15 Aralık 1957 tarihinde Paris'te toplanacak olan NATO konferansı gündemi üzerinde durulmuştur. Aynı gün öğleden sonra Augustus Tapınağını, Hacı Bayram Türbesini ve Arkeoloji Müzesini ziyaret eden İtalyan konuklara TBMM Başkanı Refik Koraltan tarafından saat 17.45'te Marmara Köşkü'nde, bir çay ziyafeti verilmiştir.[21]

İtalyan devlet adamlarının Ankara ziyaretinin üçüncü gününde Cumhurbaşkanı Giovanni Gronchi'ye Ankara Valisi ve Belediye Başkanı tarafından Ankara şehri fahri hemşehrilik beratı verilmiştir. Bu törenden sonra Hipodrom'da yapılan askeri geçidi izleyen Cumhurbaşkanı Gronchi'ye Ankara Üniversitesi Hukuk Fakültesi tarafından fahri hukuk doktorluğu payesi verilmiştir. Yoğun bir tempoda geçen 13 Kasım'ın akşamında ise önce Başbakanlıkta ikili görüşmeler kaldığı yerden devam etmiş daha sonra da konuklar şerefine Ankara Palas'ta bir kabul resmi verilmiştir.[22]

14 Kasım günü trenle Ankara'dan İstanbul'a gelen İtalyan konuklar ikametlerine ayrılan Şale Köşkü'ne gitmiştir. Konuklar ertesi gün saat 10.00'da uçakla Türkiye'den ayrılmıştır.[23]

İtalya Cumhurbaşkanı Giovanni Gronchi Türkiye'yi ziyaretinin sonunda Cumhurbaşkanı Celal Bayar'ı İtalya'ya davet etmiş ve Bayar bu daveti kabul etmiştir. Cumhurbaşkanı Celal Bayar ve eşi, Dışişleri Bakanı Fatin Rüştü Zorlu ile heyetin diğer üyeleri 8 Haziran 1959'da öğleden sonra İtalya'ya resmî bir ziyarette bulunmak üzere hareket etmişlerdir.[24] Akşam

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[19] Akşam, 12 Kasım 1957; Cumhuriyet, 12 Kasım 1957; Milliyet, 12 Kasım 1957; Ulus, 12 Kasım 1957; Vatan, 12 Kasım 1957; Zafer, 12 Kasım 1957.
[20] Akşam, 12 Kasım 1957; Cumhuriyet, 12 Kasım 1957; Milliyet, 12 Kasım 1957; Ulus, 12 Kasım 1957; Vatan, 12 Kasım 1957; Zafer, 12 Kasım 1957.
[21] Cumhuriyet, 13 Kasım 1957; Vatan, 13 Kasım 1957; Zafer, 13 Kasım 1957.
[22] Cumhuriyet, 13 Kasım 1957; Ulus, 13 Kasım 1957; Vatan, 13 Kasım 1957; Zafer, 13 Kasım 1957.
[23] Akşam, 15 Kasım 1957; Cumhuriyet, 15 Kasım 1957; Vatan, 15 Kasım 1957; Zafer, 15 Kasım 1957.
[24] "Cumhurbaşkanı Celal Bayar'a; Hariciye Vekili Fatin Rüştü Zorlu ile eşi Emel Zorlu, TBMM Hariciye Encümeni Reisi Muammer Çavuşoğlu, Manisa Mebusu Cemil Şener, Hariciye Vekaleti Umumi Katibi Melih Esenbel, Erkanı Harbiyei Umumiye Reisi Orgeneral Rüştü Erdelhun, Hariciye Vekaleti Umumi Katip Muavini Hüveyda Mayatepek, Riyaseticumhur Hususi Kalem Müdürü Faruk Berkol, Riyaseticumhur Başyaveri Kur. Alb. Faik Taluy, Protokol Umum Müdürü Veysel Versan ve refikası Mübeccel Versan, Riyaseticumhur başdoktoru General Recai Ergüde, Hariciye Vekaleti Dördüncü Daire Umum Müdürü Ziya Tepedelenli, Birinci Daire Umum Müdürü Vahit Halefoğlu, Devlet Su İşleri Umum Müdürü Süleyman Demirel, Anadolu Ajansı Umum Müdürü Firuzan Tekil, Hariciye Vekaleti Ağırlama ve Levazım İşleri Umum Müdürü Orhan Şeref Apak, Riyaseticumhur

saatlerinde Roma'ya varan Celal Bayar ve Türk heyetini havaalanında, İtalya Cumhurbaşkanı Gronchi ve Dışişleri Bakanı Pella ve pek çok bakan karşılamıştır.[25] Karşılama töreninden sonra Celal Bayar ve eşi şerefine Kirinal Saray'da İtalyan Cumhurbaşkanı tarafından bir yemek verilmiştir. Bu yemekte bir konuşma yapan İtalyan Cumhurbaşkanı tarihte ilk defa bir Türk devlet başkanının Roma'ya gelmesinin iki memleket arasındaki dostluğun bir yansıması olduğunu ifade etmiştir. Ve ek olarak İtalyan milletinin Atatürk Türkiye'sinin modern yaşam biçimine büyük bir ilgiyle baktığını bildirmiştir. Bayar da mukabele ederek milleti adına teşekkürlerini iletmiştir.[26]

Cumhurbaşkanı Celal Bayar, ziyaretinin ikinci günü Roma'da ilk olarak meçhul asker anıtına bir çelenk koymuştur. Bu törende başta sancak ve bandosu ile bir tören kıtası hazır bulunmuş ve selam resmini ifa etmiştir. Bundan sonra Quirinale Cumhurbaşkanlığı Sarayına dönen Bayar burada İtalyan mevkidaşı Gronchi ile siyasi ve iktisadi görüşmelere başlamıştır. Görüşmelerde Türkiye Dışişleri Bakanı Fatin Rüştü Zorlu ile İtalyan Dışişleri Bakanı Pella da hazır bulunmuşlardır. Celal Bayar Quirinale Sarayından otomobille ayrıldığı zaman halk tarafından tezahüratla karşılanmıştır.[27] Toplantının ardından Bayar ve Gronchi, Roma belediye sarayının bulunduğu Capitole gitmişler ve burada Roma Belediye Başkanı, Bayar'a gümüşten yapılmış bir kurt heykeli hediye etmiştir.[28]

10 Haziran 1959'da Türkiye Dışişleri Bakanı Fatin Rüştü Zorlu ile İtalyan Dışişleri Bakanı Mösyö Pella arasında, "Türk-İtalyan Ekonomik, Teknik ve Turistik İşbirliği Anlaşması" imzalanmıştır. İki devlet arasındaki ticari mübadelelerin ve iktisadi işbirliğinin gelişmesini sağlamak amacıyla imzalanan bu anlaşma ile Türkiye'ye elektrik, sulama yatırımları ve hususi teşebbüslerin desteklemesi hususunda 60 milyon dolar kredi verilmiştir. Ayrıca turizm sahasında da iki ülke arasında geniş bir işbirliği sağlanması kararlaştırılmıştır. Anlaşma metninde İtalyan özel sermayesinin Türkiye'ye gelmesi konusunda teşvikin söz konusu da yer almıştır.[29]

Cumhurbaşkanı Celal Bayar ve refakatinde ki Türk heyetinin İtalya'ya yapmakta oldukları resmi ziyaret 11 Haziran günü sona ermiştir. Bayar ve maiyetindekiler mahalli saatle 16.30 da trenle Roma'dan Napoli'ye hareket etmişlerdir. Bu arada Celal Bayar, Roma'dan ayrılmadan önce yanında Dışişleri Bakanı Zorlu olduğu halde Papa XXIII. Jean'i Vatikan Sarayı'nda ziyaret etmiştir. Papa kendilerini sarayın kapısında Türkçe hoş geldiniz diyerek karşılamıştır. Bayar'a Papa tarafından Vatikan'ın ikinci büyük nişanı olan "Altın Mahmuz Nişanı" verilmiştir. Zorlu da üçüncü derecede bir nişan almıştır.[30] Görüşmeyi Türkçe gerçekleştiren Papa XXIII. Jean, Türkiye'de yaşayan Katoliklerin memleketlerine bağlı vatandaşlar olduklarını ve memleketin refahı için çalıştıklarını ifade ederek, "bütün kalbimizle Türk halkının ve hükûmetinin ilâhî teveccühe mazhar olması ve himayesi için dua ediyoruz" demiştir. Her iki tarafın da samimi mesajlar verdiği ziyaret sırasında Türkiye ile Vatikan

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yaverlerinden Bnb. Nuri Gök ve Yzb. İsmet Egene, Riyaseticumhur Hususi Kalem Memuru Vedat Tanır, Protokol Memurlarından Altan Tanır refakat etmiştir." Merve Arslan, Celal Bayar'ın Cumhurbaşkanlığı Dönemindeki Yurtdışı Seyahatleri (1950-1960), Aydın Adnan Menderes Üniversitesi, Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi, Aydın, 2019, s.87.

[25] Çelebi, a.g.m., s.123.

[26] Arslan, a.g.e., s.88.

[27] Akşam, 10 Haziran 1959.

[28] Çelebi, a.g.m., s.123.

[29] Arslan, a.g.e., s.88.

[30] Akşam, 12 Haziran 1959.

arasında ilişkilerin geliştirilmesi ciddi olarak gündeme gelmiş, en kısa sürede iki ülke arasında karşılıklı diplomatik ilişkilerin başlatılması ve temsilciliklerin kurulması kararlaştırılmıştır.[31]

Cumhurbaşkanı Celal Bayar ve refakatindekiler İtalya'dan ayrılmadan önce Atlantik Paktı'nın güney Avrupa bölgesi silahlı kuvvetler genel karargâhını da ziyaret etmiştir. Devlet başkanı ve kendisine refakat eden heyet askeri törenle güney Avrupa NATO kumandanı Amiral R. Brown tarafından karşılanmıştır. Karargâhtaki görevli Türk subaylar ile de görüşmelerde bulunan Bayar 12 Haziran akşamı Savarona okul gemisi ile buradan ayrılmıştır. Öte yandan Roma'da bulunan Dışişleri Bakanı Zorlu da Cenevre'ye gitmiştir.[32] 15 Haziran günü İtalya'dan İstanbul'a ulaşan Celal Bayar, Galata rıhtımında Başbakan Adnan Menderesle burada bulunan diğer bakanlar tarafından karşılanmıştır. Bayar seyahati ile ilgili olarak İstanbul radyosuna bir beyanat vermiştir.[33] Cumhurbaşkanı Bayar 1 Kasım 1959 tarihinde Meclis'in yeni yasama yılı açış konuşmasında ise İtalya gezisi ve temaslarını şu cümlelerle açıklamıştır:

> *"Muhterem mebuslar; İtalyan Reisicumhuru Ekselâns Gronchi'nin 1957 Kasım'ında memleketimize vaki ziyaretini iade ve nazik davetlerine icabet maksadıyla Haziran aynıda dost ve müttefik İtalya'ya yaptığım ziyaret sırasında gördüğüm geniş alâka ve muhabbeti huzurunuzda ifade etmekten büyük bir zevk duymaktayım. İtalya'nın kıymetli Devlet adamlarıyla temaslarımız, her iki memleketin Akdeniz ve Ortadoğu bölgesinde olduğu kadar bütün dünyada güvenlik ve adalete dayanan bir barışın teminat altına alınmasını hedef tutan müşterek siyasetlerinin bir kere daha teyidine vesile olmuştur. Türk ve İtalyan milletleri arasında mevcut ananevi dostluk ve tesanüt, memleketlerimiz arasında geniş ve verimli bir işbirliğinin kurulmasına yol açmaktadır. Görüşmelerimiz, Türkiye ve İtalya arasında iktisadi, teknik ve kültürel sahalarda yeni yeni gelişme imkânlarının mevcut olduğunu ortaya koymuş ve bu konularda esaslı anlaşmalara varılmıştır. İtalya ile imzalanan malî ve iktisadi Anlaşmada beni bilhassa mütehassis eden nokta, Anlaşmanın karşılıklı bilateral bir münasebetin kıymetini tebarüz ettirmiş olmasıdır. Bu neticeyi, aradaki dostluğun ne derece derin ve köklü olduğunu ifade etmek itibariyle, ayrıca belirtmek isterim."*[34]

Türkiye ve İtalya arasında cumhurbaşkanı düzeyinde yapılan ikili ziyaretlerden sonra 1959 yılı sonunda yeni gelişmeler yaşanmıştır. Eylül ayında İstanbul'a bir seyahat yapan İtalya'nın yeni Başbakanı Antonio Segni ve Dışişleri Bakanı Giuseppe Pella 09.15'te Dolmabahçe Sarayında Cumhurbaşkanlığı Özel Defterini imzalamışlardır. Müteakiben Taksim'e çıkan İtalyan devlet adamları, Taksim Cumhuriyet Abidesine bir çelenk bırakmışlar ve ihtiram duruşunda bulunmuşlardır. Daha sonra saat 10.00'da Vilayet Konağına gelen misafirler Başbakan Adnan Menderes ile Dışişleri Bakanı Fatin Rüştü Zorlu'yu ziyaret etmişlerdir. Diğer taraftan Cumhurbaşkanı Celal Bayar misafirler şerefine Şale Köşkünde bir öğle yemeği vermiştir. Bu yemekte İtalyan Başbakanı Antonio Segni, Başbakan Adnan Menderes, İtalya Dışişleri Bakanı Giuseppe Pella, Dışişleri Bakanı Fatin Rüştü Zorlu, İtalyan Büyükelçisi Kant Magistrati, Başbakanlık Müsteşarı Ahmet Salih Korur, Dışişleri Bakanlığı Genel Sekreteri

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[31] "29 Şubat 1960 tarihli bir kararnameyle Türkiye'de Vatikan Elçiliği'nin açılmasına izin verilmiş, Mart ayında da İstanbul'daki Papalık Temsilcisi Francesco Lardone Vatikan Elçisi olarak atanmış ve güven mektubunu Cumhurbaşkanı Celal Bayar'a sunmuştu. Nisan ayında da Nureddin Vergin, Türkiye'nin ilk Vatikan Büyükelçisi olarak atanmış ve o da Papa'ya güven mektubunu sunarak vazifesine başlamıştı. Böylece Türkiye ile Vatikan arasında diplomatik ilişkilerin resmî olarak yürütülmesi başlatılmış oluyordu." Ramazan Erhan Güllü, "Vatikan'ın Devletleşmesi ve Türk Kamuoyu", Yakın Dönem Türkiye Araştırmaları, Sayı: 36, 2019, s.17-18.

[32] Akşam, 13 Haziran 1959.

[33] Akşam, 16 Haziran 1959.

[34] Yasama Yıllarında, s.286.

Büyükelçi Melih Esenbel, Roma Büyükelçisi Cevat Açıkalın, Dışişleri Bakanlığı Milletlerarası İktisadi İşbirliği Teşkilatı Genel Sekreteri Hasan Işık, İtalyan Başbakanına refakat eden heyet ve elçilik erkânı, Cumhurbaşkanlığı Özel Kalem Müdürü Faruk Berkol, Cumhurbaşkalığı Başyaveri Kurmay Albay Faik Taluy.[35]

SONUÇ

Osmanlı Devleti, yükseliş döneminde Akdeniz'de egemen olan Ceneviz ve Venedik gibi İtalyan yarımadasındaki Cumhuriyetlerle yakın ilişkiler içinde olmuştur. Osmanlı İmparatorluğu'nun Venediklilerle ilişkileri 1381 yılına dek uzanmaktadır. Türkiye ile İtalya arasındaki diplomatik ilişkiler ise 1856 yılında kurulmuş ve bu çerçevede Türkiye Cumhuriyeti Devleti'nin kuruluşu ile birlikte ikili ilişkiler yeniden ele alınmıştır.[36] Mussolini iktidarının saldırgan politikaları ve İkinci Dünya Savaşı ile duraklayan ilişkiler Demokrat Parti Döneminde yeniden canlanma göstermiştir.

Celâl Bayar, İkinci Dünya Savaşı sonrasındaki şartlarda oluşturulan dış politikayı daha da ileriye götürerek Kore'ye asker gönderilmesi, NATO'ya girilmesi, ABD'nin Sovyetler Birliği'ni güneyden kuşatmak amacına yönelik politikasının sonucu ortaya çıkan Bağdat Paktı'nın kurulmasında Türkiye'nin aktif rol oynaması; Türkiye, Yunanistan ve Yugoslavya arasında "Üçlü Pakt"ın imzalanması gibi konularda etkili olmuştur. Takip ettiği Batı yanlısı dış politika çerçevesinde ABD, Libya, Batı Almanya, Afganistan, Ürdün, İtalya, Lübnan. İran, Pakistan, Yunanistan ve Yugoslavya'yı değişik tarihlerde resmen ziyaret eden Celâl Bayar'ın son bir Batı ülkesine olan ziyareti İtalya'dır. İlk defa bir Türk Cumhurbaşkanı tarafından yapılan bu dostane ziyaret Papa ile yapılan görüşme ile başka bir önem taşımıştır.[37]

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Gazeteler

Akşam

Cumhuriyet

Milliyet

Ulus

Vatan

Yeni Sabah

Zafer

ЖЕНЩИНА В СОЦИАЛЬНОМ ПРОСТРАНСТВЕ ТРАДИЦИОННОГО КАВКАЗСКОГО ОБЩЕСТВА

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РЕЗЮМЕ

Гендерная история, одна из молодых дисциплин исторической науки, в центр своих исследований ставит изучение «женского вопроса», а также социальную и культурную реальность прошлых обществ, в данном случае на Кавказе. Отсутствие имущественных прав у женщин на Кавказе в XIX в. основывалось на принципе, что юридически они не существуют отдельно от своих мужей, отцов. По правовым нормам адата женщина являлась недееспособной. Опекунство над женщиной возникло в связи с особенностями социального устройства и общественной жизни народов Кавказа в указанный период. Женщины не участвовали в дележе наследственного имущества, даже в отсутствии прямых наследников-мужчин. Личные права женщины также были ограничены. Так как муж, согласно адату платил выкуп родителям невесты, то жена должна была полностью повиноваться мужу, как своему господину. Современные исследователи считают взимание калыма за невесту, гарантом ее экономической защиты, доказательством заботы об ее будущем в новой семье, семье ее мужа. Калым был призван в первую очередь отразить социальный статус девушки. В подавляющем большинстве культур женщины с давних пор были отстранены от социально-политической, правовой и экономической деятельности. Но женщины оказывали влияние на действия и решения мужчин, занимающих доминирующие позиции в патриархальном обществе. Женщины могли усилить позиции семьи, устраивая политически или экономически выгодные браки, способны были психологически воздействовать на принятие решений мужской половиной семьи (муж, сыновья, братья), могли влиять на происходящие события и судьбы отдельных людей, оказывая им покровительство. В силу этого женщины на Кавказе пользовались уважением, а престарелые даже почитанием. Семейный быт, повседневная жизнь кавказской женщины, круг ее обязанностей напрямую зависел от того положения, которое она занимала в обществе, и от статуса, который у нее был внутри семьи. Женщина, принадлежащая к дворянскому сословию, не занималась тяжелым физическим трудом, если же это была женщина из крестьянской семьи, то она вынуждена была заниматься практически всеми видами хозяйственных работ.

Ключевые слова: гендерная история, Кавказ, адаты.

WOMAN IN THE SOCIAL FIELD OF TRADITIONAL CAUCASIAN SOCIETY

SUMMARY

Gender history, one of the young disciplines of historical science, focuses on the study of the “women's issue”, as well as the social and cultural reality of past societies, in this case in the Caucasus. Default of property rights among women in the Caucasus in the XIXth century based on the principle that legally they do not exist separately from their husbands and fathers. According to the legal norms of adat, a woman was incapacitated. Guardianship over a woman arose in connection with the peculiarities of the social structure and social life of the peoples of

the Caucasus during this period. According to the legal norms of adat, a woman was incapacitated. Guardianship over a woman arose in connection with the peculiarities of the social life of the peoples of the Caucasus during this period. Women did not participate in the division of inherited property, even in the absence of direct male heirs. The personal rights of women were also limited. Since the husband, according to adat, paid the ransom to the bride's parents, the wife had to completely obey her husband as her master. Contemporary researchers consider the collection of kalym for the bride, the guarantor of her economic protection, proof of concern for her future in the new family, the family of her husband. Kalym was intended primarily to reflect the social status of the girl. In the vast majority of cultures, women have long been excluded from socio-political, legal and economic activities. But women influenced the actions and decisions of men who occupy dominant positions in a patriarchal society. Women could strengthen position of the family by arranging politically or economically profitable marriages, were able to psychologically influence the decision-making of the male half of the family (husband, sons, brothers), could influence the events and the fate of individuals, providing them with patronage. Because of this, women in the Caucasus were respected, and the elderly were even honored. The daily family life of a Caucasian woman, her range of responsibilities directly depended on the position that she occupied in society and on the status that she had within the family. A woman belonging to the nobility did not engage in hard physical labor, but if it was a woman from a peasant family, then she was forced to engage in almost all types of household work.

Key words: gender history, Caucasus, traditional.

Введение. Для определения роли женщины в социальном пространстве традиционного кавказского общества необходимо исследовать прежде всего субъективные стороны ее бытования. Однако для ее решения необходимо осветить мир объективный, то есть реалии и условия, в которых она проживала. Необходимо выяснить, кем была женщина для окружающего ее мира: полноценной личностью с мнением заслуживающем внимания, или приложением к мужу и детям. В каждой кавказской семье с большой радостью встречали рождение сына, как продолжателя рода, будущую опору родителям в старости, как помощника в хозяйстве. Хорошими пожеланиями у адыгов служила пословица «Без трех сыновей нет семьи». Отношение к рождению девочек нашло отражение в кумыкской пословице: «При рождении дочери углы комнаты суживаются, при рождении сына потолочные балки поднимаются на одну пядь». А у ингушей девочкам давали имена «Цаэш» - «Не нужна», «Сацита» - «Остановись». В дагестанских семьях родившуюся третью дочь называли «Кистаман» - «Хватит девочек», или «Улангерек» - «нужен мальчик». В XIX в. был известен обычай умерщвлять новорожденных девочек в случае рождения в семье подряд нескольких дочерей у осетин и аварцев. Считалось, что это вознаграждается последующим рождением сына.

Основная часть. Гендерный вопрос в традиционном кавказском обществе особенно ярко проявлялся в правовом и имущественном положении женщины. К примеру, нужно отметить, что имущественное положение черкесской женщины в XIX в. регламентировалось адатами и шариатом. Юридически она зависела от своего отца, а впоследствии мужа. Замужняя женщина не могла возбудить дело против кого-либо, против нее не могли возбудить дело, она не имела права подписывать контракты, составлять завещания, зарабатывать себе на жизнь, осуществлять контроль над своей собственностью. По общему правилу женщины не могли быть свидетельницами. В тех случаях, когда их привлекали в качестве таковых, их показания должны были подтверждаться братьями или мужьями [5, с.144]. По правовым нормам адата черкешенка являлась недееспособной и приравнивалась в этом отношении к

несовершеннолетнему ребенку. Это было связано с особенностями социального устройства и общественной жизни горцев, находящихся в тот период в состоянии непрекращающихся войн, где женщина, как и ребенок – более слабые существа физически нуждались в защите и опеке, что нашло сове отражение в адате. В дележе наследственного имущества участвовали только мужчины. Это была общекавказская обычно-правовая норма. Предполагалось, что невестки должны довольствоваться своим приданым мать же и дочери переходили на обеспечение отца, а чаще одного из братьев, которым давалось какая-то часть из общесемейного имущества. На всем Северном Кавказе по адатам по пресечении мужского колена в одной из линий какой-либо фамилии недвижимое имуществ, не переходя в женское колено другой, возвращалось в мужское поколение другой линии [3, с.30]. Но во второй половине XIX в. этого правила придерживались только в тех случаях, где было не желательно дробление земли. Личные права женщин были также ограничены. Ф Леонтович отмечает, что жена была подчинена мужу, как своему законному господину, Она должна работать на него, сносить безропотно наказания и во всем своем поведении оказывать ему раболепное уважение холопа вольному. Такое положение женщины Ф.Леонтович объясняет обычаем выплаты калыма за жену, в результате чего она должна повиноваться и быть верной мужу до смерти [6, с.2]. Однако выплату калыма за невесту и покупку раба не следует отождествлять. По адату калым – это выкуп родителям невесты, по шариату – как дар самой жене. Таким образом, выплата калыма не давала права мужу относиться к жене как к рабе. Кроме того, муж стоял на защите чести и достоинства своей жены. Но, одновременно по обычному праву адыгов, кумыков и многих других народов Северного Кавказа, за нарушение супружеской верности мужу не ставилось в вину убить или покалечить свою жену, хотя возможность мести со стороны родственников жены делала такие поступки редкими [6, с.240]. Современные исследователи полагают, что женщины Кавказа и в особой степени черкешенки не находились в столь приниженном положении. По их мнению, взимание калыма и его размеры являются доказательством заботы о женщине и о ее будущем в семье ее мужа. Чем выше был социальный статус девушки, тем выше был и размер калыма. До II половины XIX в. женщины у черкесов свободно участвовали во всех празднествах вместе с мужчинами. Лишь с распространением ислама в Кабарде запрещалось всем начиная 10-тилетнего возраста женщинам появляться на улицах, а также на танцах с непокрытыми головами, т.е. без платков и брать во время танца мужчин за ладонь рук [5, с.146].

Положение женщины в семье и в обществе, ее социальной, экономической и правовой статус тесно связаны с характером самого общества, культурой, общим развитием, и в какой-то степени религией. В традиционном кавказском обществе жизненный путь женщины делился на определенные этапы: начиная с детства и отрочества и кончая старостью. Наиболее важные события в жизни женщины: замужество, рождение детей и их воспитание, ее статус в семье и обществе. Немаловажную роль играли взаимоотношения с мужем и с другими членами семьи, ее права и обязанности, имущественные и наследственные права, деятельность в экономической и общественной жизни семьи. Общественное правовое положение женщины проявлялось во взаимодействии с традиционными общественными институтами, такими, как взаимопомощь, гостеприимство, кровная месть, нормы общественного поведения женщины, ее досуг и развлечения, участие женщины в общественных празднествах, обрядах и других развлекательных действиях. В горном Дагестане (аваро-андо-цезские народы, лакцы и даргинцы) женщины обладали большой самостоятельностью и свободой, так как мужская половина населения большую часть времени проводила в военных походах и в отходничестве [9, с.6]. По этой причине женщинам приходилось принимать самостоятельно ответственные решения и выполнять большую часть работы.

Вступая в брак, горянка становилась владелицей собственного имущества. По кебину, в качестве приданого, а также наследственной доли, которая ей причиталась по шариату, горянка получала, как правило, землю, что делало ее независимой в имущественном отношении. Несмотря на то, что в горном Дагестане превалировала малая семья, доминирующую роль в ней играл мужчина. Но в семейном быту женщина была самостоятельна и доминировала во многих сферах домашнего и сельского хозяйства, а также кустарном ремесленном производстве. От труда горянки нередко зависело благосостояние семьи. Внутрисемейные отношения строились на началах видимого партнерства. У мужа и жены были предписанные шариатом права и обязанности. Положение женщины в семье во многом зависело от отношения к ней мужа и ее репродуктивной способности. Рождение ребенка, особенно мальчика, значительно повышало статус женщины не только, но и в обществе. Высокий социальный статус в семье и обществе имели пожилые женщины. Обычно женщина не имела права присутствовать в работе сельского схода и не обладала правом голоса, за исключением некоторых случаев при решении спорных вопросов. В ряде обществ горного Дагестана женщина могла лично подать жалобу и выступить в качестве свидетельницы в суде. Лишь только присягу за женщину принимал, как правило, ее муж или другой близкий родственник – мужчина. Общество и принятые в нем законы стояли на защите чести и достоинства женщины. В ряде случаев общество за преступления или антиобщественные действия против женщин наказывало более строго, чем за аналогичные действия против мужчин. Элементы свободного и независимого поведения женщины демонстрировала свадебная обрядность. Это и относительная свобода брачного выбора, встречающаяся в горах брачная инициатива девушек, некоторая свобода в общении жениха и невесты. В свадебной обрядности прослеживалась половая конфронтация (единоборство жениха и невесты в первую брачную ночь, единоборство наставницы невесты и шафера жениха). Но поведение горянки очень редко выходило за рамки допустимых этических норм. В Южном Дагестане (лезгины и народности лезгинской группы) женщине приходилось выполнять те же хозяйственные обязанности, что и в горном Дагестане. Она выполняла все домашние работы и значительное число полевых работ. На семейный быт в Южном Дагестане оказывали влияние близость и тесные контакты с Азербайджаном, а также наличие в этом регионе больших неразделенных семей, что было вызвано многоотраслевым хозяйством горского населения. Внутренний уклад таких семей имел иерархическую структуру с патриархальными порядками. Статус женщины в больших неразделенных семьях зависел от возраста и занимаемого положения. Самым низким он был у младших невесток и самым высоким у старшей женщины, возглавлявшей женскую половину семьи. Как в большой, так и малой семье главенствовал мужчина. Но и женщины в семье пользовалась определенными правами и оказывали влияние на жизнь семьи. В Южном Дагестане женщина пользовалась относительной независимостью и свободой, обладала имущественными правами. Так, землю девушке в качестве приданого или в качестве кебинного обеспечения почти не давали. Под влиянием семейной обрядности азербайджанцев в Южном Дагестане широко было распространено взимание калыма – брачного выкупа за невесту. Но затворничество женщин было не характерно для этого региона. В Южном Дагестане женщины также имели возможность участвовать в женских посиделках и празднествах, но в общении с противоположным полом их обладали меньшей свободой. В обрядовой культуре прослеживались элементы раздельности на мужскую и женскую части. Посещения невесты до свадьбы не практиковались - ни открытые, ни тайные [9, с.8].

В равнинной части Дагестана сформировался своеобразный синтез тюркского мира и кавказского субстрата. Предгорье заселено кумыками. Обязанности женщины ограничивалось домашними работами, воспитанием детей, заготовкой продуктов и

занятием некоторыми видами кустарного ремесла (ткачество, изготовление бурок). Хотя основной формой семьи на плоскости была малая простая семья, здесь были распространены, особенно у кумыков, большие неразделенные семьи, в которых высоким был статус старшей женщины, слово которой было решающим во многих вопросах, касавшихся жизни и быта семьи. Она служила неким связующим звеном между всеми членами семьи, сглаживала внутрисемейные конфликты и противоречия между членами семьи. Власть старшей женщины распространялась и на старшего сына. Он должен был оказывать ей особое внимание и почтение. Большую роль играли женщины в процессе кровомщения. Чаще всего именно они были яростными противницами примирения и замены кровной мести выкупом. Именно они убеждали мужчин в необходимости кровомщения. Не отомстить за кровь считалось позором, и женщины постоянно напоминали об этом мужчине. В то же время именно женщины первыми отправлялись к дому убитого для оплакивания. У тюркоязычных народов Дагестана женщина никогда не становилась объектом кровомщения, и сама никогда не мстила [7, с.63]. Во многих аспектах внутрисемейные отношения строились на основе норм и обычаев, несоблюдение которых не имело юридической силы, в то же время несоблюдение адата и шариата жестко осуждалось общественным мнением. Адаты защищали личную собственность жены, состоящую из приданого и подарков, полученных при замужестве (мебель, скот, одежда, посуда и украшения и др.). Без ее согласия муж не имеет права распоряжаться им. В противном случае, если муж посягал на личную собственность жены, то она имела право обратиться за помощью к родителям, а они, в свою очередь, обращались в суд. Адаты кумыков определяли поведение в семье, нормы взаимоотношений между мужем и женой, отцом и детьми, братом и сестрой и т.д. Жена и дети старались всячески демонстрировать уважение к мужу, отцу [2, с.18]. В некоторых аспектах адаты были более строгими, чем требования шариата. Так, Алибеков отмечает, что согласно адатам, порядочные жены не ели при мужьях и даже воды не пили на их глазах. Жены не спрашивали, что делал муж. Жены делали все, что скажут мужья, не разбираясь, правильно ли это или нет. С отцами своих мужей они не говорили до самой смерти [1, с.30]. Глава семейства, как по адату, так и по шариату, имел право наказывать жену и детей за различные проступки и применить физическую силу. М.М.Ковалевский по этому поводу пишет: «Муж всегда вправе наказать проступок жены плетью». Далее правовед отмечает, что наказывать муж жену должен без свидетелей, так как поднять руку на женщину считалось позором для мужчины и осуждалось обществом [4, с.204]. Адаты не предусматривали наказания для отца и матери за убийство сына или дочери. В то же время строго каралось убийство кого-либо из родителей. Особенно строго каралось убийство, не имевшее под собой обоснованной причины. К обоснованным причинам относились прелюбодеяние, отступление от веры, поведение, позорящее семью и род, и др. По кумыкским адатам муж не имел права лишить жизни свою жену. При совершении убийства своей жены муж автоматически становился кровным врагом отцу или братьям покойной жены и вступали в силу адаты кровной вражды. Платеж за кровь убитой у горских народов поступал исключительно в пользу ее брата, что говорит о сохранившемся пережитке матриархата. При убийстве племянника – сына сестры – он был вправе рассчитывать на получение выкупа [10, с.202].

Мужчина имел право лишить жизни жену в случае подозрения последней в прелюбодеянии. Смертная казнь ожидала жену, убившую своего мужа [2, с.19]. Женщины на плоскости не знала затворничества. На характер внутрисемейных отношений и, соответственно, на положение женщины оказывал влияние сложные сословные отношения, имевшие место на плоскости. Самым тяжелым было положение рабынь (караваши) и женщин из зависимых сословий (чагары, раяты). Привилегированное положение занимали женщины из феодального сословия. Они не

занимались домашней работой, только участвовали управлением домом. Но были ограничены в той свободе, которой обладали женщины из простых сословий, лишены права наследовать недвижимое имущество, и прежде всего землю, по шариату. Недвижимое имущество наследовалось лишь мужским поколением семьи. Положение ногайских женщин (караногайки) несколько отличалось от положения женщин остальных регионов. Это было обусловлено главным образом особенностями кочевого образа жизни и хозяйствования. В семейном быту ногайцев, также как и у кумыков, имели место обычаи избегания, особенно для молодых женщин, которые не могли разговаривать с отцами своих мужей в течение нескольких лет. Женщина в Дагестане по занимаемому ею положению совершенно отличалась от женщины-мусульманки Южного Кавказа. Женщина нигде в Дагестане, за небольшим исключением, не знала затворничества, она играла весьма значительную роль в семье и занимала свое определенное место в общественном быте. Первой попыткой создания новой гендерной идентичности в условиях полиэтничного Северокавказского региона была большевистская политика, проводимая в рамках новых социалистических ценностей. На I Краевом Съезде горянок, который проходил в июле 1925 года в Пятигорске говорилось о желании горянок «раскрепоститься», сбросить с себя вековой гнет невежества», стать равноправными с мужчинами членами советского общества. Однако политика большевиков столкнулась с устойчивостью у горских народов традиционного менталитета, межэтническими и конфессиональными противоречиями. Под влиянием внешних факторов в жизни северокавказского социума происходит ломка традиционного общественного уклада, отмечаются сложные социальные и гендерные изменения. У современных женщин Северного Кавказа кроме ранее существовавших обязанностей хранительницы очага, продолжательницы рода, добавились новые, несвойственные для кавказской женщины. Это - глава семьи, распорядитель бюджета, добытчица, кормилица, руководитель, а среди личных качеств – лидерство, мужественность, ответственность. К началу XXI в. в гендерном вопросе приоритет в правах и ответственности у северокавказских женщин чаще всего отдается мужчине. Но наблюдающаяся общественная, политическая и управленческая активность женщин приводит к изменению ранее непоколебимого статуса «кормильца семьи».

Заключение. В результате экономических и социально-политических трансформаций, произошедших на Кавказе после распада СССР, дагестанское общество оказалось под влиянием сразу двух культур: традиционной исламской с ее патриархальными устоями и цивилизованной модернисткой, ориентированной на гендерное равноправие. Но для традиционных мусульманских обществ, к которым относится и дагестанское, до сих пор в селах социальное пространство женщин достаточно закрыто и существует параллельно мужскому. Чем сильнее воздействие религиозного фактора на сельское сообщество, тем интенсивнее гендерное разграничение пространства. Восприятие женщины как матери, хранительницы очага относится к числу устойчивых гендерных стереотипов общественного сознания [8, с.34]. Для дагестанской семьи характерен патриархальный уклад, который интенсивно поддерживается не только членами семьи и родственниками, но и общиной в целом (соседями и односельчанами).

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BAŞBAKAN ADNAN MENDERES'İN İNGİLTERE KRALİÇESİ II. ELİZABETH'İN TAÇ GİYME TÖRENİ'NE KATILMAK ÜZERE LONDRA'YA GİTMESİ VE BURADA GERÇEKLEŞEN DİPLOMATİK TEMASLAR

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ÖZET

Türkiye ile İngiltere arasında Lozan Konferansı'ndan sonra çatışmalı konular devam etmiştir. Bu durum Musul meselesinin Milletler Cemiyeti tarafından İngiltere lehine çözülmesine kadar devam etmiştir. Böylece özellikle 1930'lu yıllardan itibaren iki ülke arasında ilişkiler olumlu ilerlemiştir. Türkiye, İkinci Dünya Savaşı yıllarında İngiltere'nin isteğine rağmen Müttefikler yanında savaşa uzun süre katılmamıştır. Bu duruma rağmen iki ülke savaş sonrasında Batı Bloğu çerçevesinde yer almıştır. Türkiye'nin NATO üyeliğinin kabulünde İngiltere belirleyici devletlerden olmuştur. Demokrat Parti'nin iktidara geldiği o yıllarda Kıbrıs konusu iki ülkenin en çok müzakere ettiği sorunlardan biri olmuştur.

Başbakan Adnan Menderes ilk defa 11 Ekim 1952 tarihinde İngiltere'ye bir seyahat düzenlemiştir. Başbakan Menderes, Kıbrıs konusunun ele alındığı bu ziyaretten bir yıl geçmeden Londra'ya yeniden gitmiştir. Bu ziyaretin amacı Kraliçe II. Elizabeth'in taç giyme törenine katılmaktır. Kral VI. George'nin 6 Şubat 1952 tarihinde vefat etmesinden sonra Elizabeth tahta çıkmayı kabul etmiş ve bu amaçla büyük bir tören düzenlenmiştir. 30 Mayıs-7 Haziran 1953 tarihleri arasında İngiltere'de bulunan Başbakan Adnan Menderes ve Türk heyeti Londra'da bulunan bazı ülke temsilcileri ile de görüşmeler yapmıştır. Sovyet Sosyalist Cumhuriyetler Birliğinde Stalin'in ölümü ile başlayan ılımlı dış siyaset üzerinde durulmuştur.

Bu çalışmada ilk olarak Demokrat Parti Döneminde Türkiye'nin İngiltere ile olan ilişkileri ele alınacaktır. Daha sonra Başbakan Adnan Menderes'in 1953 yılında yaptığı Londra ziyaretinin önemi üzerinde durulacaktır. Çalışmada başta dönemin basını olmak üzere Türk arşivleri, TBMM Zabıt Cerideleri, yerli ve yabancı diğer kaynaklardan yararlanılacaktır.

Anahtar Kelimeler: Demokrat Parti, Türkiye, İngiltere, Kraliçe Elizabeth, Adnan Menderes.

THE JOURNEY OF ADNAN MENDERES TO LONDON TO ATTEND THE CORONATION OF QUEEN ELIZABETH II AND THE DIPLOMATIC CONTACTS THAT TOOK PLACE THERE

ABSTRACT

Conflicting issues continued after the Lausanne Conference between Turkey and England. This situation continued until the Mosul issue was resolved by the League of Nations in favor of England. Thus, especially since the 1930s, relations between the two countries have progressed positively. Turkey did not participate in the war for a long time on the side of the Allies despite Britain's request during the Second World War. Despite this situation, the two countries tookplace within the framework of the Westem Bloc after the war. Britain has been one of the decisive states in the acceptance of Turkey's NATO membership. In those years when the Democratic Party came to power, the Cyprus issue was one of the most discussed

issues between the two countries.

Prime Minister Adnan Menderes organized a trip to England for the first time on 11 October 1952. Prime Minister Menderes retrned to London less than a year after this visit, where the Cyprus issue was discussed. The purpose of this visit is Queen II. Attending Elizabeth's coronation. King VI. After George's death on February 6, 1952, Elizabeth accepted the throne and a great ceremony was held for this purpose. Prime Minister Adnan Menderes and the Turkish delegation, who were in England between 30 May and 7 June 1953, also held meetings with representatives of some countries in London. The moderate foreign policy that started with the death of Stalin in the Union of Soviet Socialist Republics was emphasized.

In this study, firstly, Turkey's relations with England during the Democratic Party Period will be discussed. Then, the importance of Prime Minister Adnan Menderes' visit to London in 1953 will be emphasized. In the study, especially the press of the period, Turkish archives, the Minutes of the Turkish Grand National Assembly and other domestic and foreign sources will be used.

Keywords: Democrat Party, Turkey, England, Queen Elizabeth, Adnan Menderes.

GİRİŞ

Başbakan Adnan Menderes, İngiltere Kraliçesi II. Elizabeth'in taç giyme töreninde hazır bulunmak üzere 30 Mayıs 1953 tarihinde saat 09.40'da Yeşilköy'den havalanan uçakla Londra'ya hareket etmiştir. Menderes'e Dışişleri Vekili Fuat Köprülü, Başbakanlık Müsteşarı Ahmet Salih Korur, Dışişleri Bakanlığı İkinci Daire Genel Müdürü Orhan Eralp, Özel Kalem Müdürü Sadi Eldem, Başbakanlık Yaveri Yüzbaşı Muzaffer Ersü eşlik etmiştir.[1] Bu heyete daha sonra yeni bir Bakanlar Kurulu kararı ile Milli Emniyet Hizmet Başkanı Naci Parkelin de dâhil olmuştur.[2] Başbakanın başkanlığındaki bu Türk heyeti, ilk durak olarak Atina'ya vardığı zaman havaalanında Yunan Dışişleri Bakanı Stephanopulos tarafından karşılanmıştır. Menderes ve Yunan Dışişleri Bakanı Stephanopulos, bir saatlik duraklamadan faydalanarak bir görüşme yapmıştır. Aynı gün saat 12.30'da Atina'dan havalanan, Türkiye heyeti, gece yarısı Londra'ya ulaşmıştır.[3]

Başbakan Adnan Menderes ve beraberindekiler, hava trafiğinde yaşanan yoğunluk ve Türk heyetini getiren uçağın fırtına dolayısıyla Londra'ya gecikmeli gelmesi yüzünden 31 Mayıs akşamı "National Galery"de verilen kabul töreninde hazır bulunamamıştır. Ertesi gün öğleden sonra Salisbury Markisi tarafından Herfordshire eyaletinde bulunan Hatfield malikânesinde, törene gelen heyetler şerefine bir garden parti verilmiştir. Kraliçe Elizabeth'in de hazır bulunduğu bu partiye Türk heyetinden, Dışişleri Bakanı Fuat Köprülü ile Başbakanlık

[1] İngiltere Kraliçesi II. Elizabeth'in taç giyme merasiminde bulunmak üzere Londra'ya gidecek olan heyette yer alan Başbakan Adnan Menderes'e 200 lira, Dışişleri Vekili Profesör Fuat Köprülü'ye 150 lira, Başbakanlık Müsteşarı Ahmet Salih Korur'a 100 lira, Orhan Eralp'e 90 lira, Sadi Eldem ve Yüzbaşı Muzaffer Ersü'ye 75'er lira, heyete dahil olan Başbakanlık şoförü Hayri Özgün, Emniyet memuru Nevzat Emrealp ve Turgut Atakol' a 50'şer lira gündelik verilmesi, heyetin ikamet, otomobil, ulaşım, ziyafet ve diğer masraflarının ödenmesi Bakanlar Kurulu Kararı ile kabul edilmiştir. Bkz. Türkiye Cumhuriyeti Cumhurbaşkanlığı Devlet Arşivleri Başkanlığı Cumhuriyet Arşivi (BCA), 030.18.01/132.36.20.

[2] İngiltere Kraliçesi II. Elizabeth'in taç giyme merasiminde bulunacak heyete, Milli Emniyet Hizmet Başkanı Naci Parkelin de refakat etmesi ve kendisine 90 lira gündelik verilmesi Bakanlar Kurulu tarafından ek bir karar ile kabul edilmiştir. Bkz. Bkz. Türkiye Cumhuriyeti Cumhurbaşkanlığı Devlet Arşivleri Başkanlığı Cumhuriyet Arşivi (BCA), 030.18.01-02/132.42.7.

[3] Cumhuriyet, 30 Mayıs 1953; Vatan, 31 Mayıs 1953.

Müsteşarı Ahmet Salih Korur katılmıştır. Aynı akşam taç giyme törenine katılmak üzere Londra'ya gelen yabancı heyetler şerefine gece Rialto Sineması'nda düzenlenen galada Dışişleri Bakanı Fuat Köprülü ile Özel Kalem Müdürü Sadi Eldem hazır bulunmuşlardır. Galada taç giyme merasiminin tarihçisine ait renkli bir film ve müteakiben Sir Laurence Olivier'in "Dilenciler Operası" isimli renkli bir film gösterilmiştir.[4]

TAÇ GİYME TÖRENİ ÖNCESİ LONDRA'DA YAŞANAN GELİŞMELER

İngiltere Kraliçesi II. Elizabeth'in taç giyme töreni bütün dünyada yakından takip edilen yüzyılın olaylarından biri olmuştur. Bu yüzden tören, öncesi, sırası ve sonrası ile basında geniş yer bulmuştur. Türk gazetecilerinin gün gün aktardığı tören süreci İngiliz Kraliyet geleneklerini de tanıtmıştır. Basında ilk olarak tören öncesi hazırlıklardan genişçe bahsedilmiştir. Buna göre törenden 48 saat önce Londra, bir mahşeri andırmaktadır. Her taraftan resmi davetliler, temsilciler, turistler bu şehre akın etmektedirler. Buckingham Sarayı etrafında toplanan meraklı kütlelerin daha tören başlamadan 100 bini bulduğu tahmin edilmiştir. Bütün sokaklar kalabalıktır ve özellikle taç giyme töreni esnasında Kraliçe'nin takip edeceği yol tıklım tıklım doludur. Londra'nın iki büyük havaalanı görülmedik şekilde kalabalıklarla doludur. Havaalanı üzerinde uçak eksik değildir ve bunlar sıra beklemektedirler.[5]

Kraliçe Elizabeth taç giyme töreni öncesinde İngiltere'nin iki tanınmış sporcusuna, Cokey Gordon Richards ile eski kriket şampiyonu Jack Hobbs'a asalet unvanı vermiş ve Sir yapmıştır. Bu İngiltere tarihinde görülen ilk olaydır. Şimdiye kadar hiçbir İngiliz profesyonel sporcusu bu payeye erişememiştir. Kraliçe ayrıca savaş zamanında İaşe Bakanı olan Lord Wolton'a Vıkontluk ve diğer üç kişiye de Baronluk payesi vermiştir. Ayrıca beş kişi de Baronet olmaktadır. Bundan başka 1.450 kişiye de çeşitli şeref payeleri verilmiştir. Bunların arasında pilotlardan, atom uzmanlarına, maden işçilerinden son su baskınları kahramanlarına kadar her sınıftan kadın ve erkek bulunmaktadır.[6]

Kraliçe Elizabeth ayrıca kocası Edinburgh Dükünü Silahlı Bahriye eri Başkomutanlığına getirmiştir. Kraliçe ailesinin diğer fertlerine de çeşitli unvanlar tevcih etmiştir. Kendisini birçok İngiliz alaylarının Albayı tayin ettikten sonra kardeşi Prenses Margaret'i de şimdiye kadar sadece Prenses Marie Louise'e verilmiş olan Viktoria nişanının büyük haçı ile taltif etmiştir.[7] Taç giyme töreninin parlak bir şekilde tertip edilmesinde rolü olanlar da bu listede unutulmamışlardır. Bunların başında törenin bütün safhalarından sorumlu olan Norfolk Dükü gelmektedir. Kendisi, VII. Edward tarafından tesis edilmiş bulunan Victoria zinciri ile taltif edilmiştir. Törende Westminster Katedrali'nde Kraliçe'ye taç giydirecek olan Canterbury piskoposu Dr. Fisher'e de Prenses Margaret gibi Victoria nişanlının büyük haçı verilmiştir.[8]

1 Haziran günü Scootland Yard'ın nezaretinde gayet kıymetli taşlarla süslenmiş olan Kraliyet tacı ile diğer mücevherler Londra Kulesi'nden alınmış ve Westminster Kilisesine getirilmiştir. Diğer taraftan kısa süre önce çalınan fakat Scotland Yard tarafından bulunan taht taşı da Westminster Kilisesi'nin mahzenlerinden çıkarılmış tahtın altındaki yerine konulmuştur. Westminster Kilisesi'nde bütün hazırlıklar tamamlanmış durumdadır. Türkiye Başbakanı ve Dışişleri Bakanı'nın da dâhil oldukları heyetler 2 Haziran sabahı özel vasıtalarla buraya gelerek kendilerine ayrılmış yerlere oturacaklar ve töreni buradan takip edeceklerdir.[9]

[4] Vatan, 1 Haziran 1953.
[5] Vatan, 1 Haziran 1953.
[6] Vatan, 1 Haziran 1953.
[7] Vatan, 1 Haziran 1953.
[8] Vatan, 1 Haziran 1953.
[9] Vatan, 2 Haziran 1953.

Taç giyme töreni öncesi yapılan tahminlere göre Londra sokaklarına özellikle törenin cereyan ettiği taraflara 2 milyondan fazla insan gelmiş olacaktır. Yalnız İngiltere'nin çeşitli vilayetlerinden taç giyme töreni için özel surette hazırlanmış 6 binden fazla trenin gece yarısına kadar Londra garlarına girmesi beklenmiştir. Diğer taraftan 2 Haziran akşamı Thames Nehri'nin güney sahillerinde yeryüzünde eşine ender rastlanan bir havai fişek yağmuruna şahit olunacağı ifade edilmiştir.[10]

TAÇ GİYEME TÖRENİ ÖNCESİ TÜRK HEYETİNE DAİR İNTİBALAR VE SON HAZIRLIKLAR

Taç giyme töreninde bulunmak üzere Londra'ya gitmiş bulunan Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü 1 Haziran günü öğleden sonra saat 15.30 da 10 Downing Street'e giderek İngiltere Başbakanı Sir Winston Churchill ile görüşmüştür. Saat 16.15'e kadar 45 dakika devam eden bu görüşmede İngiltere Devlet Bakanı Selwyn Llyoyd da hazır bulunmuştur.[11] Diğer taraftan Kraliçe Elizabeth, İngiliz Milletler topluluğu temsilcileri şerefine 1 Haziran öğleden önce bir kabul resmi tertip etmiş bunu müteakip bir öğle yemeği vermiştir. Kabul resminde Kraliçe yanında Edinburgh Dükü olduğu halde delegelerle ayrı ayrı görüşmüştür. 80'den fazla davetli arasında Kraliçe'ye takdim edilen tek kadın Begüm Liyakat Alihan olmuştur. Başbakan W. Churchill de kabulde hazır bulunmuştur.[12]

Londra Radyosu'nun Türkçe servisi taç giyme töreni hakkında dinleyicilerine tam tafsilat vermek için özel tedbirler almıştır. Taç giyme alayının takip edeceği yol üzerindeki en önemli noktalarında bulunacak olan Sabih Aykoler ve Mübeccel Argun, Alayın Westminster Kilisesine giriş ve ayrılışını etraflı olarak anlatacaklardır. Mehmet Refiğ, Buckingham Sarayı önünde gerçekleşecek sahneyi tasvir edecektir. İntibalar 18.30'daki haberlerde verilecektir. Haberlerin verileceği saatler ve dalga uzunlukları da tespit edilerek Türk basınında ilan edilmiştir.[13]

İngiltere Kraliçesi II. Elizabeth'in taç giyme töreni, Türkiye'deki İngiliz Milletler topluluğu mensupları tarafından da 2 Haziran günü takip edilmiştir. 2 Haziran günü öğleden sonra saat 17.30'da Hindistan, İngiltere ve Kanada elçileri İngiliz Elçiliği bahçesinde bir garden parti vermişlerdir. Bu partiye Türkiye Büyük Millet Meclisi Başkanı, bakanlar, diplomatik heyetlerin başkanları ve basın mensupları ile İngiliz Milletler camiası mensupları davet olmuşlardır. Aynı zamanda İstanbul'daki İngiliz Başkonsolosluğu ile İskenderun ve Trabzon konsoloslukları tarafından da toplantılar düzenlenmiştir. Diğer taraftan İngiltere Kraliçesi II. Elizabeth, İngiltere'nin Ankara Büyükelçisi Sir Alexander Knox Helm'e İngiltere İmparatorluğu'nun en yüksek şövalye nişanlarından birini tevcih etmiştir.[14]

TAÇ GİYME TÖREN GÜNÜ

Taç giyme töreni sebebiyle 48 saat önce başlayan Londra şehrinin istilası 2 Haziran sabahının erken saatlerinde tamamlanmış, yüzbinlerce Londralı Kraliçe'nin altın arabasının geçeceği yol boylarında yemek pişirme ocaklarına varıncaya kadar komple takımlarıyla kamplar kurmuştu. Şafak sökerken Buckingham Sarayı'ndan Trafalger Meydanı'na giden geniş cadde üzeri cesetlerle kaplanmış bir harp sahasına benzemekteydi. Geceyi sokaklarda geçiren halk ara sıra serpiştirilen yağmura rağmen yerlerinden kıpırdamamışlardı. Kraliçe Elizabeth ile Edinburgh Dükünü Westminster Kilisesine götüren altın saltanat arabası Sarayı terk ettiği zaman 2

[10] Vatan, 2 Haziran 1953.
[11] Vatan, 2 Haziran 1953.
[12] Vatan, 2 Haziran 1953.
[13] Vatan, 2 Haziran 1953.
[14] Vatan, 2 Haziran 1953.

milyondan fazla halk sokakları doldurmuş bulunuyordu. Geceyi sokakta geçirenler arasında Amerikan Hava Kuvvetleri'ne mensup bir grup havacı da göze çarpmaktaydı.[15]

Saat tam 09.45'te yerlerini almış bulunan davetliler arasında bir kaynaşma oldu. 80 otomobilden müteşekkil yabancı devlet Kralları ile diğer temsilciler sağ tam saat 10.00'da katedraldeki yerlerini almaya başlamışlardı. Saat 10.40 da yeni bir kafile göründü. Aralarında Sir Winston Churchill de olan İngiliz Milletler topluluğu memleketleri başbakanları salona girerek yerlerini aldılar. Saat tam 11.20'de Kraliçe Elizabeth refakatinde Edinburgh Dükü olduğu halde Buckingham Sarayı'nda 8 gri at tarafından çekilen muhteşem altın saltanat arabasına bindi. Polisler o anda halkın izdihamı önlemek için zorluk çekmekteydi, herkes Kraliçe'yi görmek istiyordu. Her taraftan "Allah Kraliçe'yi korusun" sesleri yükseliyordu. Saat 11.32'de Kraliçe'nin arabası Westminster önünde durdu. Saat 11.45'te Kraliçe katedrale girerken borazanlar törenin başlamak üzere olduğunu halka ilan ediyordu. Borazan sesleri Kraliçe'nin girişini haber verirken 600 kişilik bir koro yıllar boyunca bu gibi törenlerde anane haline gelmiş bir parçayı okumakta ve merasimi katedral içinden takip etmek üzere davet edilmiş bulunanlar, dükler, lortlar ve avamdan müteşekkil bulunan 7.000 davetli ayağa kalkarak genç hükümdarı selamlamaktaydı. Kraliçe mavi bir halı ile kaplı ve etrafı yüksek sütunlarla çevrili bulunan koridordan geçerken 6 nedime koyu kırmızı kadifeden yapılmış tören elbisesinin uzun eteğini taşımaktaydı. Kraliçe'nin önünde piskoposlar ve ruhban sınıfından müteşekkil ve rengarenk elbiselere bürünmüş bir grup yürümekteydi. Taç giyme merasiminde kullanılacak mücevherat, asa, kılınç gibi ananevi eşyayı taşıyan dükler onları takip ediyordu. Aralarında Sir Winston Churchill olduğu halde İngiliz Milletler topluluğu memleketleri başbakanları kafileye dâhil olarak ağır ağır yol alıyordu. Törenin yapılacağı yüksek minbere doğru ilerlerken Kraliçe Elizabeth evvela boş tahtın önünden ve sonra da 650 senelik bir maziye sahip bulunan taç giyme tahtanın önünden geçti ve Kraliyet locası önünde bulunan ve kırmızı örtü ile kaplanmış olan devlet tahtına oturdu.[16]

Törenin ilk safhasını teşkil eden hükümdarı tanıma kısmı başlıyordu. Elizabeth 1308 senesinden beri bütün İngiltere hükümdarlarının taç giydikleri taç giyme koltuğuna doğru yürüdü. Canterbury başpiskoposu elinde asası olduğu halde yüzü konuklara doğru dönük Kraliçeyi bekliyordu. Ağır ağır söze başlayarak şunları söyledi: "Sir'ler size Kraliçeniz Elizabeth'i takdim ederim…" Canterbury başpiskoposunun sorduğu sualleri Kraliçe Elizabeth pürüzsüz berrak sesi ile cevaplandırdı ve yemin töreni gerçekleştirildi. Taç Kraliçe'nin başına konmuştu. Birdenbire derin sessizlik bozuldu ve 7.000 kişi hep bir ağızdan "Allah Kraliçe Elizabeth'i korusun" diye bağırmaya başladı. Borazanlar çalıyor katedralin avlusundaki toplar Kraliçe'nin taç giydiğini bütün dünyaya ilan ediyordu. Kraliçe ağır ağır ayağa kalktı ve etrafında piskoposlar ve devlet şahsiyetleri olduğu halde sahnenin ortasında bulunan tahtına doğru ilerledi. Dükler nazik bir şekilde Kraliçe'yi tutarak tahtına oturttular. Sıra tebaasının biat etmesine gelmişti... Merasim bitmiş fakat dini ayin devam ediyordu. Yanında kocası Edinburgh Dükü olduğu halde Kraliçe minber önünde eğilerek dua ettikten sonra önünde dükler olduğu halde katedralin içinde bulunan küçük kiliseye geçti. Tören elbiseleri kilisede çıkarıldı ve Kraliçe mor kadifeden bir elbise giydi. Saat 15.50'de büyük geçit resmine başlandı ve saltanat arabası 2 millik yol boyunca halkın tezahüratı arasında Buckingham Sarayı'na döndü. Kafile saat tam 19.30'da Buckingham Sarayı'nın kapısına geldi. Kraliçe arabadan inip saraya girdiği zaman herkes balkona çıkacak Kraliçeyi alkışlamak için sabırsızlanıyordu. Edinburgh Dükü ve çocukları olduğu halde Kraliçe balkonda görüldüğü zaman halkın sevinç tezahüratları arttı. Kraliçe ve beraberindekiler halkı eliyle selamlıyor

[15] Vatan, 3 Haziran 1953.
[16] Vatan, 3 Haziran 1953.

halk bir türlü kendilerini bırakmak istemiyordu. Kraliçe defalarca balkona çıktı ve geri döndü. Halk devamlı tekrar çıkmasını istiyordu.[17]

Kraliçe Elizabeth akşam verdiği ve İngiliz Milletler camiasına dâhil bütün memleketlerde radyo ile yayınlanmasına başlanılan tarihi demecinde bütün ömrü boyunca İngiliz milletinin kendisine emanet ettiği saltanat ve ödevi layık olmaya çalışacağına söz vermiştir. Kraliçe, tebaalarının bu taç giyme gününde kendisini gösterdikleri sadakat ve muhabbeti asla unutmayacağını söylemiş ve hepsine teşekkür etmiştir. İngiliz Milletler topluluğuna dâhil memleketlerin başbakanları ise aynı gece radyo ile yayınlanan birer konuşma yaparak Kraliçe'ye muhabbet ve bağlılıklarını bildirmişlerdir. Kraliçe'yi İngiliz Milletler topluluğunun başı olarak selamlayan Kanada, Avustralya, Yeni Zelanda, Güney Afrika başbakanlarından sonra Pakistan Başbakanı Muhammed Ali bir konuşma yapmıştır.

Törenin yapıldığı gün saat 17.00'de merasime katılanlar arasında tedavi görenlerin sayısı 4.141 e çıkmıştır. Bunlardan 174'ü hastaneye kaldırılmıştır. Diğerleri baygınlıktan veya soğuktan hafif rahatsızlık geçirmiştir. Bu sayılar geceye kadar artarak devam etmiştir.[18]

İngiltere Kraliçesi Elizabeth'in taç giymesi dolayısıyla İstanbul İngiliz konsolosu tarafından 2 Haziran günü saat 17.00'de konsolosluk binasında bir kabul resmi verilmiştir. Sümerbank Hereke fabrikası tarafından Topkapı Sarayı'ndan alınan Fatih devrine ait motiflerle muhteşem bir halı dokunmuştur. Başlı başına bir sanat eseri olan bu halı İngiltere Kraliçesi II. Elizabeth taç giymesi dolayısıyla hediye edilecektir.

Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü de İngiltere Kraliçesi II. Elizabeth'in taç giyme töreninde Westminster Kilisesi'nde hazır bulunmuşlardır. Türk heyetinin diğer üyeleri de töreni Buckingham Sarayı'nın karşısındaki büyük türbinden takip etmişlerdir.[19]

TAÇ GİYME TÖRENİ SONRASINDAKİ GÜNLERDE YAŞANANLAR

Kraliçe Elizabeth, taç için yapılan törenlerde ne kadar çok sayıda asilzade ve saray erkânı ile temas etmişse 3 Haziran gününden sonra da o sayıda ve belki de daha fazla halkla temas etmeye başlamıştır. Nitekim 6 hafta devam edecek olan Kraliçe'nin tebaası ile tanışması müddeti artık başlamıştır. Kraliçe 3 Haziran'da yanında kocası Edinburgh Dükü olduğu halde otomobille Londra'nın çeşitli mahallelerini dolaşmaya, halkla temas etmeye, onların selamlarını almaya ve birçok Londralı'nın dertlerini dinlemeye başlamıştır. Bir bakıma da bundan sonra Kraliçe'nin bütün ömrü böyle geçecektir. Bu işleri yapmak bir bakıma İngiltere kral ve kraliçesinin baş vazifesidir.[20]

İngiltere Kraliçesi II. Elizabeth'in taç giyme şenlikleri münasebeti ile 3 Haziran akşamında saat 20.00'de misafir heyetler şerefine Soute Covents Garden unkuote'de bir gala yapılmıştır. Dışişleri Bakanı Fuat Köprülü, Başbakanlık Müsteşarı Ahmet Salih Korur, Dışişleri Bakanlığı Müdürlerinden Orhan Eralp, Özel Kalem Müdürü Sadi Eldem de bu gala suaresinde hazır bulunmuşlardır.[21]

Taç giyme töreni sonrasında İngiltere'de bulunmaya devam eden Türk heyetinden Dışişleri Bakanı Fuat Köprülü ile İngiliz Devlet Bakanı Selvyn Lloyd 4 Haziran günü Dışişleri Bakanlığı'nda görüşmüşlerdir. Bu görüşmeden sonra resmi bir açıklamada bulunulmamıştır. Tahminlere göre Dışişleri Bakanı Fuat Köprülü, İngiliz Devlet Bakanlığı'na Türkiye'nin

[17] Vatan, 3 Haziran 1953.
[18] Vatan, 3 Haziran 1953.
[19] Vatan, 3 Haziran 1953.
[20] Vatan, 4 Haziran 1953.
[21] Vatan, 4 Haziran 1953.

Bermuda Konferansı hakkında görüşünü belirtmiş ve aynı zamanda son Sovyet Notası hakkında da Ankara hükümetinin kanaatini kaydetmiştir. Fuat Köprülü'nün Mısır hadiseleri etrafında da Selvyn Lloyd ile görüştüğü tahmin edilmektedir. Aynı zamanda Dullus'in son seyahatine de temas edildiği tahmin edilmektedir. 1 saat süren bu görüşmenin önemli olduğu da ilave edilmektedir.[22]

Diğer taraftan Türkiye'nin Londra Büyükelçisi Hüseyin Ragıp Baydur taç giyme töreni nedeniyle şehre gelmiş bulunan Başbakan Adnan Menderes başkanlığındaki heyet şerefine 4 Haziran günü elçilikte bir öğle yemeği vermiştir. Bu yemekte Adnan Menderes, Dışişleri Bakanı Fuat Köprülü, Başbakanlık Müsteşarı Ahmet Salih Korur, Dışişleri Bakanlığı 2. Daire Genel Müdürü Orhan Eralp, Yaver Yüzbaşı Muzaffer Ersu, Dışişleri Bakanlığı Özel Kalem Müdürü Sadi Erdem, heyet mihmandarları ve elçilik mensupları hazır bulunmuşlardır. Yemeği müteakip Adnan Menderes aynı gün saat 14.00'te beraberinde Dışişleri Bakanı Fuat Köprülü, Başbakanlık Müsteşarı Ahmet Salih Korur, Yaver Yüzbaşı Muzaffer Ersu ve mihmandarları olduğu halde uçak fabrikalarına giderek tesisleri gezmişler ve ilgililerden bilgi almışlardır.[23] Başbakan Adnan Menderes ile Dışişleri Bakanı Fuat Köprülü aynı günün akşamı Kraliçe Elizabeth tarafından verilen ziyafette hazır bulunmuşlardır.[24]

Kraliçe Elizabeth, 4 Haziran sabahı 2.500 kadar askere Saray'ın bahçesinde yapılan bir törenle madalya dağıtmıştır. Bu merasimi Küçük Prens Charles de çok yakından takip etmiş hatta bir aralık merasimin ciddiyetini bozabilecek müdahalelerde bulunmaya da teşebbüs etmiştir. Prenses Anne ise İngiltere Milletler camiası memleketlerinden gelen bu askerlere baktıktan sonra gayet saf bir eda ile "Anne bu adamlar kim böyle" demiştir. Bu törenden sonra yapılan resmigeçitte yürüyüş emrini Prens Charles vermiştir.[25] Kraliçe Elizabeth aynı gün eşi Edinburgh Dükü ile birlikte yakın zaman içinde yaşanan savaşta zarar görmüş olan Kuzeybatı mahallelerini dolaşmış ve tebaasıyla uzun uzadıya sohbet etmiştir. Kraliçe bu ziyaretlerine müteakip Saraya dönünce yorgunluğuna rağmen hemen elbise değiştirmiş ve davetlileri kabule başlamıştır. Buckingham Sarayı'nda yapılan bu resmikabulde dünyanın çeşitli bölgelerinden gelmiş 300 kadar lideri bizzat ağırlanmıştır. Geceki ziyafette birçok krallar veya Kraliyet mensupları, başbakanlar ve dışişleri bakanları ile çeşitli resmi şahsiyetler bulunmuştur. Yemekte Buckingham Sarayı'nın meşhur gümüş takımları ve 1830 stili Çin tabakları kullanılmıştır. Buckingham Sarayı'nın altın kaplamalı devlet balo dairesindeki muazzam masanın başında Kraliçe'nin sağında Norveç Veliaht Prens Orlof, solunda ise Danimarka Prensi Axel yer almışlardı.[26]

Londra'da bulunmakta olan Başbakan Adnan Menderes ile Dışişleri Bakanı Fuat Köprülü yanlarında Türk delegasyonu olduğu halde 5 Haziran sabahı Kraliçe Elizabeth tarafından Buckingham Sarayı'nda kabul edilmişlerdir. Bu kabul töreninde Kraliçe Elizabeth kendi taç giyme merasimine katılmış olan yabancı diplomat ve delegasyon erkânına veda etmiş bulunmaktadır. Akşam ise W. Churchill'in Lancester House'de verdiği akşam yemeğine Türk devlet adamları da davet edilmiştir. Yemekten sonra da ayrıca bir kabul resmi yapılmıştır.[27]

Türk heyetinin Londra'daki son temasları 6 Haziran günü gerçekleşmiştir. Başbakan Adnan Menderes ve Dışişleri Bakanı Fuat Köprülü o gün saat 11.30 da Downing Street'e giderek İngiltere Başbakanı Winston Churchill ile 45 dakika süren bir görüşme yapmıştır. Bu görüşme sırasında Dışişleri Bakanlığı ve 2. Daire Genel Müdürü Orhan Eralp de hazır bulunmuştur. İki

[22] Vatan, 5 Haziran 1953.
[23] Vatan, 5 Haziran 1953.
[24] Vatan, 5 Haziran 1953.
[25] Vatan, 5 Haziran 1953.
[26] Vatan, 5 Haziran 1953.
[27] Vatan, 6 Haziran 1953.

taraf arasında gerçekleşen görüşmeler hakkında resmi bir açıklama yapılmamışsa da bu görüşmenin iki önemli mevzu etrafında olduğu değerlendirilmiştir:

1. Rusya'nın Batı'ya karşı son günlerde değişmiş görünen siyaseti ve tavrı hareketi.[28]
2. Ortadoğu meseleleri.[29]

> *"Menderes'in İngiltere'ye gittiği gün aynı zamanda II. Dünya Savaşı'nın bittiği tarih olan 1945'ten beri gergin olan Sovyetler Birliği-Türkiye ilişkileri açısından da olumlu gelişmelerin kaydedildiği gün olmuştur. Çünkü Sovyetler Birliği, 30 Mayıs 1953'te bir nota vermiş ve Türkiye'den savaş sonrasından beri istemekte olduğu topraklardan vazgeçtiğini bildirmiştir. Biraz daha ayrıntılı incelenecek olursa, 1953'te Stalin'in ölümüyle ılımlı bir yaklaşım içine giren Sovyetler Birliği, bundan böyle Türkiye'den toprak istemeyeceğini, Türkiye ile arasındaki ilişkiyi iyileştirmek istediğini ve Boğazlar konusunda sadece kendi çıkarlarını değil aynı zamanda Türkiye'nin de çıkarlarını gözeteceğini açıkça kabul etmiştir. O sırada Londra'da olan Menderes de bu önemli notayı İngilizlerle beraber değerlendirmiştir. İngiltere, notayı, Türkiye'yi Batı'dan koparma planı olarak değerlendirirken, Fransa, Sovyetlerin, Doğu ve Batı arasında denge sağlama politikası olarak görmüş, Türkiye ise notanın iyi ve kötü tarafları olduğunu düşünerek temkinli davranmıştır."*[30]

Bu meyanda İngiliz Süveyş anlaşmazlığının ve son Türk-Arap temaslarının da ele alınmış olduğu üzerinde durulmuştur. Bu görüşmelerde Türk devlet adamları ile İngiliz Başbakanı arasında iki memleketi ilgilendiren diğer birçok önemli konunun da ele alınmış ve bütün detayları ile görüşülmüş olduğu anlaşılmaktadır. Başbakan Churchill'in yakında Bermuda toplantısına gideceği keyfiyeti, son Türk-İngiliz görüşmesinin özellikle büyük önemle karşılanmasına yol açmıştır. Churchill bu temaslarda Türk nokta-i nazarını bilerek hareket edebilecektir. Ortadoğu savunması konusunda Türk görüşlerine Londra siyasi mahfillerinde büyük önem verilmiştir. Özellikle ABD Dışişleri Bakanı Foster Dulles'in Ortadoğu seyahati hakkında o güne kadar bir açıklamada bulunmamış olması: Türk-İngiliz devlet adamlarının bu yeni görüşmesinin önemini büyük derecede artırmıştır.[31]

7 Haziran'da Londra'dan ayrılan Menderes ve Köprülü, yola çıkmadan önce Londra'da bulunan Irak Harbiye Nazırı Said Nuri Paşa ile görüşmüşlerdir. Ayrıca Menderes, Churchill'e kendilerine gösterdikleri yakınlıktan dolayı teşekkür eden şu telgrafı çekmiştir:

> "*Sir Winston Churchill,*
>
> *İngiltere Başvekili*
>
> *Londra'daki ikametimiz esnasında bize gösterilen nazik alaka ve misafirperverlikten pek mütehassis bulunuyoruz. Hararetli ve kalbi teşekkürlerimizle birlikte iyi temennilerimizin lütfen kabulünü rica ederiz.*"[32]

Bu arada Osmanlı Bankası İdare Meclisi, taç giyme töreni nedeniyle Londra'da son ziyaret gününü yaşayan Türk heyeti şerefine Savoy Otelinde bir öğle yemeği vermiştir.[33]

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[28] Sovyet hükümeti tarafından Türk hükûmetine verilen notada, Türk-Sovyet diplomatik münasebetlerinin normal hale getirilmesi hususunda Türk hükûmetinin anlayış göstermesi ve müzaherette bulunması talep edilmekteydi.
[29] Vatan, 7 Haziran 1953.
[30] Özge Irmak, Adnan Menderes'in Yurt Dışı Gezileri, İstanbul Üniversitesi Atatürk İlkeleri ve İnkılap Tarihi Enstitüsü, Yüksek Lisans Tezi, İstanbul 2009, s.85.
[31] Vatan, 7 Haziran 1953.
[32] Irmak, a.g.e., s.85-86.
[33] Vatan, 7 Haziran 1953.

SONUÇ

İngiltere Kraliçesi II. Elizabeth'in taç giyme töreninde hazır bulunmak üzere Londra'ya gitmiş olan Başbakan Adnan Menderes ile Dışişleri Bakanı Fuat Köprülü ve beraberindekiler 6 Haziran gece yarısından sonra uçakla İstanbul'a dönmüşlerdir. Türk heyetini getiren uçak Londra'da arıza yaptığı için Yeşilköy'e ancak üç saat gecikme ile gelebilmiştir. Başbakanı havaalanında; İçişleri Bakanı Ethem Menderes, Vali ve Belediye Başkanı Profesör Gökay, Orgeneral Nurettin Baransel, 1. Ordu Müfettiş Vekili Orgeneral İsmail Hakkı Tunaboylu, Boğazlar ve Marmara Komutanı Koramiral Rıdvan Koral, Emniyet Müdürü Ahmet Tekelioğlu, milletvekilleri, şehir meclis üyeleri, Demokrat Parti İl Başkanı Necmi Ateş, Tevfik Rüştü Aras, İngiliz başkonsolosu, Rum Ortodoks Patriği vekili, Basın temsilcileri ve partililer karşılamışlardır.[34] Başbakan Menderes, ertesi gün saat 18.30 gibi Ethem Menderes, Salih Korur, Muzaffer Ersü ile beraber Ankara'ya gitmiştir. Türk heyeti Etimesgut Havaalanı'nda Türkiye Büyük Millet Meclisi Refik Koraltan, milletvekilleri, bakanlar, Genelkurmay İkinci Başkanı, İngiltere Büyükelçisi Sir Knox Helm, Dışişleri Bakanlığı Umumi Kâtibi, Ankara valisi, mülki ve askeri ileri gelenler ve Belediye Başkanı tarafından karşılanmıştır.[35]

Kraliçe II. Elizabeth'in taç giyme merasimine katılmış olan Başbakan Adnan Menderes 10 yıllık Demokrat Parti iktidarı dönemindeki en farklı seyahatlerinden birini böylelikle tamamlamıştır. İngiltere Kraliçesi ile bizzat tanışan ve W. Churchill ile iki defa samimi bir toplantı gerçekleştiren Menderes, bir taraftan Ortadoğu'da gelişen olayları tartışma ortamı bulurken diğer taraftan da Kıbrıs gibi bir mesele de İngiltere ile olan dostluğunu sürekli kılmak istemiştir. Taç giyme merasimi dışında deniz geçit resmi için Türk muhribi Demirhisar'ı da Londra'ya getirten Başbakan Adnan Menderes 1953 sonrasında da çeşit nedenlerle Londra'da bulunacaktır.

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Vatan, 8 Haziran 1953.

[34] Vatan, 8 Haziran 1953.
[35] Irmak, a.g.e., s.86.

KIRGIZİSTANDA YAŞAYAN AHISKA TÜRKÜ EVLİ BİREYLERİN EVLİLİK DOYUMUNUN İNCELENMESİ

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ÖZET

Evlilik ilişkisinin güçlü olması evlilik ilişkisi yoluyla kurulan ailenin de güçlü olmasını sağlar. Buradan hareketle, evliliğin insan yaşamında önemli bir yere sahip olduğu ve en temel insan ilişkisi olduğu söylenebilir. Evlilikte doyum yaşama, beklentilerini gerçekleştirme ve bireylerin mutlu olabilmesi açısından son derece önemlidir. Yaşam doyumuna katkı sağladığı pek çok çalışmayla ortaya konan evlilik doyumu evlilik ilişkisinin sürdürülmesinde oldukça etkili faktörlerden biridir. Evlilik doyumu ile kast edilen; ilişkinin kalitesi, eşlerin ilişkiden sağladıkları mutluluk düzeyi, eşler arasındaki uyum ve tüm bunların ahenk içerisinde ilişkide devam etmesidir. Evlilik olgusuna yaşamlarında büyük önem veren ve yıllardır süregelmiş evlilik adetlerini değiştirmeyen Kırgızistan'da yaşayan Ahıska Türklerinin evlilik doyumlarının incelenmesi bu araştırmanın amacını oluşturmaktadır.

Araştırmaya Kırgızistan'ın başkenti Bişkek'te yaşayan 89 evli birey (69 kadın, 20 erkek) katılmıştır. Veriler evlilik doyum ölçeği kullanılarak toplanmıştır. Araştırmacı tarafından geliştirilen kişisel bilgi formu aracılığı ile çiftlerin demografik bilgileri toplanmıştır (cinsiyet, eğitim düzeyi, evlilik süresi, çiftlerin çocuk sayısı ve evlilik biçimi). Verilerin çözümlenmesinde Mann-Whitney U Testi ve Kruskal Wallis H Testi yöntemlerinden faydalanılmıştır. Araştırma sonucunda evli çiftlerin evlilik doyumlarının cinsiyet, eğitim düzeyi, evlilik süresi, çiftlerin çocuk sayısı ve evlilik biçimi değişkenlerine göre anlamlı bir şekilde farklılaşmadığı bulunmuştur. Araştırmada katılımcıların evlilik doyumları yüksek olarak bulunmuştur. Araştırmanın örneklemini oluşturan Ahıska Türklerinin yaşamış oldukları bölgelerde birbirlerine bağlı gruplar olarak yaşamaları gelenek ve göreneklerine bağlılıklarını sürdürmeleri, küçük yaştan itibaren çocuklara evlilik değerlerini yüklemeleri evlilik doyumunun yüksek çıkmasını etkilediği düşünülmektedir.

Anahtar Sözcükler: Aile, Evlilik doyumu, Ahıska Türklerinde aile.

INVESTIGATION OF MARRIAGE SATISFACTION OF MESKHETIAN TURKIC MARRIED INDIVIDUALS LIVING IN KYRGYZSTAN

ABSTRACT

The strength of the marital relationship ensures that the family established through the marital relationship is also strong. From this point of view, it can be said that marriage has an important place in human life and is the most basic human relationship. Satisfaction in marriage is extremely important in terms of fulfilling expectations and making individuals happy. Marriage

satisfaction, which has been demonstrated by many studies that contribute to life satisfaction, is one of the most effective factors in maintaining the marital relationship. What is meant by marital satisfaction; The quality of the relationship, the level of happiness that the spouses get from the relationship, the harmony between the spouses and the continuation of all these in harmony in the relationship. The aim of this research is to examine the marital satisfaction of the Meskhetian Turks living in Kyrgyzstan, who attach great importance to the phenomenon of marriage in their lives and do not change their marriage customs that have been going on for years. Data were collected using the marital satisfaction scale. The demographic information of the couples was collected through the personal information form developed by the researcher (gender, education level, duration of marriage, number of children and marriage type).

Mann-Whitney U Test and Kruskal Wallis H Test methods were used to analyze the data. As a result of the research, it was found that the marital satisfaction of married couples did not differ significantly according to the variables of gender, education level, duration of marriage, number of children and marriage type. In the study, the marital satisfaction of the participants was found to be high. It is thought that the Meskhetian Turks, who constitute the sample of the research, live as dependent groups in the regions where they live, maintain their loyalty to their traditions and customs, and attribute marriage values to children from a young age, which affects the high level of marital satisfaction.

Keywords: Family, Marriage satisfaction, Family in Meskhetian Turks.

GİRİŞ

Evlilik insanlık tarihinde anlamlı ve önemli bir yere sahiptir ve nesillerdir bu önemini korumaya devam etmektedir. Evlilik yoluyla toplumun temel yapı taşı olan aile kurumunun temelleri atılmakta, kişilerin pek çok gereksinimleri aile içerisinde karşılanmaktadır. Gelecek nesiller evlilik ile kurulan aile kurumu içerisinde yetişmekte, ayrıca bireylerin sevgi, saygı, ilgi ihtiyacının karşılanması, kişilik özelliklerinin gelişimi, toplumun değer ve kültürünün aktarımı aile kurumu vasıtasıyla gerçekleşmektedir (Kavak, A 2018 s:1).

Yaşam doyumuna katkı sağladığı pek çok çalışmayla ortaya konan evlilik doyumu evlilik ilişkisinin sürdürülmesinde oldukça etkili faktörlerden biridir. Evlilik doyumu ile kast edilen; ilişkinin kalitesi, eşlerin ilişkiden sağladıkları mutluluk düzeyi, eşler arasındaki uyum ve tüm bunların ahenk içerisinde ilişkide devam etmesidir (Heyman, Sayers, & Bellack, 1994, s. 432). Evlilik ilişkisinde eşlerin ihtiyaçlarının ne derece karşılandığı konusundaki algıları da evlilik doyumunu ortaya koymaktadır (Tezer, 1986, s. 1).

Evlilik doyumu, bireyin kendi evlilik ilişkisindeki gereksinmelerim karşılama derecesine ilişkin algısı olarak tanımlanabilir. Böyle bir tanımdan hareket edilerek evlilik doyumu ölçülmek istendiğinde, bireylere, evlilik ilişkisinden sağladıklan doyuma ilişkin genel sorular (uyarıcılar) yöneltilebilir ve bireylerin bu sorulara verdikleri yanıtlar (tepkiler), onların evlilik doyumunun bir ölçüsü olarak kabul edilebilir (Tezer, 1996).

Sağlıklı bir ailede, aile üyeleri arasında bir etkileşim ve uyuşma söz konusudur. Aile üyeleri birbirlerinin görüş ve düşüncelerine saygı duyar ve birbirlerini olduğu gibi kabul ederler. Ailede ortak amaç ve değer duygusu vardır. Herhangi bir anlaşmazlık veya çatışma söz konusu olduğunda ise aile üyeleri en uygun çözüm yolunu bulabilmek amacıyla işbirliği ve uzlaşma yoluna giderler (Ackerman, 1965, s. 163). Sağlıksız bir ailede ise, aile üyeleri arasında iletişim ve etkileşim yetersiz veya eksiktir. Aile üyelerinin kendilerine özgü amaçları ve değer yargıları vardır ve farklı görüşlere tahammül edemezler (Bulut, 1993, s. 12). Bu noktada, aile işlevlerini yerine getiren veya getirmeyen bireylerin ilişkilerinden doyum sağlayıp sağlamadıkları ya da

evliliklerinden doyum sağlayan veya sağlamayan bireylerin aile işlevlerini yerine getirip getirmedikleri konusunun araştırılmasına ihtiyaç duyulmaktadır.

Evliliğin temel işlevleri arasında biyolojik bir gereksinim olarak "cinsel güdüyü doyurmak"; sosyal gereksinim olarak "bireylerin destek, korunma ve yaşam gereksinimlerini doyurma"; psikolojik destek olarak "sevgi" gereksinimini doyurma söz konusudur (Özgüven, 2000). Bununla beraber, evli bireylerin fiziksel ve psikolojik sağlığı açısından bu derece önemli olan evlilik yaşantısının kalitesini arttırmak, pek çok araştırmacıyı bir yandan uyumu kavramsal olarak tanımlamaya, diğer yandan da eşler arasındaki uyumla ilişkili etkenlerin belirlenmesine yönelik araştırmalar yapmaya yöneltmiştir (Koydemir, Selışık ve Tezer; 2005).

Evlilik insan hayatındaki en önemli yaşantılardan biri olmasına rağmen bu deneyimin niteliği, kişinin yaşam kalitesiyle neredeyse birebir ilişkilidir. Evlilik doyumu kolayca tanımlanabilecek bir değişken olmamakla beraber, evlilik doyumunu oluşturan değişkenlerle ilgili birçok çalışma yapılmıştır (Hünler ve Gençöz; 2003).

Evlilik doyumu; ihtiyaçların ve beklentilerin evlilikle buluşma derecesi (Bahr, Chappell ve Leigh; 1983); ya da "bireyin kendi evlilik ilişkisindeki gereksinimleri karşılama derecesine ilişkin algısı" olarak tanımlanabilir (Tezer, 1996). Mutlu bir evlilik, birçok konu üzerinde eşlerin anlaşmaya varabildikleri kaygı ve stres yaratmayan bir ilişkidir (Özgüven, 2000a). Bir başka ifadeyle evlilik doyumu; evliliğe ilişkin memnuniyettir; evlilikte mutluluğun artması ve çatışmanın azaltılmasıyla birlikte gelmektedir (Buunk ve Vanyperen, 1991; Suitor; 1991) ve evlilik ilişkisindeki doyuma ulaştırıcı sıcak ve samimi alanlardan, gerilim yaratan soğuk alanlara uzanan bir yelpazeyi içermektedir (Ergin, 2000, s.16).

Amaç

Kırgızistanda yaşayan Ahıska Türkü evli bireylerin evlilik doyumlarının bazı demografik değişkenlere göre incelenmesi bu araştırmanın amacını oluşturmaktadır. Bu genel amaç çerçevesinde şu sorulara yanıt aranacaktır.

1. Evli bireylerin evlilik doyum düzeyleri cinsiyet değişkenine göre farklılaşmakta mıdır?

2. Evli bireylerin evlilik doyum düzeyleri evlilik süresi değişkenine göre farklılaşmakta mıdır?

3. Evli bireylerin evlilik doyum düzeyleri çocuk sayısı değişkenine göre farklılaşmakta mıdır?

4. Evli bireylerin evlilik doyum düzeyleri eğitim düzeylerine göre farklılaşmakta mıdır?

5. Evli bireylerin evlilik doyum düzeyleri evlilik biçimine göre farklılaşmakta mıdır?

6. Evli bireylerin evlilik doyum düzeyleri çalıştıkları yer değişkenine göre farklılaşmakta mıdır?

YÖNTEM

Araştırma Modeli

Araştırmada, ilişkisel tarama modeli kullanılarak durum saptaması yapılmıştır. Tarama modelleri, geçmişte veya hala devam eden bir durumu var olduğu şekliyle betimlemeyi amaçlayan araştırma yaklaşımları olarak tanımlanırken ilişkisel tarama modelleri, iki ya da daha çok değişken arasında birlikte değişimin varlığını ya da derecesini belirlemeyi amaçlayan araştırma modelleri olarak tanımlanmaktadır (Karasar, 2014). Bunun yanısıra, araştırmaya konu olan birey ya da nesne, kendi koşulları içinde ve olduğu gibi tanımlanmaya çalışılır. Ayrıca bu model, bir konuya ya da olaya ilişkin katılımcı görüşlerinin belirlendiği modeldir (Büyüköztürk, 2010).

Evren ve Örneklem

Araştırmanın örneklemini 69'u kadın ve 20'si erkek olmak üzere, toplam 89 kişi oluşturmuştur. Örneklem seçimi kolay ulaşılabilir örnekleme yöntemi ile yapılmıştır. Kolay ulaşılabilir veya elverişli örnekleme tamamen mevcut olan, ulaşması hızlı ve kolay olan öğelere dayanır. Kolay ulaşılabilir örneklemede araştırmacı, hali hazırda var olan öğeler içerisinden yeteri sayıda öğeyi örneklem olarak belirler. Bu yüzden bu örnekleme şans eseri, tesadüfi, kazara örnekleme olarak da ifade edilmektedir (Singleton & Straits, 2005).

Veri Toplama Aracı

Kişisel Bilgi Formu: Yapılan benzer çalışmalar ışığında araştırmanın amacına uygun olarak cinsiyet, evlilik süresi, çocuk sayısı, evlilik biçimi, çalıştıkları yer ve eğitim durumu gibi evlilik bilgilerini içeren sorulardan oluşan bilgi formu oluşturulmuştur.

Evlilik Doyum Ölçeği: EYÖ Tezer (1986) tarafından evlilik ilişkisinden sağlanan genel doyum düzeyini belirlemek amacıyla geliştirilen ölçek 10 maddeden oluşmaktadır ve beşli likert tipinde hazırlanmıştır. Ölçekten alınacak puanlar 10 ila 50 arasında değişmekte ve puanlar 10'a doğru yaklaştıkça evlilik doyumunun düştüğünü, 50'ye doğru yaklaştıkça ise evlilik doyumunun yükseldiğini göstermektedir (Tezer, 1996, s. 5). Ölçeğin pearson korelasyon katsayısı 0.85, cronbach alpha değeri ise 0.89 olarak hesaplanmıştır. Bu değerler ölçeğin güvenilir olduğunu göstermektedir. Ölçeğin yapı geçerliğini test etmek amacıyla ölçek boşanmış ve evli bireylere uygulanmış ve grupların ortalamaları için yapılan t testi sonucunda t değeri 6.23 olarak bulunmuştur. Bu değer α=0.01 düzeyinde anlamlıdır (Tezer, 1996, s. 3-4).

Verilerin Analizi

Kişisel bilgi formu ve Evlilik Doyum Ölçeği ile elde edilen veriler IBM SPSS Statistics 23 paket programı aracılığıyla bilgisayar ortamına aktarılmış ve veriler bu program yoluyla analiz edilmiştir. Ölçeklerin puanlarında sosyo-demografik değişkenler bakımından fark olup olmadığı frekans, yüzdelik, ortalama, standart sapma, Mann Whitney U-Testi, Kruskal Wallis H-Testi karşılaştırma testleri ile değerlendirilmiştir.

BULGULAR

Bu bölümde araştırmanın sonucunda elde edilen bulgular alt amaçlar doğrultusunda yer verilmiştir.

Çalışma grubunun bazı demografik değişkenlere göre dağılımı tablo 1 de verilmiştir.

Tablo 1. *Çalışma grubunun bazı demografik değişkenlere göre dağılımı*

Grup		TOPLAM			
		N	%	N	%
Cinsiyet	Kadın	69	77,5	89	100
	Erkek	20	22,5		
Eğitim Düzeyi	İlkögretim	19	21,3	89	100
	Lise	28	31,5		
	Üniversite	42	47,2		
Çalıştığı Yer	Calışmıyorum	44	49,4	89	100
	Özel sektörde calışıyorum	34	38,2		
	Devlet memuruyum	11	12,4		
Evlilik Süresi	0-10	54	60,7	89	100
	11-20	17	19,1		

	21-30	6	6,7		
	31-40	12	13,5		
Çocuk Sayısı	1	14	15,7	89	100
	2	29	32,6		
	3	27	30,3		
	4 ve üstü	7	7,9		
	Cocuğumuz yok	12	13,5		
Evlilik Biçimi	Anlaşarak	42	47,2	89	100
	Görücü usulü	47	52,8		

Tablo 1'de araştırmamızdaki demografik değişkenlerin sayısal olarak değerleri verilmiştir. Araştırmamıza katılan toplam 89 kişi bulunmaktadır. Araştırmamıza katılan kadın sayısı 60 (77,5 %), erkek sayısı 29 (22,5 %) dur. Katılımcıların eğitim düzeylerine baktığımızda ilköğretim mezunu olan 19 (21,3 %), lise mezunu olan 28 (31,5 %), üniversite mezunu 42 (47,2%) katılımcı bulunmaktadır. Katılımcıların çalıştıkları yer demografik bilgisinde ise çalışmıyorum diyen toplam 44 (49,4%), özel sektörde çalışıyorum diyen 34 (38,2 %) ve devlet memuru olan 11 (12,4 %) kişi bulunmaktadır. Katılımcıların evlilik sürelerine bakıldığında 0-10 yıl arasında 54 (60,7 %), 11-20 yıl arasında 17 (19,1 %), 21-30 yıl arasında 6 (6,7%) ve 31-40 yıl arasında 12 (13,5 %) kişi bulunmaktadır. Katılımcıların çocuk sayılarına baktığımızda 1 çocuk sahibi 14 (15,7 %), 2 çocuk sahibi 29 (32,6 %), 3 çocuk sahibi 27 (30,3 %), 4 ve üstü çocuk sahibi 7 (7,9%) ve hiç çocuğu olmayan 12 (13,5 %) kişi bulunmaktadır. Katılımcıların evlilik biçimlerine baktığımızda anlaşarak evlenen 42 (47,2 %), görücü usulü evlenen 47 (52,8 %) kişi bulunmaktadır.

Araştırmanın birinci alt amacı olan evli bireylerin evlilik doyum düzeyleri cinsiyet değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 2 de verilmiştir.

Tablo 2. *Cinsiyet Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Cinsiyet	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	Kadın	69	32,53	4,94	**0,070**
	Erkek	20	34,25	3,35	

Tablo 2' de görüldüğü gibi, Mann-Whitney U Testi sonucuna göre, evli çiftlerin evlilik doyumlarının cinsiyet değişkenine göre anlamlı bir şekilde farklılaşmadığı görülmüştür (p>0,05).

Araştırmanın ikinci alt amacı olan evli bireylerin evlilik doyum düzeyleri eğitim düzeyi değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 3 te verilmiştir.

Tablo 3. *Eğitim Düzeyi Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Eğitim Düzeyi	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	İlkögretim	19	32,31	5,20	
	Lise	28	33,28	4,77	**0,875**
	Üniversite	42	32,95	4,43	

Tablo 3'e göre; evlilik doyumunun eğitim düzeyi değişkenine göre incelenmesi adına yapılan Kruskal Wallis H testi sonucunda anlamlı bir farklılaşmaya rastlanılmadığı anlaşılmaktadır p>0.05).

Araştırmanın üçüncü alt amacı olan evli bireylerin evlilik doyum düzeyleri çalışma durumu değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 4 de verilmiştir.

Tablo 4. *Çalıştığı Yer Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Çalıştığı Yer	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	Calışmıyorum	44	32,79	4,48	**0,817**
	Özel sektörde calışıyorum	34	33,26	4,77	
	Devlet memuruyum	11	32,36	4,43	

Tablo 4'te görüldüğü gibi, Kruskal Wallis H Testi sonucuna göre, evli çiftlerin evlilik doyumlarının cinsiyet değişkenine göre anlamlı bir şekilde farklılaşmadığı görülmüştür (p>0,05).

Araştırmanın dördüncü alt amacı olan evli bireylerin evlilik doyum düzeyleri evlilik süresi değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 5 te verilmiştir.

Tablo 5. *Evlilik Süresi Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Evlilik Süresi	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	0-10	54	32,61	4,48	**0,880**
	11-20	17	33,35	4,77	
	21-30	6	32,66	3,98	
	31-40	12	33,83	5,23	

Tablo 5'e göre; evlilik doyumunun Evlilik Süresi değişkenine göre incelenmesi adına yapılan Kruskal Wallis H testi sonucunda anlamlı bir farklılaşmaya rastlanılmadığı anlaşılmaktadır p>0.05).

Araştırmanın beşinci alt amacı olan evli bireylerin evlilik doyum düzeyleri çocuk sayısı değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 6 da verilmiştir.

Tablo 6. *Çocuk Sayısı Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Çocuk Sayısı	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	1	14	32,50	5,19	**0,272**
	2	29	32,37	4,77	
	3	27	33,25	3,86	
	4 ve üstü	7	31,42	6,82	
	Çocuğumuz yok	12	34,83	3,97	

Tablo 6 da görüldüğü gibi, Kruskal Wallis H Testi sonucuna göre, evli çiftlerin evlilik doyumlarının çocuk sayısı değişkenine göre anlamlı bir şekilde farklılaşmadığı görülmüştür (p>0,05).

Araştırmanın altıncı alt amacı olan evli bireylerin evlilik doyum düzeyleri evlilik biçimi değişkenine göre farklılaşmanın olup olmadığı ile ilgili bulgular tablo 7 de verilmiştir.

Tablo 7. *Evlilik Biçimi Değişkenine Göre Evlilik Doyumu Puanlarının Karşılaştırılması*

	Evlilik Biçimi	**N**	**x̄**	**SS**	**p**
Evlilik Doyumu	Anlaşarak	42	33,59	4,64	
	Görücü usulü	47	32,31	4,66	**0,236**

Tablo 7'ye göre; evlilik doyumunun evlilik biçimi değişkenine göre incelenmesi adına yapılan Kruskal Wallis H testi sonucunda anlamlı bir farklılaşmaya rastlanılmadığı anlaşılmaktadır p>0.05).

SONUÇ, TARTIŞMA VE ÖNERİLER

Çalışmamıza katılan toplam 89 kişinin demografik bilgilerine bakıldığında (69 kadın, 20 erkek) cinsiyet, eğitim düzeyi, çalıştığı yer, evlilik süreleri, çocuk sayısı ve evlilik biçimine göre evlilik doyumlarında anlamlı bir farklılık görülmemiştir. Kırgızistan'da yaşayan Ahıska Türklerinin evlilik doyum ölçeğinden aldıkları puanlar genel olarak hesaplandığında evlilik doyumlarının yüksek olduğu saptanmıştır.

Araştırmamıza paralel olarak Çınar (2008) toplumsal cinsiyet rolleri, profesyonel psikolojik yardım arama tutumları ve demografik değişkenlere göre evlilik doyumunu incelemiştir. Araştırmaya Ankara ilinde ikamet eden 302 evli birey katılmıştır. Araştırma sonucunda, evlilik doyum düzeyinin cinsiyet, yaş, eğitim durumu, evlilik süresi ve çocuk sayısına göre anlamlı olarak farklı olmadığı bulunmuştur. Tüm değişkenler içerisinde cinsiyet rollerinin evlilik doyumunu yordadığı bulunmuştur (ss. 54-88).

Çağ ve Yıldırım (2013) tarafından yapılan çalışmada, demografik değişkenlerin evlilik doyumunu yordayıcılığı araştırılmıştır. Çalışma grubunu Ankara'da yaşayan 811 evli birey oluşturmuştur. Araştırma sonucunda, eş desteği, cinsel yaşam memnuniyeti ve eğitim düzeyi değişkenlerinin evlilik doyumunu anlamlı olarak yordadığı belirlenmiştir. Cinsiyet, çocuk sayısı, evlilik süresi, eşler arasındaki yaş farkı, ailenin gelir düzeyi, ev içi sorumlulukların paylaşımı değişkenlerinin evlilik doyumunu anlamlı yordayıcıları olmadığı görülmüştür (s. 13). Yine Erden (2016) tarafından yapılan çalışmada kendini izleme tarzı, yakın ilişkilerde yaşanan kaygı ve algılanan eş davranışlarının evlilik doyumu üzerindeki etkisini incelenmiştir. Sonuçlara göre çocuk sayısı, evlilik süresi ile evlilik doyumu arasında anlamlı bir şekilde farklılık bulunmuştur (ss. 23-68).

Evlilik doyumu ile ilgili yurt dışında yapılan araştırmalara baktığımızda Jose ve Alfons (2007) yaş, eğitim, çocuk sayısı, çalışma durumu ve evlilik süresinin evlilik doyumuna etkisini incelemiştir. Araştırmaya Belçika'nın Flanders bölgesinden yaşayan 787 evli birey katılmıştır. Veri toplama aracı olarak "Maudsley Evlilik Anketi" kullanılmıştır. Araştırma sonucunda, ilk defa evlenen bireylerin evlilik doyum düzeyi ile yeniden evlenen bireylerin evlilik doyum düzeyi arasında anlamlı bir şekilde farklılık bulunmuştur. Ayrıca, kadınların evlilik doyumu ile erkeklerin evlilik doyumunun anlamlı bir şekilde farklılaştığı görülmüştür. Bunun yanında, evlilik doyumunun evlilik süresine göre farklı olduğu belirlenmiştir. Evliliğin ilk yıllarında çiftlerin evlilik doyumlarının yüksek olduğu, ilerleyen yıllarda doyum seviyesinin azaldığı ve sonra tekrar yükselişe geçtiği bulunmuştur. Bir başka analiz sonucunda ise, yaş, çalışma

durumu ve çocuk sayısı ile evlilik doyumu arasında anlamlı bir ilişki olduğu sonucuna varılmıştır. Buna göre, genç yaş grubundaki evli bireylerin evlilik doyum düzeyleri orta yaş grubundaki evli bireylere göre anlamlı bir şekilde yüksektir. Ayrıca, çalışan kadınların evlilik doyumlarının çalışmayan kadınların evlilik doyumlarına göre anlamlı bir şekilde yüksek olduğu ortaya konmuştur. Son olarak, hiç çocuğu olmayan evli bireylerin evlilik doyumları en yüksekken çocuk sayısı arttıkça evlilik doyumunun düştüğü belirlenmiştir (ss. 73-82).

Yine Jackson, Miller, Oka ve Henry (2014), yapmış olduğu araştırmada, kadınların evlilik doyumlarının erkeklerin evlilik doyumlarına göre daha düşük olduğuna dair genel yargıyı incelemiştir. Toplamda 101.110 katılımcıdan veri elde edilen 226 bağımsız araştırma meta analize dahil edilmiştir. Analiz sonuçları kadınların evlilik doyum düzeyinin erkeklerinkinden anlamlı bir şekilde ancak az oranda düşük olduğunu göstermiştir.

Evlilik biçiminin evlilik doyumunu etkilediği yönünde sonuçları olan araştırmalar olsa da literatür de bu konuda bir eksiklik olduğu görülmüştür. Araştırmada veri eksikliğinden kaynaklı olduğu düşünülen iki değişken arasında anlamlı bir ilişkinin bulunmadığı yönündeki sonuç, örneklem dağılımının önemli olduğunu göstermiştir. Evlenme biçimi değişkeninin dengeli dağılımı literatüre bakıldığında evlilik süresi ile evlilik doyumunun birbiriyle ilişkili olduğu çalışmalar bulunmuştur. Ancak sonuçlara bakıldığında, evlilikleri uzun süren bireylerin evlilikten sağladıkları doyum diğerlerine göre daha yüksek olabilirken, evliliklerinin ilk yıllarında olan kişilerin diğerlerine göre evlilikten daha çok doyum aldığı da gözlenmiştir. Bu konuda fikir birliğine ulaşmak zor olsa da daha geniş bir örneklemle çalışmanın daha doğru sonuçlar verebileceği düşünülmüştür. Ayrıca evlilik süresi ve evlilik doyumu ile ilgili yapılan çalışmalarda kişilerin çocuk sahibi olmasının evlilikten alınan doyuma etki ettiği görülmüştür. Bu konuda gelecekte yapılacak olan çalışmalara çocuk sahibi olup olmamayı değişken olarak eklemek katkı sağlayıcı olacaktır.

Evlilik ilişkisinin güçlü olması evlilik ilişkisi yoluyla kurulan ailenin de güçlü olmasını sağlar. Ülkenin ve toplumun geleceği için aile kurumunun devamını sağlamak ve sağlıklı nesiller yetiştirmek oldukça önemlidir. Sağlıklı nesiller ise sağlıklı aileler içerisinde yetişmektedir. Sağlıklı bir aile işlevlerini gerektiği gibi yerine getirmektedir. Aile işlevselliği yüksek olan bireylerin etkili iletişim becerilerine sahip, birbirlerini olduğu gibi kabul eden, kendilerinden beklenen rolleri doğru bir şekilde yerine getiren, çatışmaları etkili bir şekilde yönetebilen, problemleri uzlaşma yoluyla çözebilen bireyler olduğu ve bunun da evlilik doyumunun artmasına katkıda bulunduğu söylenebilir. Aile içerisindeki yaşamın sağlıklı bir şekilde sürdürülmesini sağlamak ve aile refahına katkıda bulunmak amacıyla ailelere söz konusu işlevlerin kazandırılması yönünde çalışmalar planlanmalıdır.

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AZERBAYCAN ORTA ÇAĞ ŞEHİRLERİNİN TARİHİ (XV-XVI YÜZYIL İTALYAN SEYAHATNAMELERİNE GÖRE)

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ÖZET

Makale, 15. ve 16. yüzyıllarda Azerbaycan topraklarını ziyaret eden İtalyan diplomatların ve seyyahların seyahatnamelerinde ve yol günlüklerinde bahsedilen Azerbaycan şehirlerinin tasvirini incelemektedir. Bu seyahatnameler, Azerbaycan şehirlerinin tarihini, genel nüfusun hayatını, şehrin coğrafi tanımını yansıtmaktadır. Genel olarak makale, Azerbaycan tarihinin çeşitli konularının yabancı kaynaklar temelinde ve özellikle 15. ve 16. yüzyılların İtalyanca kaynakları temelinde incelenmesi yönünde yazılmıştır. Makale, İtalyan büyükelçisi ve seyyahlarının şehirlerimiz hakkında neler görüp öğrendiklerini ve yorumlarını incelemektedir.

Anahtar kelimeler: seyahatnameler, Azerbaycan şehirleri, Contarini, Tebriz, Derbent

HISTORY OF THE MEDIEVAL CITIES OF AZERBAIJAN (ACCORDING TO THE ITALIAN TRAVEL BOOKS OF THE XV-XVI CENTURIES)

ABSTRACT

The description of Azerbaijani cities mentioned in the travelogues and travel diaries of Italian diplomats and travelers who visited the territory of Azerbaijan in the 15th-16th centuries are elucidated in the article. These travelogues reflect the history of Azerbaijani cities, the life, the occupation of the population, the geographical description of the cities. On the whole, the article is written to study various issues of Azerbaijani history on the basis of foreign sources, especially on the basis of Italian-language sources of the 15th-16th centuries. In the article is illuminated what the Italian ambassador and travelers saw and learned about our cities, as well as their comments.

Key words: the travel diaries, cities of Azerbaijan, Contarini, Tabriz, Derbent

GİRİŞ

Azerbaycan tarihinin 15. ve 16. yüzyılları dönemi, olayların devamlılığı ve dizilişi açısından özel bir öneme sahiptir. 15. yüzyılın başlarındaki kaos, ülkenin sosyo-ekonomik ve kültürel yaşamına etkisiz olmadı . Ancak bu yüzyıllarda Karakoyunlu, Akkoyunlu ve Safevi devletlerinin varlığı bu alandaki durgunluğu yavaşlatmış ve gelişmenin oluşmasına ve bu yöndeki ilerlemeyle birlikte şehirlerin hayatı da değişmeye başlamıştır. Özellikle Cihanşah, Uzun Hasan ve Sultan Yakub devirlerinde, istikrarlı siyasi koşullar nedeniyle şehir hayatı daha yüksek bir gelişmişlik düzeyindeydi.

Genel olarak, 15. yüzyılın çalkantılı aşamaları dışında, Azerbaycan'da kentsel yaşamda önemli bir canlanma oldu, şehirlerin ekonomik ve sanatsal önemi arttı ve bu özellikle takdir edilmelidir. Kentsel gelişme, hem iç hem de dış pazarlarda Azerbaycan ürünlerine olan taleple ilgiliydi. Sonuç olarak transit bölgelerde bulunan şehirlerimiz ticarette önemli rol oynamıştır.

Doğu ve Batı arasındaki ticari ilişkilerde önemini hiçbir zaman kaybetmeyen şehirlerimizin bu zaman çerçevesinde daha da gelişmesi, ülkenin sosyo-ekonomik hayatında özel bir önem kazanmıştır.

Azerbaycan'ın zanaat ve ticaret merkezleri olan ve ticari ilişkilerin kurulması için elverişli bir coğrafi konumda bulunan ortaçağ şehirlerinin, bu bölgeleri ziyaret eden yabancı tüccarların, diplomatların, gezginlerin her zaman dikkatini çekmesi tesadüf değildir. Ziyaretleri sırasında seyahatnameler ve günlükler yazdılar ve bu yazılar Azerbaycan hakkında çeşitli bilgiler içeriyordu.

15. ve 16. yüzyıllarda dünyadaki siyasi olaylar, Osmanlı İmparatorluğu'nun Doğu ve Batı'daki topraklarının genişlemesi, Avrupa ile siyasi ilişkilerin kurulmasını gerektirmişti ki, bu da Batı dünyasının dikkatinde idi. Avrupa ülkeleri arasında Venedik daha çok siyasi ilişkiler kurmakla ilgileniyordu. Bunun sonucunda Azerbaycan'a sıklıkla İtalyan büyükelçileri gönderilmeye başlandı.

15. ve 16. yüzyıllarda çeşitli İtalyan büyükelçileri-diplomatları Azerbaycan'ı ziyaret etti. İtalyan büyükelçi-diplomatları görevlerini yerine getirirken yol boyunca karşılaştıkları, gördükleri ve öğrendikleri olayları da not ettiler. Bu bilgiler kaynak çalışmaları açısından Azerbaycan tarihi için büyük önem taşımaktadır. Çünkü yerel kaynaklardan alamadığımız bilgileri bu kaynaklardan öğrenebiliyoruz. İtalyan büyükelçileri ilgilerini çeken her şeyi notlarına eklediler. Bu bilgilere dayanarak ordu yapısı, saraylar, siyasi süreçler, kültür ve en önemlisi şehirlerimiz hakkında bilgi sahibi oluyoruz.

ARAŞTIRMA VE BULGULAR

Seyahatnamelerde, ülkemizin farklı şehirlerinin adları geçmektedir ve aynı zamanda bazıları ayrıntılı bir açıklama yaparken, bazıları da kısaca bilgi vermektedir. İtalyanca seyahatnamelerde Tebriz, Şamahı, Bakü, Derbent, Sultaniye, Hoy vb. şehirlerimiz hakkında bilgiler yansıtılıyor. Ancak o dönemde Azerbaycan'daki İtalyanların şehirlerimizi tanımlamaları ve aynı zamanda onlara farklı bir bakış açısıyla yaklaşmaları çok önemlidir. Çünkü İtalyanlar zaman zaman yerlilerde gördükleri ve onların ilgilerini çeken şeyleri seyahatnamelerine yazdılar.

Başkent olan Tebriz hakkında hem 15. hem de 16. yüzyıllara ait kaynaklardan her zaman bilgiler öğrendik. Amma italyanca seyahetnameler bizi daha çok ilgilendiriyor. 1474 yılında Akkoyunlu'yu ziyaret eden İtalyan diplomat Ambroco Contarini, Tebriz şehri hakkında yazmıştı: "... o gün (4 Ağustos) gün batımından hemen önce Tebriz şehrine girdik. Şehir bir düzlük üzerine kurulmuş ve etrafı tuğla duvarlarla çevrilmiştir. Şehrin yakınında birkaç altın dağ görülüyor. Bu dağlara Tauris (Tebriz) dağları denir..." (Lord Stanley of Alderley, 1873, ss.125) Ne yazık ki, Contarini buraya geldiğinde şehirde bir kaos vardı. O sırada Uzun Hasan'ın oğlu Uğurlu Muhammed Şiraz şehrini ele geçirerek babasına isyan etti. Bunun üzerine Uzun Hasan asker toplayarak üzerine yürüdü. Seyahatnamede şöyle denilmektedir: "... Uzun Hasan asker topladı ve oğlunun komplosunu defetmek için Şiraz'a gitti. Dağ kabilelerinin reisi Cegirli, Uğurlu Muhammed ile birlikte komutasındaki 3.000 süvari ile Tebriz'e geldi. Şimdi, korkudan şehre siperler yapıldı..."(Lord Stanley of Alderley, 1873, ss.126) Şehirdeki bu olaylar nedeniyle Contarini oradayken saklanmaya çalıştı. Çünkü şehir halkı, padişaha gelen elçilere karşı olumlu bir tavır içinde değildi. Contarini ahali içinde yürürken " ...Onlar köpektirler, Müslümanları bölmek için geldiler. Onları parçalara ayıralım" (Mahmudlu, 2012, ss.176) cümlelerini duymuş. Bu yüzden şehirde fazla dolaşmamaya çalışmıştı. Contarini, 22 Eylül'e kadar Tebriz'de kaldı. Ve oradan hızla ayrıldı. Bununla ilgili şunları yazdı: "Gizli bir yerde olduğum için şehir hakkında fazla bilgi veremiyorum. Tebriz büyük ve kehribar bir şehre benziyor. Her türlü alet bu ülkede bol ama pahalı. Birçok pazar var. Halep'e hemen her türlü ticaret malını taşıyan, bol ipekli ve yünlü

kumaşlar taşıyan kervanların geçtiği şehirdir" dedi. (Lord Stanley of Alderley, 1873, ss.128) Contarini tarafından sağlanan bilgiler küçük olsa da çalışmalarımız için çok değerlidir.

Venedikli tüccar Tebriz'in tarihi hakkında bilgi verir. Ona göre Tebriz, Büyük İskender tarafından mağlup edilip öldürülen İran padişahı Dariusun başkentiydi. Bu yüzden Tebriz tahtın merkezi oldu. Uzun Hasan ve Sultan Yakup da bu şehirde yaşamıştır.Venedikli tüccar Tebriz' le ilgili olarak şunları söylüyor: " ...bana göre bu böyük şehrin çevresi yaklaşık olarak 24 mildir. Ve Venedik gibi surlara sahip değil. Bu şehirde şahlardan kalmış büyük saraylar ve çok sayda güzel evler var. Tebriz'in ortasından iki ırmak geçiyor. Bütün her yerde suyu yeraltından gelen çeşmeler var. Geçmiş hükümdarların saraylarının içini ilginç şekilde süslemişler. Dışarıdan altınla ve farklı renklerle kaplamışlar. Her sarayın camisi ve hamamları var. Aynı zamanda şehrin ortasında güzel bir cami inşa etmişler. Bu cami o kadar güzel ki onun özelliklerini açıklayamıyorum..." amma tüccar gördüklerini tarif etmeye çalışacağını yazıyor. Onun yazdıklarına göre bu cami *" Ali Kapu imareti"* adını taşıyor. " ... caminin 3 kapısı var ve sadece ikisi açık. Her kapıyı farklı renklerde taş sütunlardan inşa etmişler. Venedikli tüccar daha sonra seyahetnamesinde yazıyor ki, müslümanların ibadet yapdığı bölümde öyle büyük bir mihrap var ki eğer oraya ok atsalar tavanına ulaşamaz". (Gündüz, 2007, ss.130) Tebriz ahalisinin yemek kültüründen bilgi veren Venedikli tüccar yazıyor ki tebrizliler daha çok koyun eti yiyorlar ve Tebrize birgünlük mesafede bulunan Van ve Vestan gölünden balık yakalıyorlar. Aynı zamanda şehirde Mahmudabaddan getirilen havyar da çok oluyor. Bu bilgilerden öğreniyoruz ki Tebrizde meyveler bol. Venedikli tüccar tebrizlilerin dış görünüşlerini, orada yaşayanları, giyimlerini, şehirdeki vergiler hakkında günlüğünde bilgileri yansıtmıştı. (Gündüz, 2007, ss.131)

Tebriz şehri hakkında bilgi veren diğer italyan Alessandri' nin yazdıkları: "...Tebriz ahalisi biri Nimeti diğeri Haydari olmakla iki kısma ayrılmıştır. Bu cemaat biri 5 diğeri 4 olmak üzere 9 mahallede yaşıyor. Onların sayı 12 bindir. Bu iki taraf birbirilerile düşmanlık yapıyor ve birbirilerini öldürüyorlar. Ne şah bu işi durdura biliyor ne de başkaları. Çünkü 30 yıldır bu iki qrup birbirinden nefret ediyor..." (Onullahi, 1982, ss. 161)

"...Tebriz bu İran (Sefevi) şahlığının başkenti olduğundan onun hakkında bir kaç söz söylemem gerekiyor. Bu şehir geniş bir ovada yer alıyor ki etrafında tepeler bulunuyor. Şehir dikdörtgen şeklindedir. Çevresinde hisar olmasa da 15 mildir. Sayısız bahçeler ve açık alanlar göze çarpıyor. Tebriz' in 45 sokağı var. Her sokağa bahçe diye biliriz. Tebrizin meyveleri diğer ülkelerinkinden daha iyi. Burası bir ticaret şehri. Çünkü ülkenin her yerinden ticari mallar ve kervanlar buraya gelir". (Efendiyev, 2005, ss. 191)

Azerbaycanın diğer şehri Sultaniye 15. yüzyılda gelişmiş şehir idi. Onu söylemek mümkün ki kendisinin gelişmesinin üst seviyyesinde idi. Sultaniye ticaretde önemli yere sahipdi ve ticaret merkezi gibi önemli rolü vardı. Bu şehir hakkında hem Contarini, hem de Barbaro kendi seyahatnamelerinde bilgi verirler. Contarini yazıyor: " ayın 28-de (eylül) görünüşüne ve benim de tahminlerime göre gözel bir şehir olan Sultaniyeye vardık. Etrafına hisar çekdikleri büyük bir kaleye sahip. Onu seyretmek istedim. İçinde eski bir cami var. Venedikdeki St. Mark kilisesinin kapılarından daha yüksek durumda olan 3 tunçtan kapısı var. Bu kapıların üzerlerine gümüş çivilerle güzel nakışlar işlemişler. Nakışlar gül ve yaprak şeklindeler. Sanıyorum ki bu iş için olduqca para harcanmış. Orada görmeye değer başka şey yok. Şehir düzlükte kurulmuş ama etrafında bazı yüksek dağlar var... yemek ve pamuk kumaş satdıkları pazarları var." (Mahmudlu, 2012, ss. 177) Bu bilgilerden göründüğü gibi Sultaniye şehrinin ustaları zanaatkarlıkta güzel işlerin sahipleri imişler. Bu şeyler hakkında Barbaro da aynı şeyleri yazıyordu. " ...şehirde 4 sıra oturacak uzunluğunda bir kilise var. Bu kilisenin kubbesi Venedik'te San Paulo kilisesinin kubbesinden büyük. Kapının parmaklıkları dairesel ekmek iriliğinde toplara sahip. Bu altın ve bakır işlemeciliğinde o kadar ustalar ki bizim ülkemizde bunu yapmak için harcayacakları vakit bile olsa bu işleri yapan ve suna bilen adamlar yok."

(Lord Stanley of Alderley, 1873, ss. 69) Her iki diplomat Sultaniye ustalarını takdir etmiş, onların işlerine hayranlıkla yaklaşmışlar. Kendi ülkelerindeki mimarlıq anıtları ile karşılaştırmış ve Sultaniyedekini daha üstün tutmuşlar. Ayni zamanda bu binayı Contarini cami, Barbaro ise kilise gibi not etmişler. Ama bu Olcaytu türbesi idi ve her iki diplomatda hoş bir etkisi olmuşdu.

Barbaro Sultaniye için yazıyordu: " Sultaniye bizim dilde imperial anlamını verir. Buranın padişaha ait olması görülüyor. Bu nedenle oldukça sağlam inşa edilmiş. Surları olmasa da bir kaleleri var. Hisarları harap olmaya yüz tutmuş. Çünkü 4 yıl öncesinde Cihan şah tarafından tahrip edilmiş. Kalenin çevresi 1 mildir . Şehir büyük. Bol su var. Doğru şimdi ahali az ve 6 ila 8 bin arası ve biraz çok ola bilir." (Lord Stanley of Alderley, 1873, ss. 69) Sonuncu yazılardan göründüğü gibi Sultaniye ülkede önemli bir yere sahip bir şehir olmuş. Ama ülkede olmuş siyasi süreçler bu şehirden de uzak olmamış ve bu da şehre etkili olmuş.

Eski Derbent şehri bu dönemlerde de kendi muhteşemliğini korumuş, liman gibi önemli yere sahibti. Aynı zamanda Derbent kuzey yolu üzerinden bulunduğundan kuzeyden gelen tehlikenin karşısını kesiyordu. Bu şehrin alınması her dönem için zor olmuştu. 15. yüzyılda Zeno Derbent hakkında şunları yazdı: "Derbent İskenderin Hazar dağlarının geçidinde, iskitlerin akınlarının karşısını almak maksadlı kurduğu bir şehirdi. Buradakı yol o kadar dar ki, 100 adet birbirine yakın durmuş asker binlerle insanın karşısını ala bilir. Derbent olduğu yer itibarile Doğu ülkeleri arasında en güçlü şehirlerden birisi. Çünkü bir dağın zirvesinden yer almakla şehri ve limanı çevreleyen ve denize kadar uzanan 2 duvara sahiptir. Gemiler 3 yüz adımdan daha çok genişliği olmayan limana demir atıyorlar. Derbent şehri öylesine güçlü ki ona bekçiler koyulsa bile şehre kimse giremez. Derbent çerkez ülkesine giden tek geçit yeridir. Bu diyarın halkı bura demirden yapılmış kapı anlamında Demirkapı söylüyorlar. Doğrusu bu isim burada demir bir kapının olmasından değil, aynı zamanda saldırıya geçenlere karşı oldukça dayanıklı olmasında kaynaklanmıştır. Bu yüzden buradakı halk bunun arkasında kendilerini güvende hiss ederler." (Charles Grey, 1873, ss. 44) Derbent şehrinin kurulması ile ilgili hem Zeno, hem de Contarini aynı bilgiyi bize sunar. Onların yazdıklarına göre Derbent şehri Büyük İskender' in zamanında inşa edilmiş. Maksad kuzeyden gelen saldırını engelleyebilmektir. Hatta Barbaronun yazdığına göre Derbent şehrinin ismi dar ve ince demektir.

Contarini yazdı : " 9 kasımda (1474) Derbente vardık. Rusyaya gitmek için Tatarıstan çöllerinden geçmemiz gerektiği için bize bu kışı bu küçük şehirde geçirmemizi , nisanda Bakü denizini geçip Astrahana gitmemizi tavsiye ettiler. Derbent şehri Bakü denizi veya Hazar denizi kenarında inşa edilmiştir. Bu şehri Büyük İskender' in inşa ettiği söyleniyor. Demir kapı da deniliyor. Media ve Pers ülkesine gitmek için sadece buradan geçmek gerekir. Çünkü Astrahana kadar uzanan derin bir ırmak var." (Lord Stanley of Alderley, 1873, ss.145)

Contarini şehirde yaşayan ahalinin işleri ve gıdası ile ilgili bilgi verirken burada her çeşit yemek bulunduğunu yazar. Halk şarap yapar. Her çeşid meyve bol miktardadır. " Hazar denizi oldukça büyüktür, ama çıkışı yoktur. Çok derin ve büyüklüğünün Kara deniz kadar olduğunu söylüyorlar. Havyar bol miktarda elde ediliyor. Bu denizde braccio ölçüsünde bir balık türü elde ediliyor ki, ondan bir çeşit içki hazırlanıyor. Aynı zamanda ondan lamba yağı yaparlar ve develeri yağlamak için kullanırlar." (Lord Stanley of Alderley, 1873, ss.145) Ahali ile ilgili yazan Contarini " bu diyarın halkı iyi huylu. Bize hiç bir zaman kötülükleri dokunmadı. Bize kimsiniz diye sorduklarında hıristianız dedik. Bundan sonra bize hiçbir şey söylemediler". (Lord Stanley of Alderley, 1873, ss.145) Bu bilgilerden öğreniyoruz ki Derbent şehri yemek bakımından zengin şehir olmuş, her çeşit meyvelerin ve gıdanın bolca bulunduğu şehirmiş, aynı zamanda ahali şarapçılıkla, balıkçılıkla meşgul olmuşlar.

Derbent şehri ile ilgili bilgi veren Barbaro: " bu şehir Bakü denizinin kıyısında ve dağdan bir mil uzaklıkta yer alıyor. Dağın üzerinde bir kale var. Şehrin genişliği bir kapıdan o biri kapıya kadar yarım mildir ve duvarları Roma yapıları tarzında büyük taşlardan inşa edilmiştir. Derbent dar ve ince demektir. Öyle ki buraya Demir kapı deniliyor. Bu şehir Mediayı Saka ülkesinden ayırıyor... Derbentden sonra her yer kayalıktır. Çok az toprak var" . Söylemek gerekirse Barbaro ile Contarini' nin verdiği bilgiler neredeyse aynı. Her iki diplomat aynı anda Azerbaycan'da bulunduğundan bilgiler benzerdir. (Lord Stanley of Alderley, 1873, ss.86)

Angioello Derbent şehrinin Demir kapı adlandığını, Hazar denizinin kıyısında Hazar dağları adını taşıyan yüksek dağların yanında inşa edilmiş bir şehir olduğunu yazıyor. " Derbent tatarların ve çerkeslerin diyarlarına tek geçit yeridir. Bu dağın yanında sahilin küçük bir bölümü yer alır. Bunun genişliği denizden dağa kadar bir mildir. Denizden dağa kadar iki sur çekilmiş olup bunun uzunluğu yarım mildir. Bu surlar 6 adım derinlikde suya gömülüyor. Öyle ki kapıdan geçemediği sürece hiç kimse yaya veya atlı olarak oradan geçemez. Bu duvarlar arasında çok sayda evler inşa edilmiş. Derbent ticaret amacıyla Astrahana ve diğer yerlere gidip gelen gemiler için liman gibidir. Geçmişte 800 ton yüke sahip gemiler limana girerlerdi. Ama şimdi 200 tonluk gemiler limana girebiliyor." (Gündüz, 2007, ss.75)

İtalyan seyahatnamelerinden de anlaşılacağı üzere Derbent güçlü bir savunmaya sahipti. İyi korunan bir şehir olan Derbent ahalisi, diğer dinlere mensup insanlara karşı sıcakkanlı ve hoşgörülüdür. Şehir her zaman için hem kara hem de deniz ticaretinde de önemli bir rol oynamıştır.

Azerbaycan'ın önemli ticaret merkezlerinden biri olan Şamahı, ticaret yolları üzerindeki konumu ve kuzeye giden yol üzerindde bulunduğundan bu sebeple her zaman ziyaret edilen bir şehir olmuştur. Vatanına dönen Contarini, Şamahı şehrini de ziyaret etmiş ve bu şehir hakkında gördüklerini şöyle yazmıştır: " 1 kasım 1475 tarihinde şirvanşaha bağlı Şamahıya vardık. Burada Tolamana diye söylenen ipekli kumaş ile atlas parça dokunuyor. Bu şehir Tebriz kadar büyük değil. Ancak bana göre her bakımdan ondan daha iyi. Her çeşit yiyecek burda oldukca çok. Burda kalırken Moskovanın elçisi Marco Rosso ile karşılaştım. O edepli davranıp ikametgahım olan kervansarayda benimle görüştü." (Lord Stanley of Alderley, 1873, ss.144) Contarini'e göre, Şamahı yaşamak için daha uygundur. Çünkü burada her şey bol. Contarini'nin bilgisinden Akkoyunlu Sarayı'na gönderilen Moskova elçisi Marco Rosso'nun da aynı zamanda Şamahı'da olduğunu öğreniyoruz.

Başka bir İtalyan diplomat Barbaro, Şamahı şehri hakkında şöyle yazıyor: "Tebriz'e 12 menzil mesafesinde Şamahı'ya ulaşılıyor. Bu toprakların yöneticisine Şirvanşah denir. Bu şehrin halkı gerekirse 9 veya 10 bin süvariyi savaşa hazırlayabilir. Şehir bir taraftan Şamahı'ya 6 mil mesafe ve sağ tarafta yer alan Bakü Denizi ile sınırlanmıştır. Bu şehirde yaklaşık 4 veya 5 bin güzel ev var. Nüfus ipek ve pamuklu kumaş dokuyarak yaşıyor." (Lord Stanley of Alderley, 1873, ss.86) Barbaro'nun notlarından Şamahı'nın o sırada yaklaşık 9.000 veya 10.000 süvari yetiştirebileceği açıktır. Bu, nüfusun savaş sırasında orduda önemli bir rol oynadığını göstermektedir. Aynı zamanda 4.000 veya 5.000 ev olduğunu söyleyen Barbaro'ya atıfta bulunarak, o zaman Şamahı'da her ailede yaklaşık 5 kişi olduğunu dikkate alırsak, orada 20-25 bin kişinin yaşadığını söyleyebiliriz.

Bakü, 15. yüzyıldan beri Hazar kıyısında önemli bir liman şehri olmuştur. Bakü, deniz ticaretinde Derbent'i çoktan geride bırakarak liman olarak etkinliğini artırmaya başlamıştı. Bakü'nün Moskova ve Orta Asya ile ticarette önemli bir rol oynaması tesadüf değildir. Bu dönemde Bakü'de petrol üretilip çeşitli amaçlarla kullanılmıştır. İtalyan diplomat Barbaro, Bakü hakkında bildiklerini şöyle yorumluyor: " bu şehrin yakınında bulunan bir dağdan siyah renkli bir neft (petrol) çıkar. Çok kötü kokuludur. Bununla birlikte halk bu nefti aydınlatmak

için kullanır. Yılda iki kez bu yağ ile develerini yağlarlar. Çünkü böyle yapmazlarsa develeri uyuz hastalığına yakalanır.” (Lord Stanley of Alderley, 1873, ss.87)

Diğer italyan diplomat Angioello ise Bakü'nü bu şekilde tarif eder: “ Mahmudabad'dan 4 günlük ve Şamahı'a 2 günlük yol mesafesinde olan Bakara adlı bir yere vardık. Buraya Bakü de derler ve Tebrizin limanlarından biri sayılır. Büyük bir limana sahip. Antik devirlerin en önemli sahil şehri imiş. Her ne kadar buraya Hazar dağlarına nisbet olarak başkaları Hazar denizi diye isimlendiriyorsa da bu şehrin adıyla Bakü denizi de deniliyor.” (Gündüz, 2007, ss.74)

Angioello'nun notlarından bu yüzyılda Bakü'nün bir liman kenti olarak lider konumunu koruduğu açıktır. O zamanlar Hazar Denizi'ne Bakü Denizi de deniliyordu. Bunu Barbaro'nun seyahatnamesinde de gördük.

Aynı zamanda diğer Azerbaycan şehirleri hakkında da bilgi alıyoruz. Angioello, Shabran'dan birkaç cümleyle bahsediyor: “Bakü'nün kuzeyinde surları olmayan Sebran adında bir şehir var. Orayı ahalisi boş bulduk. Çünkü bazıları korkudan, bazıları da bu diyarı viran etmek için kaçmıştı.” (Günzüz, 2007, ss.74)

O sırada Şabran'ın Safeviler tarafından alındığı ve halkın onlardan korktukları için şehri terk ettiği kaynaktan anlaşılmaktadır.

Venedikli tüccar seyahatnamesinde Azerbaycan'ın Merend ve Hoy şehirlerini anlatmaktadır. Venedikli tüccara göre Merend birçok nehirleri ve bahçeleri olan bir antik kenttir. “ Van'dan üç günlük yol mesafesinde Merend adlı bir yere varırız. Eski binalarından anlaşıldığına göre burası antik dönemlerde büyük bir şehir imiş. Merend, ırmakları ve bağları ile güzel bir ovada yer alır. Ama Merend, iç kısmında çarşısı olan küçük bir şehirden ibarettir. Eğer 3 gün daha devam edersek, Hoy'un bulunduğu, etrafı yüksek dağlarla çevrili güzel ve geniş bir ovaya ulaşırız.” (Gündüz, 2007, ss.128)

Aynı zamanda, Hoy hakkında yazan Venedikli tüccar, geçmişte burada bir gelenek olduğunu not eder. Şah ordusuyla savaşa girmek istediğinde askerler gruplar halinde burada toplanırlardı. Ayrıca 15. yüzyıldaki siyasi süreçler nedeniyle Şah İsmail tahta çıkınca Hoy şehri yıkılmış ve yeniden inşa edilmiştir. “yaptığı binalardan biri büyük bir saray. Ve farsça buna devlethane deniliyor. Sarayın etrafına tuğladan duvarlar çevirmişler. Geniş bir mahallede kale ve harem de yapmışlar. Sarayın içinde hepsi bir tavanın altında salonlar ve çok sayda odalar yapmışlar. Kalenin ise büyük ve görkemli bir bahçesi var. Sarayın iki kapısı ve oldukça güzel iki büyük avlusu var.” (Gündüz, 2007, ss.128) Aynı zamanda Venedikli tüccar Şah İsmail'ın avlamağı çok sevdiğini ve Hoya avlanmak için sık geldiğini yazıyordu: “ bu sarayda yaşamaktan Tebrize nazaran daha çok lezzet alıyor. Çünkü bu memleket av için oldukça müsait. Bu şehirde bol miktarda kırmızı renkli lake üretiliyor. Bunu yer altından çıkarıyor ve köklerden elde ediyorlar. Daha sonra Hürmüze gönderiliyor.” (Gündüz, 2007, ss.129)

Barbaro da seyahatnamesinde Hoy şehri hakkında bilgi verir. Ona göre Hoy halkı tarım ve el sanatları ile uğraşmaktadır. Barbaro şehre geldiğinde, o kadar iyi durumda değildi. “İki gün içinde Hoy şehrine ulaştık. Harap durumdaydı ve 400 hane vardı.” (Lord Stanley of Alderley, 1873, ss.51)

Safevi bölgesindeki diğer şehirler hakkında yorum yapan Alessandri, savunma duvarları olan şehirler olmadığını ve hepsinin açık olduğunu ve evlerin küçük ve tuğladan yapıldığını yazıyor. Şehirlerin her ne kadar bulundukları yerlerin güzel olduğunu yazan elçi, şehri süsleyen tek şeyin camiler olduğunu, yolların kötü durumda olduğunu seyahetnamesinde yazdı. (Gündüz, 2007, ss. 189)

SONUÇ

Genel olarak, İtalyan seyyah-diplomatlarının seyahatnameleri, Azerbaycan şehirleri hakkında yeterince ilginç ve değerli bilgiler içermektedir. Bu seyahatnamelere dikkatlice bakacak olursak, buradan edindiğimiz bilgilerin bir kısmının başka kaynaklarda olmadığını veya onlarda geniş dokunulmayan konuların bu seyahatnamelerde daha detaylı anlatıldığını görürüz.

Genellikle yerel kaynaklarda şah tarihçilerinin kitaplarında şahların hükümdarlıkları dönemine ülkede olan tatsız olayların ve halkın hayatının zor günlerinin yansıtılmadığı göz önüne alındığında italyan seyahatnamelerinde bu tür vakaların ortaya konması dönemin açıklaması ve aydınlatılmasına bize yardımcı olmaktadır. Bu açıdan bakıldığında Azerbaycan tarihi , aynı zamanda türk tarihi için en önemli kaynaklardan birinin İtalyanca seyahatnameler olduğunu söyleyebiliriz.

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LİDERLİK TEMELLİ BİR LİBERAL DEMOKRASİ ELEŞTİRİSİ: CARL SCHMİTT

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ÖZET

Ulus devlet ile kurduğu bağ neredeyse tartışmasız bir şekilde kabul görmüş ve artık vazgeçilmez bir unsur olarak öne çıkmış olan demokrasi düşüncesi, çağımızın tek geçerli yönetim biçimi olarak benimsenmiş görünmektedir. Modern ulus devlet ise yine bu mutlak kabul üzerinden şekillenerek aynı temelde özgürlüğün, eşitliğin ve özellikle halkın egemenliğinin teminatı olarak varlığını ortaya koymuştur. Meşru bir iktidarın oluşmasının olanağı olarak demokrasi ise bu bağlamda modern devletin yegane ideolojisi olarak merkeze yerleşir. Özellikle özgürlükler ekseninden bakıldığında demokrasi düşüncesi ve pratiği daha çok liberal demokrasilere dönüşme eğilimindedir. Tam da bu noktada Carl Schmitt bu bölünmez ve olmazsa olmaz bağı özellikle liberal demokrasiler söz konusu olduğunda koparma çabası içerisine girer. Ona göre liberal demokrasi, parlamentarizm ve plüralizm gibi unsurlar aslında yüzlerce yıllık bir çabanın ve mücadelenin sonucu olarak ortaya çıkan modern devleti güçlendiren değil onu güçten, düşüren, zayıflatan hatta yok etme noktasına getiren bir tutumdur. Özellikle liberalizm ona göre gerçekte iradesiz bir yönetim biçimi olarak devleti idare edebilme kabiliyetinden tamamen yoksundur. Siyasal birliğin güçlü bir örneği olarak karar verme yetkisini tekelinde tutan modern devlet, liberalizm gibi hastalıklı düşüncelerle ortadan kalkma tehlikesi ile karşı karşıyadır. Devletin mutlak egemenliğini merkeze alan ve karar verme mekanizması olarak onu daha da güçlü bir konuma taşıma eğiliminde olan Schmitt bu noktada lider kültüne de sıcak bakar. Bu çalışmada mutlak egemenliğinin bir tezahürü olarak devlet ve onun yegane temsilcisi olarak lider demokrasisini merkeze alan Schmitt'in geleneksel anlayışın dışına çıkan görüşlerine yer verilecektir.

Anahtar Kelimeler: Modern Devlet, Demokrasi, İktidar, Lider, Liberalizm

A LEADERSHIP-BASED CRITIC OF LIBERAL DEMOCRACY: CARL SCHMITT

ABSTRACT

The thought of democracy has formed an almost undoubted bond with nation-state, and it has now become an indispensable element. Democracy also seems to be adopted as the only valid management system. Modern nation state, on the other hand, has been shaped over this absolute acceptance and on the same basis, it came forth as the guarantee of freedom, equality and in particular, the sovereignty of public. Democracy, as the possible source of the formation of a legitimate power, takes centre stage as the single ideology of the modern state in this context. In particular, looking from the axis of freedoms, the idea and practice of democracy tend to transform into liberal democracies. At this very point, Carl Schmitt tries to break this indivisible and indispensable bond, especially when it comes to liberal democracies. According to Schmitt, elements such as liberal democracy, parliamentarism and pluralism are actually an attitude that does not strengthen the modern state, which has emerged as a result of hundreds of years of effort and struggle, but weakens, forces it, even

brings it to the point of destruction. In particular, liberalism, according to him, is completely devoid of the ability to manage the state as an involuntary form of government. As a strong example of political unity, the modern state, which monopolizes its decision-making power, is in danger of disappearing with sick ideas like liberalism. Having the tendency to take the absolute sovereignty of the state into the centre and carry it forward to a stronger position as a decision-making mechanism, Schmitt also welcomes the cult of leader at this point. This study will include the non-traditional views of Schmitt who places leader-democracy at the centre as the single representative of state, which itself is the reflection of absolute sovereignty.

Keywords: Modern State, Democracy, Power, Leader, Liberalism

GİRİŞ

Demokrasi düşüncesi tarihsel olarak bakıldığında ne şekliyle olursa olsun günümüzde olduğu gibi hemen her zaman en geçerli yönetim biçimlerinden biri olarak düşünülmemiştir. Bu kavrayış özellikle modern devlet düşüncesi ile kurduğu bağ göz önünde bulundurulduğunda daha çok çağımıza ait bir düşüncedir. Hatta demokrasi, doğduğu topraklar, yani Antik Yunan söz konusu olduğunda pek de sıcak bakılmayan bir yönetim biçimi olarak görülmüş, daha çok yönetimin avamın, başka bir deyişle aşağı tabakanın eline geçmesi dolayısıyla tehlikeli yönetim biçimlerinden biri olarak değerlendirilmiştir. Hatta demokrasi, toplumun ana değerlerinin kaba kitlelerin ya da cahil halkın eline verilmesi şeklinde tasavvur edildiğinden toplumun kazanımlarının da boşa çıkacağı düşünülmüştür. Özellikle Antik Yunan'ın demokrasi kavrayışı günümüzden oldukça farklı olsa da temel değerlerin ve prensipler ekseninde çok da fazla bir değişiklik söz konusu değildir denilebilir. Özeklikle halkın yönetime katılması ve kısıtlı alanlarda da olsa kimi kararlarda söz sahibi olması günümüz demokrasi düşüncesinin de en önemli özelliklerinden biri olarak kendisini ortaya koymuştur. Ancak günümüzün demokrasi anlayışı artık sadece halkın yönetime katılması ve oy kullanması şeklinde kısıtlı bir alanı ifade etmekten çok özgürlük, eşitlik, adalet, bilgi edinme hakkı, seçme ve seçilme gibi alanları da kapsayarak çok daha geniş bir anlam kazanmıştır. Oysa Antik Yunan'ın demokrasiden anladığı *kratos*un yani erkin ve iktidarın *demos*un yani halkın eline geçmesiydi ki bu kuru, kaba ve cahil kalabalıklar söz konusu olduğunda netice eninde sonunda toplumun geneli için hüsran olacağıydı. Hatta eğitimsiz bir kitlenin kendi kendisini yozlaşmadan, bozmadan yönetebileceği düşüncesi genel sağduyuya da aykırıydı. Nitekim Platon da demokrasiyi görünürde oldukça güzel bir yönetim şekli gibi görünmesine karşın aslında sert bir şekilde eleştirerek bir anlamda oligarşinin bir sonucu ya da dönüşümü olarak görür. Sadece zevk ve servet düşkünlüğünün geçerli olduğu bir düzen olarak oligarşide toplum çürümüş, en ufak anlaşmazlıkta sınıflar arasında bir savaşın ortaya çıkması olanağı ortaya çıkmıştır. Bu savaşta yoksul çoğunluk zenginleri yendiğinde demokrasi ortaya çıkar. Bu yenilginin sonucunda zenginler sürülür ya da öldürülür. Kazananlar devleti kendi aralarında eşit olarak bölüşürler ve iş başına geçecek olanlar bilgi ve birikim ile değil kura ile seçilmeye başlanır. Bu devlette artık herkes özgürdür ya da bir özgürlük havası estirilir. Bu da hemen her insanın neredeyse tanrı gibi özgür davranmalarına olanak sağlar ve her istediklerini yapabilecekleri fikrine kapılmalarına neden olur. Hatta mahkumlar ve suçlular bu özgürlük ortamında ellerini kollarını sallayarak dolaşabileceklerdir. İsterlerse felsefe ile uğraşabilecek isterlerse devlet adamı olabileceklerdir. Bu da bir noktadan sonra otorite krizini ortaya çıkaracak, oligarşiyle başlayan bu süreç tiranlıkla son bulacaktır. (Platon, Devlet,240-242) Oysa Platon'a göre asıl olan sınıflar arasında dengenin sağlanmasıdır ki bu denge sağlanmadığı sürece o toplumda mutluluktan söz edilemez. Platon'un devlet anlayışı bu noktadan bakıldığında demokrasiyi kabul edebilecek ya da ona tolerans gösterecek bir anlayış değil daha çok herkesin üzerine düşeni en iyi şekilde yaptığı, iyi ideasına dayanan, kralların

filozof ya da filozofların kral olduğu adalet temelli bir anlayıştır. (Platon, Devlet, s.163) Bu bağlamda mutlak eşitliğe dayalı bir demokrasi felaketten başka bir şey getirmez.

Aristoteles de kötü ama aslında daha az kötü bir yönetim biçimi olarak demokrasiyi bozuk yönetim biçimlerinden biri olarak görür. Platon kadar keskin olmasa da Aristoteles'e göre de demokrasi başkanı olmayan bir aile gibidir ve yurttaşların sadece belli bir kısmını yani yoksulların çıkarlarını koruyarak toplumun genelini gözetmez. Ona göre "krallıktan tiranlık, aristokrasiden oligarşi, siyasal yönetim ya da çokluğun anayasal egemenliğinden ise demokrasi çıkar. Tiranlık tek yöneticinin çıkarı için tek'in yönetimidir, oligarşi varlıklı adamların çıkarlarını korur, demokrasi ise yoksulların çıkarlarını ön plana çıkarır. Bu üç yönetim biçiminden hiçbiri toplumun yararını amaçlamaz. (Aristoteles, 2010, s. 81). Platon'da da olduğu gibi Aristoteles'e göre de demokrasilerde herkes eşittir ve istediğini yapma hakkına sahiptir ki bu da aslında yönetimi zayıflatan bir şeydir. (Aristoteles, Nikomakosa Etik, s.168)

Yani genel olarak Antik Yunan düşüncesi günümüz demokrasilerinin olmazsa olmazı ilkelerinden bir olarak eşitlik ilkesine sıcak bakmayan hatta bu kavrayıştan oldukça uzakta bir toplumsal tasavvura sahiptir. Toplum için yıkıcı olduğu düşünülen her türden davranışın dışarıda tutulması gerektiği düşüncesi oldukça baskındır ve bu türden yıkıcı unsurlar gelişip yayılmadan toplumdan olabildiğince çabuk uzaklaştırılmalıdır. Zaten Antik Yunan'da yurttaşlık temelli demokrasi pratiğinin, düşünürlerin demokrasi tasavvuruyla eşitlik ekseninde ortak bir yönü yoktur. Demokrasi düzeninin en temel yapı taşı olarak yurttaş, sadece belirli kriterleri karşılayanların sahip olabildiği, babadan Atinalı olduğu bir kurulca kesinleştirilmiş, 21 yaşını doldurmuş erkekleri kapsayan bir tür imtiyaz durumuna işaret eder. Köleler, kadınlar ve ne şekilde olursa olsun Atinalı olmayan yabancıların yurttaşlık haklarına sahip olması mümkün değildir.

Bu noktalardan hareketle söylenebilir ki çağımızın neredeyse eleştirilemez yönetim biçimlerinden bir olarak demokrasi, tarihsel olarak Antik Yunan, Roma ve Ortaçağ kent devletlerinde yurttaş ile olan bağını hiçbir zaman modern ulus devletlerde olduğu gibi kurmamıştır. Bu anlamda demokrasi ile yurttaş arasındaki bağ, modern bir olgu olarak karşımıza çıkmış ve modern devlet anlayışının olmazsa olmaz yönetim biçimi olarak kendisini dayatmıştır denilebilir. Liberal demokrasiler söz konusu olduğunda ise kimi düşünürler liberal demokrasileri demokrasinin en gelişmiş formlarından biri olarak görmüşlerdir. Örnekse Sartori'ye göre liberalizm ile demokrasi arasında sıkı bir ilişki söz konusudur ve liberalizmin temel ilkeleri olarak bireysel özgürlük, hukukun savunulması ve buna bağlı olarak anayasal bir devlet anlayışı demokrasi düşüncesi ile tamamen örtüşen ilkelerdir. Hatta her ne kadar demokrasi düşüncesi liberalizmden çok daha eski olsa da günümüzde demokrasiyi olanaklı kılan şeyin liberalizm olduğunu ve günümüz demokrasilerinin liberalizmin bir sonucu olduğunu dile getirmektedir. (Sartori, tarihsiz, s.233) Liberal demokrasilerde temel sav şudur; Tek başına eşitliği sağlayamayan demokrasi ile tek başına özgürlüğü sağlayamayan liberalizm, özgürlük ve eşitliğin birleşmesi noktasında ancak liberal demokrasilerde kendilerine fırsat yaratabilirler. Bir liberal ile bir demokrat arsında rollerin bölüşülmesi ancak liberal demokrasi ile mümkün olabilir. Liberal olmayan bir demokrasinin totaliter ve baskıcı bir demokrasi olacağı görüşü ön plana çıkar. Liberalizmle bağı kopan bir demokrasinin her ne kadar arkasında halk desteği de olsa, er ya da geç despotik bir kölelik düzenine dönüşmeye mahkumdur.

Tam da bu noktada Carl Schmitt çağımızda öne çıkan çoğulculuk ya da liberal demokrasi gibi düşüncelerin devleti artık sıradan bir kuruma dönüştürdüğünü, onu egemen olma görevinden uzaklaştırarak yok olmanın eşiğine getirdiğini dile getirecektir. Bu bağlamda daha egemen ve daha güçlü bir devlet kavrayışını ortaya koyarak onu ortaya çıkaran geleneklere bağlı kalma eğiliminde olacaktır. Schmitt çağımızda devletin güçten düşürülmüşlüğünü ve zayıflatılmışlığını şu şekilde dile getirecektir "İnsanlığın Avrupa'da yaşayan kısmı daha kısa

bir süre öncesine kadar hukuksal kavramları tamamıyla devlet tarafından belirlenen, siyasal birlik modeli devlet önkabülüne dayanan bir dönemde yaşıyordu. Devlet çağı artık sona eriyor. Avrupa merkezli kamu ve devletler hukuku öğretisinin dört yüzyıllık bir fikir uğraşıyla yarattığı, devlete dayanan tüm üstyapısal kavramlar da sona eriyor. Siyasal birliğin modeli, en hayret verici tekelin, yani karar verme tekelinin sahibi devlet, Avrupa tarzının ve batı rasyonalizminin bu ihtişamlı örneği artık tahtından indiriliyor. (Schmitt, 2006, s. 30).

Egemen Devletin Tehlikeye Düşen İtibarı

Schmitt'e göre özellikle 19. yüzyıla kadar güçlü bir şekilde varlığını ortaya koyan, itaatin ve güvenin sağlayıcısı olarak kimi toplumsal değerleri elinde tutan devlet, artık toplumsal yapı içerisindeki anlaşmazlıkları çözmeye çalışan, onlara arabuluculuk yapan bir kuruma dönüşerek özünden uzaklaşmıştır. (Schmitt, 1930, s. 29) Bu açıdan yapılması gereken şey hakim anlayış olarak öne çıkan liberal demokrasilere karşı devlet daha da güçlendirilmeli, olması gereken konuma yeniden yükseltilmelidir. Plüralizm ve parlamentarizm gibi devleti güçten düşürüp onu zayıflattığı gibi halkın parçalanmasına neden olmuştur. Özellikle parlamentarizm siyaset biçiminin yozlaşmış bir biçimi olarak kişisel çıkarların sahnelendiği bir alana dönüşmüştür. Ona göre devletin karşısında durabilecek ve ikincil bir iktidar olanağı sağlayacak her türden yapılanma toplumsal parçalanmanın önünü açacağından tamamen karşı durulması gereken bir olgudur. Liberal kavrayışa yönelik eleştirinin temelinde de bu düşünce vardır çünkü ona göre bu kavrayıştan hareketle kendisini merkeze koyan birey devlete olan itaatini ve güvenini kaybetmeye başlar. Oysa çoğulcu liberal kavrayışın temelindeki düşünce tam da budur. Yani bireyin bu anlayışını keskinleştirerek onu devletin karşısında konumlandırarak ikinci bir otoriteye dönüştürür. Schmitt aslında çoğulculuğu "tinsel yaşamın temel yasası" olarak sosyal alanın bir parçası olarak görmekte ancak bu durumun devlet düşüncesinin bir parçasıymış gibi gösterilmesine karşı çıkmaktadır. Çünkü bu türden liberal parlamenter bir yönetim biçimi sosyal alandaki anarşizmi politik alana taşıyarak devleti çoğulcu bir yapıya dönüştürme gayretinde olur. (Kaya, F.G. 2010, s. 23) Buna karşılık Schmitt liberal bireye karşılık devlet yurttaşlığını öne çıkarır. Toplum ile devlet arasında ortaya çıkan ayrımın ise bir devlet başkanının şahsında politik sağlanmasıyla aşılabileceğini söyler. Karşılıklı bir sözleşmenin ürünü olarak ortaya çıkan anayasa ise bu birliğin teminatı olarak ortaya çıkacaktır. Bu şekilde örgütlenmiş bir devlet politik olanı elinde tutarsa ancak varlığını sürdürebilir. Oysa liberal teorilerde ortaya konan devlet anlayışı bu kavrayışın tamamen dışındadır ve devleti devlet olma vasfından uzaklaştırarak onu ekonomik ve sosyal gidişatın devam etmesine olanak sağlayan sıradan bir kuruma dönüştürür. (Schmitt, 1930, s. 29).

Oysa ona göre üstün bir birlik ve büyüklük tasarımı olarak düşünülmeyen bir devlet, pratik sonuçları bakımından geçersizdir ve çelişkilerle doludur. Devlet aynı zamanda etik değerlerin yaratıcısı ve taşıyıcısıdır da. Kendilerini "çoğulcu" olarak adlandıran teoriler devletin sadece en yüksek kapsayıcı birliğini değil, her şeyden önce onun etik taleplerini de reddeden ve onu yüksek bir sosyal ağ olarak içerisinde insanların yaşadığı herhangi türden bir derneğe dönüştürme çabasında olmuşlardır. Böylece devlet, en iyi ihtimalle derneklerin yanında ama hiçbir zaman üzerinde olmayacak bir sosyal grup ya da cemaate dönüşmektedir. (Schmitt, 1930, s.28-29)

Plüralizm, parlamentarizm ve hatta demokrasinin toplumsal ve siyasal alanda ortaya çıkardığı uyumsuzluklar ekseninden bakıldığında olumlu sonuçlarından söz etmek ona göre neredeyse imkansızdır. Zaten insan da ona göre doğası gereği, içgüdüleriyle de hareket eden, tehlikeli, öngörülemeyen, dinamik bir varlıktır. Hobbes ile benzer çizgide, tam da bu yüzden toplumsal hayatın aslında sürekli tehdit altında olduğunu düşünür. Fikir çatışmalarının ortadan kaldırılması doğrultusunda devlet, bu türden durumlarda devreye girerek egemenlik haklarını sonuna kadar kullanarak toplumsal birliği sağlar. Burada amaç insanın yıkıcı bir güç olarak

ortaya koyduğu tahribatı engelleyerek barışı sağlamaktır. Egemenlik fikrinin Schmitt için bu derece merkezde tutulması tesadüfi değildir. Tüm bu ilişkiler ağı içerisinde siyasal ve toplumsal alana müdahale edebilme yetkisini kullanmanın tek yolu ise hukuku kullanmaktır. Hukuk bu yönüyle bakıldığında lider merkezli bakışla tekrar tekrar kurulabilir. Egemen hukuku kullanırken gücünü halktan alır. Zaten hukuku kullanamayan, ona karar veremeyen bir egemenin mutlak egemenliği ve otoritesi söz konusu olamaz. Devlet özgür insanlardan oluşan bir topluluğu bir arda tutmaya çalışmaktan çok hemen her koşulda kendi varlığını koruyabilen ve yeri geldiğinde hukuku askıya alarak bunu gerçekleştirebilecek güce sahip bir yapılanma olarak bunu sürdürebilmelidir. Ayrıca ona göre bunu uygulayacak olan yasayı yapan da hakikat değil otoritedir. İktidarsız bir yönetim biçimi olarak liberalizm bu türden bir tasarruftan yoksun, iradesiz ve güçsüzdür. Oysa siyasal birliğin de temsilcisi olarak egemen olağanüstü hale karar verendir. (Schmitt, 2010, s. 13). Olağanüstü hal ise bir kriz anı, acil durum, kaos ya da sıra dışı olayların yaşandığı bir durum değildir. Olağanüstü halde mevcut düzen tamamıyla askıya alınır, ancak bu hukuksuzluğun hüküm süreceği anlamına gelmez, anarşi ve kaostan farklı olarak olağanüstü halde hukuk düzeni değilse de hukuki anlamda bir düzen hala mevcuttur. Hukuk böyle bir durumda geri adım atsa da devlet baki kalır. Devletin varlığı hukuki normların geçerliliğinin üzerine çıkar. Burada devlet kendini korumak adına hukuku askıya alır. (Schmitt, 2010, s. 19). Olağanüstü hal bu noktada devletin varlık koşulu olur ve hukuku uygulayabileceği bir zemin de yaratmak zorundadır ki kanun hükümleri uygulanabilsin. Hukukun anlamlı olabilmesi için bir düzenin varlığı zorunludur. Egemen bunu kendisi yaratır ve güvence altına alır. Son karar onun tekelindedir ki devlet egemenliğinin özü de tam da burada yatar. Bu yönüyle olağanüstü hal devlet otoritesinin özünü net bir şekilde ortaya koyar. (Schmitt, 2010, s. 20). Bu şekilde bir otorite yaratmak ya da oluşturmak için ise ille de haklı olmaya gerek yoktur. (Schmitt, 2010, s. 21). Devlet egemense aynı zamanda meşrudur da. Bu noktada egemenlik meşruiyet temelini oluşturduktan sonra haklılığını ve hukuka uygunluğunu ispatlamak zorunda değildir. Yani meşruiyetin temeli egemen olmaya bağlıdır, hukuka değil.

SONUÇ

Tam da bu noktada halkın politik birliğinin temsilcisi olarak lider (*führer*)bu egemenlik düşüncesini görünür kılandır. Ona göre lider gücü tehlikeye girdiğinde hukuku doğrudan yaratarak aynı zamanda hukuku da istismarlardan korur. Lider aynı zamanda en yüksek yargıç konumundadır. Lider ile hakimiyet arasında doğrudan bir bağ vardır ve bu ikisi birbirinden ayrılamaz. Liderin eylemleri yüksek yargının bizzat kendisidir. Bu aynı zamanda onun cumhuriyetçi bir diktatörlük olmadığını da gösterir. Liderin hukuki kaynağı ile halkın egemenliğinin hukuki kaynakları örtüşür. Olağanüstü hal ile de örtüşecek şekilde bugüne kadar verilmiş kararla hukukun bütün alanlarında yeniden sınanma olanağı yakalar. Artık yaşlı ve hasta bir çağın ortaya çıkmasını sağlayan hukuki kavramlara, argümanlara ve emsal kararlara körü körüne riayet etmek zorunluluğu yoktur. (Schmitt, 1934, s.948) Liderin egemen olduğu bir devlette liberal hukuk devletlerinin aksine yasama yürütme ve yargı birbirini şüphe dolu bir anlayışla kontrol altında tutmaz. Bunun aksine bir hükümet yasası söz konusu olduğunda ne türden bir hukuki ve ulvi eylemin ortaya konacağı, liderin liderlik vasfı ve egemenliğince belirlenir. Yasanın içeriğini ve kapsamını belirleyen ise yine liderin kendisidir. (Schmitt, 1934, s. 949).

Diğer taraftan lideri belirleyen halkın kendisidir. Lider halkın iradesinin bir tezahürüdür ya da öyle olmalıdır. Lider politik parçalanmaların önüne geçerek politik birliği kendi şahsında ortaya koyar. (Bezci, 2006, s. 143)

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THE ROLE OF SOCIAL ENVIRONMENT IN THE EDUCATION IN AZERBAIJAN INTELLECTUALS' WORKS (THE END OF THE 19TH CENTURY – THE BEGINNING OF THE 20TH CENTURY)

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SUMMARY

In the article it is said about the thoughts of democratic-minded Azerbaijani intellectuals living at the end of the 19th century and beginning of the 20th century. It is mentioned that our educators who lived and worked in that period paid special attention to the role of social environment in the development of the younger generation as a perfect personality. That is why they selflessly fought for the purification of the social environment in their native land.

Key words: the 19th century, the beginnings of the 20th century, Azerbaijani educationists, the social environment, the social-pedagogical thought, enlightenment

In the mentioned period the thought that disturbed our thought patriots was not only the unbearable, unwell-educated methods and ways of teaching belonged their nation. They repeatedly mentioned that the social environment was in a troubled, catastrophic, poor state in the problem of education and struggled against its causes and consequences with the enthusiasm. They declared that in order to educate the younger generation in the modern spirit and mental outlook it is necessary to eliminate difficulties of the social environment and to create the fertile, favorable, perfect social atmosphere in order to solve the definite problem of the time. That is why they tried to bring the obstacles and intrigues that prevented the progressive public education and offered the solution ways to overcome them. Of course, the most important of those obstacles were despotism, the superiority of the upper strata, the oppression and the fanaticism.

M.F.Akhundov showed in the example of Iran that the influence of despotic tyranny, as well as the force of fanaticism of the "ulema" was the reason of the weakness of the Islamic world and had brought it to disobedience, shame, hypocrisy, insincerity and ignorance. To tell the free thought, to become an independent personality, to master the free thinking and intelligence had been deprived. Of course, it is impossible to speak about free, useful and normal education and a worthy citizen in such society. The citizens of the country are educated in the darkness of this despotism and fanaticism as untrammeled dogs, who can only be physically employed, but without independent thought. M.F.Akhundov substantiated his view as the followings: "If the society does not give freedom to its members and make them satisfied with what their parents and ancestors decide to do and not to use their minds in cultural affairs, and in this way, the individuals become the automatic machines that pick up the harvest, collect crops, or they become the mill horses that go round every day and eat barley-straw and drink water… " (2, 239).

M. Shahtakhtli also shared the views of his predecessor. He also insisted that in order to establish the democratic education environment, to clean the social reality according to the ideological-spiritual point it is necessary to put an end to the monarchy-based monopoly, the cessation of the influence of the clergy in the rule of the government, to form the establishment of a democratic government, governance system, the secular state, to separate

the religion from the state and to remove the clergy from the ruling system. M.Shahtakhtli wrote on this occasion: "Under the supervision of the secular government, the country should be governed by the laws created by the people's representatives. The state representatives of the religious law must give their political and legal powers to governments established by the state that have not religious basis" (13, 49).

The publisher of the "Shargi-rus" ("Eastern-Russian") shows the negative features in human's character as the second important factor that prevents modern education in a large scale in the Islamic world. He mentions that the negative, non-human characteristics such as envy, greed, perversion, etc. have been shed on the blood of Muslims and these characteristics are transmitted from generation to generation through negative education, method and example. That is why, "we look for happiness not in the welfare and good luck of our fellowman, but perhaps in his taking vengeance or forcing. We have hostility to our nation instead of friendship" (13, 113). Such a social imperfection also affects the growing generation and damages the progressive education seriously.

In some writings, including in the article "Scream of the week" published in the newspaper "Heyat" (1906, July 14) N.Narimanov clarified the dissatisfaction that was experienced in the Muslim societies and the misery of the perverted educational environment, which was transmitted from followers to predecessors and explained its tragic causes and results. The author also added with feeling of regret that "we can not expect anything from those who come from the upbringing of this community and form the future society, as we can not expect something good from the present community. What can be expected from them in such a delicate, dark environment, as well as improper education? "Of course, we do not expect anything from the people who are currently dragging their lives". What do they do or what have they done? "Those who are educated through them can show only kindness, honor and solidarity" (11, 308).

In the work "Nadanlig" ("Ignorance") (1894) by Nariman Narimanov the artistic image of the wild person educated in the Muslim social environment, becoming a robber, a soldier, an enemy of enlightenment, humanity and innovation is created. It is the purpose of awakening the people to create a tendency to move away from the current educational environment.

J. Mammadguluzadeh sees the world as dark as "he opens his eyes for the first time" in his life. When he opened his eyes for the first time in the dark world, he saw his parents, relatives, neighbors and all the people in prayer at all times. This blind, extreme, submissive obedience not only reflected on Allah (God), but also manifested itself in dealing with officials, leaders and arbitrary ones (8, 95-97). Molla Nasreddin, a symbolic figure and accusing character of Mirza Jalil, was also thrown into the darkness of the Muslim world with the idea of fighting against the shortcomings of this darkness. In that environment, nobody likes to listen to the right words and sayings, "they run away, for example, to fortune tellers, to setting dogs on, to listen to the Sufi sagas, to sleep in the bath or to the different unimportant events" (7, 7). In fact, here the writer counts the educational attributes of the Muslim community and shows that Muslims are educated up with this kind of deeds and entertainments. Their education way from the individual life to the social environment is accompanied by such ignorance.

Mirza Jalil described an interesting and typical sight to the readers in the article titled "Digget etmeli" ("Attention") published in the "Eastern-Russian" newspaper in 1904 (June 18). In the article he showed that he often used to go by the Muslim cemetery in Tbilisi. Here the little children of the Muslims used to play different games with the "bearded children" (i.e. adults) and sometimes they used to hint at the passengers. They had no other entertainment. The little children learnt the games or hinting at from the "bearded children". The author wants to tell

that in the Muslim environment the line of inheritance is flowing through such a negative mood and transmitted from generation to generation.

The poet M.A.Sabir for the first time in his poems showed the character of the Muslims, whether in the individual sense or in the general sense, as anti-social, anti-human, antipathy behavior and manners in the poems "Amalimiz, efkarimiz ifnayi vetendir" (1907, № 10), "Gorkhuram" (1907, № 33), "Kim ne deyer bizde olan geyrete?" (1910, № 10), "Bir boluk boshbogazig, heyverelik adetimiz" (1910, № 10), etc. the character of Muslims, their imperfections in the personal sense, their apostasy character, as well as in a general sense, as a social community, their anti-sense, anti-social sense, actions and behaviors, their lack of promise and civil dignity embody their own art. The poet describes this terrible situation, feeling and attitude with the convincing features in his poems. As if he shows the education sphere of the Muslim society in the mirror.

The other poet from the journal "Molla Nasraddin" in his article named "Biz de vakhta gore chalishag" ("Let's work according to the time") ("Shargi-rus" ("Eastern-Russian"), 1904, August 28-29, September 2) mentioned the important problem among Muslims – the problem of false, thoughtless imitation in education and behavior. He noted that some Muslims in order to show themselves as modern, decent, polite, they imitated Europeans in fake, awkward and ridiculous form and they wanted to shape their lives, home conditions, clothes, talks, education and bringing up relations in European style. However, that work did not show results because that was based not on the natural way, but on the imitation "ape-like". On the contrary, it influenced a negative impact on the education of children in those families, even to the strangers. Omar Faig mentions that it would be better if "we change and reform our mind, brain, aging thoughts, poisonous habits, ape-like imitation, which will lead to our real life and national vision" instead of dealing with this kind of imitation (10, 74).

The great thinker A.Huseynzade also criticized the tendency of imitation, its blindly application in the cultural-pedagogical and social reality of Azerbaijan at the beginning of the 20th century. Looking at the problem more extensively Ali Bey criticized both conservatives, former and extreme Europe adorers and inconstant imitators from the platform of social education and national position. He brought to the attention that supporters of both ideologies had reached extremes, that they could not reconcile the national-ethnic public consciousness and tradition with the demands of modern times. He added that, as a result, it harmed the nation's purposeful education completely. Explaining the defects and deficits profoundly Ali Bey showed the direction of the education and upbringing way, its necessity, in other words, the way out: "We will be forced to fight against two large groups standing on our right and on our left in the direction of moderate progress. Those who stand on our right side are conservative in the sense that they dream of keeping people away from all sorts of fresh and quick things and works. They always disturb the people to get the progress. Those who stand on our left side imitating our opponents blindly want to jump suddenly and to throw themselves into the terrible vertexes! Shun from both sides! The first side of people dream that they remain in the state of harmony with their own tastes and desires, regardless of religion – the spirit of Islam. But the second side of people think that there is nothing in Islam that will serve culture, progress and evolution. All the wind blowing from the European side, even the poisonous wind, is healing. They are trying to publish these sect-philosophies without even being aware of the essence of all this materialism, genius, participation..! What a big mistake..! As we are mixed of Turkish, Muslim and Russian nation, we want to get a promotion in the Turkic and Islamic sphere and within the economic and policy of the Russian state. Looking at our progress we would like to hear from the Russians that how well the Turkish and Muslims make progress…" (5, 34-35).

As it is shown, the ideologist educator argues rightly that it is necessary to conduct the education in a global sense, taking into account the requirements of time, public, political, pedagogical and national life.

For centuries there was a "sound-bringing", a terrible philosophy of education, which completely ruined the general Islam, including the Azerbaijani public sphere. As an act of catastrophic education this philosophy poisoned the minds, thoughts, psychologies so much that even during "Renaissance" period its fear did not come out of the brains. It was the formula of education "My dear, Moslem can't be a human", which fettered greatly the Muslim public consciousness. The philosophy of this formula has been told and repeated by everyone from century to century, from generation to generation and as a result, it has created distrust, passivity, inertia in the mood of society. M. A. Rasulzade in his article titled "Basirat gerekdir" ("Basirat", April 12, 1914) explained the essence of the same education formula and philosophy, its moral, spiritual and psychological harm caused to our society in details. He noted that in the Islamic world "everyone – educated man, mullah, merchant, artisan, etc. is a prisoner of this philosophy. "My dear, Moslem can't be a human" or do not move, fight, look forward, do not think about future and progress, you can't do it, because the belief of "Islamism" as a way of thinking had been introduced into everyone's brain. In other words, Muslims have been become a prisoner of such teaching atmosphere by their predecessors. Now the main problem is to destroy this system of education and to remove its profanity from the consciousness. This is a disease of our soul. For the improvement and progress of our work, firstly, we must treat this disease of our soul. M.A.Rasulzade firmly mentioned that without destroying such a philosophy of social education, which had become a great problem, creating self-confidence in citizens, it was impossible for us to fight and find opportunities. The author defined the way out of the situation as the following: "First of all, we must investigate ourselves. Who and what nation are we? Where do we come from? We need to know what our essence is. Then we must know that we have a great history and we had many bright days in the history. We must understand that "Moslem is human and he or she has a great ability to be human…" That is why, first of all, our intellectual parts must be joined and fulfill the great duty and understand the responsibility" (12, 321).

Describing the nation's situation in his work "Ayineyi millet. Oyaniz, gardashlar" G.R.Mirzazade also tried to show Islam education sphere. He mentioned regretfully that "the hard life ruling by the cruel state" showed them "days with suffering, torment". "We have a love to decline in our religion. As a butterfly loves the fire and kills itself for it, we also burn ourselves with the decline fire" (9, 16-17). But its reason is to get our education in the spirit of obedience, patience, endurance, hope and capitulation. Such education creates the blindness in the eyes' of descendants of the native land.

F.Kocharli appealing to the people by the newspaper "Shargi-rus" ("Eastern-Russian") (May 9-11, 1903) asked to work on the way of education of the people "with their minds and pens". He mentioned: "Wonderful and high thoughts, actions, true and right words and sincere voices will wake the nation up and move its spiritual and physical forces, brighten its heart and renew its spirit. If everybody is well-wisher and understands that he can speak and write about this conviction, then let him show own skills and devotion" (6, 87).

As we mentioned before, the Renaissance period in our theory of national education was the focus of regular attention on the coordination and reconciliation of upbringing in the family, school and social environment. Y.V.Chamanzaminli also mentioned this problem in the 10th section of the pedagogical work named "Mother and maternity" which was written in 1914. In the work it said about the indiscipline of students, "their wildness, barbarism and immorality" studied at one of the Moslem schools. The author explains the reason for it by the lack of family education of those children. He notes that those children were dishonest in social life

too, not the good they see in the world around them, but the bad works have a greater impact on their characters (3, 163-164).

A.Shaig wrote in his book "My memories" in details about how mullahs, ruffians, old-fashioned, conservatives, ignorant people were shield against the modern education during that period (14, 132-133).

In general, our educational theorists often recalled that robbery, chieftainship, robbing, acting willfully became the serious misfortune in the educational sphere of that time. Many articles about this theme were also written by H.Zardabi in the newspaper "Kaspi". For example: "Zardab. Goychay region" (1883, October 9); "Zardab. Goychay region" (1883, №121); "From past times" (1884, January 22-24); "Zardab" (1887, July 3). The articles about this problem were also published in the newspaper "Ziya". This problem was also explained in the article "Memleket ehvalati" (1879, December 13).

Many numbers of works of art have been written on this subject. In those works it was said that chieftainship had been formed from the ignorance, wildness, barbarism, savagery, rudeness and impoliteness. In the article "Agaji gurd ichinden yeyer" ("Irshad", 1906, September 13) written by O.F.Nemanzade it was said that the negative actions such as wildness, robbery, chieftainship, lack of culture was considered "a worm" eating the Moslems inside.

Our educational theorists used comparisons and parallels in order to prove the correctness and usefulness of their own discretion and results. They compared the social education environment in the East with the European, but sometimes with Russian, Armenian, Jewish social education environment. In the background of this comparison they raised the defects of the first, but swelled the successes of the second and intended which one was more effective visually. For example, H.Zardabi wrote in the newspaper "Ekinchi" dated June 9, 1877: "When the people of Europe were unaware of the freedom as we, then they were much more ignorant than us. But in that case the Europeans have got progress and they are better in every work than us". Hasan bey Zardabi also mentions that freedom of thought and democratic values in the society play an extremely important role in the formation of a modern and progressive educational environment.

In the newspaper "Shargi-rus" ("Easten-Russia") (1904, August 17) M.Shahtakhtli had written that in Europe there was a "tolerant" environment such as freedom of telling the opinion. Everyone - both an intellectual and an ordinary person can tell own opinion about the same thing. So, many thoughts or opinions appear, and then those thoughts are generalized. The most suitable result is extracted from them. The problem is also resolved based on the result. It means that the contradictory, opposite, different-looking ideas, disputes ultimately lead to a good result, it provokes "light" and at the same time it beautifies the education and mind spheres.

In the valuable work titled "Men kimem" written by Ahmad bey Agayev the existing situation of the West is compared with the East situation widely, in the article it is mentioned that the West society is more superior and powerful than the East society. It is also possible to extend the comparison "not so glorious" for the East as much as desired. But it is necessary to concentrate the points on the main issues. A.Agayev compares the character of the social environment in two societies in a generalized way as the following: "It is clear that the West society is more powerful than the East society. Let's compare them according to the altruism point. In West altruism has such cases that in East one can't imagine it. Sometimes in the East a person is left alone, although he lives among the millions of people. No one thinks about the poor, ill persons, but in the West this problem is solved differently. Everyone is thought about and as a result, there is no one left to be forgotten. The Western society does all this not in the

form of mercy that persecutes its citizens, but as a debt and duty in front of them. In the West, everybody becomes the protector and guarantor of everyone's rights, honor and dignity. In this case, it is the duty of citizenship to go to the aid of the weak, to prevent the strong and the aggressor. But in the East society everybody thinks only about himself. This comparison, which is not a bright example for the East, can be extended as much as desired. But this is not our goal. My goal is to explore why and where this situation originated in the society of East, including me" (1, 54).

Ahmed Bey shows that such a situation in the social environment has a fundamental impact on people's outlook, attitude to people and society, their individual and social views, their mental state, in other words, it influences basically to his education either as an individual or as a social being.

In the article "Sohbet" ("Tereggi", 1909, August 19) Uzeyir Hajibeyov compared the family and the social environment of Russian, Armenian and Azerbaijani children. What do Russian and Armenian children hear? The beautiful music that educate the soul and body, the interesting stories written by great educators for children, the friendly conversations of the father and mother, the valuable conversation of the well-behaved guests. Parents walk with the children, take them to the interesting places, meet interesting people and show the beautiful things to them. But what about our children? They hear slang, bad and nasty words, the work they see is also bad, the place is dirty street, their toys are dog fighting, cat strangling, etc.

Uzeyir bey considers such an educational environment as the main cause of our unhappiness.

O.F. Nemanzade in his work "Khatireler" reminds the situation he saw and observed repeatedly in Ganja city. He describes the life and occupation of Moslem children. But in contrary he mentions the education of Armenian children and their suitable situation for it.

M.Hadi also in his poem "Comparison of the East with the West" notes the factors of education in these two environments in the background of the artistic comparison of East and West socio-cultural and political environments. The author turns the problem of man, environment and education into the purpose of the work of art as a pedagogical factor.

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BÜYÜK SELÇUKLU DEVLETİ İLE ÖNCEKİ DEVLETLERARASINDAKİ BAZI KURUMLARIN UYGULAMALARINDA GÖRÜLEN FARKLILIKLAR

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ÖZET

Yazı, tarihin derinliklerinde kalmış devletler ve medeniyetleri hakkında bilgi edinmemizi ve bu bilgileri gelecek nesillere aktarmamızı sağladığı gibi geçmişle gelecek arasında bağ kurmamızı sağlamıştır. Yazı sayesinde devletler, tarih boyunca uluslararası haberleşme ve anlaşmaları kaydederek önemli belgelerin oluşmasını sağlamıştır. İslam medeniyeti ve kurumlarının doğuşu, gelişmesi ve bugünlere gelmesine, sözlü rivayetlerden daha ziyade yazılı vesikalar sayesinde ulaşabilmekteyiz. İslam tarih ve medeniyetinin asla vazgeçilmez kurumlarından olan divanların oluşturulması, işleyişi ve gelişiminin bize aktarılmasında yazının elbette rolü çok büyüktür. İslam'ın gelişinden itibaren Müslümanlar, okuma yazmaya önem vererek, yazının dinî ve sosyal alanda tespit, kayıt ve yayın aracı olarak kullanmaları sayesinde büyük atılımlar gerçekleştirmiştir. Bunu krallara gönderilen mektuplar ve hadis sahifelerinden anlamamız mümkündür. Bu alandaki gelişme ilk halife Hz. Ebu Bekir döneminde biraz daha gelişmiş, Hz. Ömer döneminde fey gelirlerini dağıtmak amacıyla kurmuş olduğu divanlar, Emevîler ve Abbasîlerde askerî, malî ve bürokrasi alanında devlet işlerinin organize edildiği kurumlar haline gelmiştir. Divan teşkilatının ortaya çıkışı ve gelişimi, bir taraftan da idare teşkilatının ve bürokrasinin ortaya çıkışı ve kurumsallaşma macerasıdır. Fetihler sonucu ülke sınırlarını genişleten Müslümanlar, farklı medeniyet ve kültürlerle karşılaştılar ve bu medeniyet ve kültürlerden kendilerinde olmayan, ancak inançlarına uygun olanları almış ve aldıkları bazı kurumları yönetimde işler hale getirmişlerdir. Emevîler ve Abbasîler dönemindeki kurumların büyük bir kısmı Türklerin Müslüman olmasıyla birlikte, daha sonra kurulan Türk devletlerinde bu kurumların bir kısmı daha da gelişerek ülke yönetiminde önemli rol oynamıştır. Bu çalışmamızda Abbasî devlet kurumları ile daha sonra kurulan Büyük Selçuklu Devleti'ndeki rolü ve farklılıklarını ele almaya çalıştık. Yine çalışmamızda Abbasîler'de uygulanan ikta'sistemiyle, Büyük Selçuklu Devleti'ndeki uygulanan toprak sisteminin farklılıklarına değinerek, İslam Medeniyetinin önemli bir basamağı olan medreselerin Büyük Selçuklu Devleti'ndeki gelişimi konu edinilmiştir.

Anahtar kelimeler: İslam Tarihi, Abbasîler, Selçuklular, Divanlar, İkta'.

DIFFERENCES BETWEEN THE GREAT SELJUK STATE AND THE PREVIOUS STATES IN THE PRACTICES OF SOME INSTITUTIONS

ABSTRACT

Writing has enabled us to obtain information about the states and their civilizations that have remained in the depths of history and to transfer this information to future generations, as well as to establish a link between the past and the future. Thanks to writing, states have provided the formation of important documents by recording international communications and agreements

throughout history. We are able to reach the birth, development and arrival of Islamic civilization and institutions through written documents rather than oral narrations. Surely, writing has a great role in conveying the creation, functioning and development of *divans*, which are one of the indispensable institutions of Islamic history and civilization. Since the advent of Islam, Muslims have made great strides by giving importance to literacy and using writing as a means of detection, recording and publication in the religious and social fields. It is possible to understand this from the letters sent to the kings and the scriptures of the Hadith. The improvement in this area was a little more developed during the time of first caliph Abu Bakr, the divans, which Omar established in order to distribute the fey revenues became the institutions where the state affairs were organized in the field of military, financial and bureaucracy in the time of Umayyads and especially Abbasids. The emergence and development of the Divan organization, on the one hand, is the adventure of the emergence of the administrative organization, bureaucracy and institutionalization. The Muslims, who expanded the borders of the country as a result of the conquests, encountered different civilizations and cultures, and they took some of these civilizations and cultures that they did not have, but were in line with their beliefs, and made some of the institutions they took operational in the administration. After the conversion of Turks, the majority of the institutions in the Umayyad and Abbasid period developed further in the Turkish states that were established later and played an important role in the administration of the country. In this study, we tried to deal with the institutions of Abbasid state and its role in the Great Seljuk State, which was established later, and the differences between both states. Again, in our article, we discussed the differences of the land system applied in the Great Seljuk state with the *iqta* system applied in the Abbasids, and mentioned about the development of *madrasa* in the Great Seljuk state, which is an important step of Islamic Civilization.

Key words: İslamic History, Abbasids, Seljuks, Divans, Iqta.

GİRİŞ

Müslümanların devlet olma süreci, divan teşkilatlarının kurulmasıyla başlamıştır. İslam devletinin idari yapısının oluşması, divan teşkilatının kurulmasıyla kurumsallaşmıştır. Müslümanlar, divan teşkilatını İran ve Bizanslılardan esinlenerek kurmuşlar ve zamanla gelişerek, İslam devletinin esas kurumlarından birisi olmuştur. Divan teşkilatı, devletle ilgili malî, idarî ve askerî işlerin kayıt altına alınması ve bu işlerin yürütülmesiyle ilgilenmiştir.

Tarihçilerin rivayetlerine göre, ilk divan teşkilatı Hz. Ömer döneminde istişareler sonucu kurulmuş, Emevîler ve Abbasîler döneminde çeşitli devlet hizmetlerine bakan kurumlar olarak işlevini yürütmüştür. İslam devletlerindeki bürokrasi de bu kurum üzerinden gelişmiştir. Divan teşkilatlarının kurulması, kayıtların tutulması, kâtiplerin çalıştırılması ve divanların yönetilmesinde, Müslümanlar hiçbir zorlukla karşılaşmamışlardır. Bunu sebebi ise; komşu ülkelerle iyi ilişkiler ve yeterli insan kaynağına sahip olmaları ile açıklanabilir.

Hz. Ömer döneminde temelleri atılan divan teşkilatı, Emevîler döneminde geliştirilerek yeni divanlar kurulmuş ve Abbasîler döneminde kurumsallaşmıştır. Abbasîler döneminde kurulan divanlar, daha sonraki devletler için örneklik teşkil etmiştir. Abbasîler, devletin zayıf olduğu dönemlerinde bile sağlam bir devlet teşkilatına ve divan sistemine sahip olmuşlardır. Başta yerel dillerle tutulan divanlar, Abbasîler döneminde Arapça olarak tutulmaya başlamış ve Arapça devletin resmi dili haline gelmiştir.

Türkler, bireysel olarak İslam medeniyetine katkı sağlamış, İslam'ı kabul ettikten sonra içinde bulundukları bu medeniyetin önemli faktörlerinden biri olmuşlardır. Türkler, Abbasîler döneminde özellikle askeri teşkilat içerisinde etkin hale gelmişlerdir. Onlar, burada kazandıkları birikimleri, daha sonra kurdukları devletlerde uygulama olanaklarına sahip olmuşlardır.

Her devletin etkilendiği gibi Büyük Selçuklu Devleti de bir taraftan Sâmânîler (819-1005), Karahanlılar (840-1212), Gazneliler (963-1186) ve Abbasî devlet teşkilatlarından etkilenmiş, öte yandan da kendi geleneksel devlet anlayışını devam ettirmişlerdir. Selçuklular, siyasal ve yönetim kurumlarını geliştirdikten sonra, kendilerinden sonra gelen büyük ve küçük birçok devlete bu kurumları miras bırakmıştır. Büyük Selçuklu Devleti'nin bu kurumlarından Harezmşahlar (177-1231), Atabeyler, Hindistan, Afganistan, Eyyûbîler (1171-1250), Memlûkler (1250-1517) ve Osmanlılar (1299-1922) büyük ölçüde faydalanmışlardır.

Tarihte devlet yönetimini etkileyen önemli unsurlardan biri toprak yönetimi olmuştur. İslam dini toprağın kullanılması ve mülkiyeti konusunda yeni bir yorum getirerek tarihi süreçte devletlere yön vermiştir.

İslamî yönetim teşkilatlarından olan divanların, ekonomik ve mali açıdan toprak sisteminin, eğitim açısından medreselerin gelişimi, birbirine paralel ve tamamlayıcı bir şekilde gelişmiştir. İslam'ın çevre ülkelere yayılmasıyla birlikte farklı milliyetten insanların bu dini kabul etmesiyle, Kur'an'ın doğru okunması, anlaşılması ve öğretilmesi zorunlu hale gelmiştir. Bir kurum olarak açılan medreseler bu görevi üstlenmiş ve toplumun eğitimini sağlamıştır.

ARAŞTIRMA VE BULGULAR

Divan Teşkilatının Gelişim Süreci

Divan kelimesi, Arapların Farslardan aldığı bir terim olarak bilinse de, bazı tarihçiler divan kelimesinin Arapça kökenli olduğuna dair çeşitli rivayetler ortaya koymakta ve divan kelimesinin bazı Hadislerde geçtiği ve bir Hadiste "hesap defteri" anlamında kullanıldığına dair rivayetler bulunmaktadır.[1] Divan kelimesi ilk defa, kütüğe veya içine bilgiler kaydedilen defter anlamında kullanılmıştır. Zamanla, mal, yazı veya ordu gibi kesimlerin bir kısmının defterlerini içeren kurum anlamını taşımaya başlamıştır. Divan; "*Evraklarla kâtiplerin bulunduğu yer olup, ordu mensuplarıyla maaş alacak kişilerin isimleri burada yazılır*."[2]

Divan kelimesi, Türkçe, Farsça, Arapça ve Urduca'da farklı anlamlarda kullanılmış, aslının Farsça kökenli bir kelime olduğu, Pers İmparatorluğu'nda devlet yönetiminde kullanılan bir kavram olarak Arapçaya intikal ettiği, fakat kelimenin esasının Ârâmice'de de kullanıldığı ifade edilmektedir. Divan, yönetimdeki çeşitli yönetim, parasal ve askerî hizmetlerin yapılmasında kullanılan defterlere, bunların ve devlet memurlarının bulunduğu yere verilen isimdir.[3]

Divan, devlete ait idarî, malî ve askerî işlerin kayıt altına alınması ve bu işlerin yürütülmesi, diğer memurlara ait kayıtları tutmak ve saklamak için kurulan yerdir.[4]

Divan, İslam Devletinde ilk olarak "ordu divanı" şeklinde oluştuğu görülmektedir. Hz. Peygamber döneminde ve daha sonra Müslümanlar, birer er olarak sadece Allah rızası için savaşmış, buna karşılık herhangi bir şey istememişlerdir. Hz. Peygamber, savaşta ele geçirdikleri ganimetleri hemen Müslümanlara dağıtmıştır. Bu uygulama Hz. Ebu Bekir döneminde de devam etmiştir. Bu şeklide Müslümanlar, hazineye yük olmadan gönüllü asker olarak katıldıkları savaşlardan elde ettikleri ganimetlerle geçimlerini sağlamışlardır

[1] Abdulazīz ed-Dûrî, "Divan", *Türkiye Diyanet Vakfı İslām Ansiklopedisi* (İstanbul: TDV Yayınları, 1994), 9/378.
[2] Remziye Abdulvehab el-Hayrav, "İdāretü'l-Iraḳ fī Ṣadri'l-İslām" çev. Abdullah Baktır, *Din Öğretimi Dergisi* 20 (1989), 122.
[3] ed-Dûrî, "Divan", *Türkiye Diyanet Vakfı İslām Ansiklopedisi* (İstanbul: TDV Yayınları, 1994), 9/378.
[4] Mâverdî, Ebu'l Ḥasan Ali b. Muhammed b. Habîb el-Basrî el-Bağdâdî, *el-Aḥkāmu's-Sulṭāniyye* (Kahire: Dāru'l-Hadīṣ, 1909), 225.

Belazuri (öl. 279/283)[5], Maverdî (öl. 450/1058)[6], İbnü'l-Esîr (öl. 630/1233)[7], İbn Haldun (öl. 808/1406)[8] gibi İslam tarihçilerine göre İslam devletinde divan teşkilatının ikinci halife Hz. Ömer (634-644) döneminde 20/641 tarihinde kurulduğu rivayet edilmektedir. Tarihçilerin rivayetlerine göre Müslümanlar; divan teşkilatını Sâsânîler'den etkilenerek kurmuşlardır. Kuruluş aşamasında ise Şam Divanları örnek gösterilmektedir. Kuruluş gerekçesi olarak, devletin gelir ve giderlerinin düzenlenmesi, ordunun kayıt altına alınmasının lüzumu üzerinde durulmuştur.[9]

Hz. Ömer döneminde savaşların sayısı artmış ve fethedilen topraklardan elde edilen gelirlerle devletin gelir kaynakları çoğalmıştı. Bu gelirleri toplayıp bir düzene koymak ve Müslümanlara dağıtmak için bir teşkilata ihtiyaç duyulmuştu. Hz. Ömer bir divan kurulması amacıyla Müslümanlarla istişare yapmış, yapılan istişare sırasında Hz. Ali; "*Her yıl yanında toplanan malları Müslümanlara dağıtırsın ve o mallardan hiçbir şey bırakmazsın*" dedi. Hz. Osman; "*İnsanlara yetecek kadar mal görüyorum. Bunlardan kimin alıp kimin almadığını öğrenmek için saydırmazsan bir huzursuzluk çıkmasından korkarım*" diyerek endişesini dile getirdi. Sahabeden Velid b. Hişam b. Muğire de; "*Müminlerin emiri! Suriye'ye uğradığım zaman oradaki hükümdarın devlet işlerine dair defterler tuttuğunu, askerlerin isimlerini ve ihtiyaçlarını tespit edip yazdıklarını gördüm. Sen de bir divan tut, askerlerinin isimlerini bu deftere yazdır*" önerisinde bulundu. Hz. Ömer bu öneriyi olumlu buldu ve Akîl b. Ebi Talib, Mahreme b. Nevfel ve Cübeyr b. Mut'ım'i yanına çağırdı ve şu talimatı verdi: "*İnsanları kabilelerine göre yazınız. Bu işe ilk olarak Haşimoğulları ve Abdulmuttalib oğullarından başlayınız. Onları takiben de soy soy Kureyş kabilesini yazınız.*" Böylece İslam tarihinde Hz. Ömer, ilk ordu divanını Medine'de kurmuş oldu.[10]

Yapılan istişare sonunda, Hz. Ömer nesep bilgisine sahip kâtipler görevlendirdi. Kâtipler, yapılacak devlet yardımına esas olacak nüfus kayıt işlemlerini başlatmışlardır.[11] Hz. Ömer'in belirlemiş olduğu ölçütlere göre, önce Haşimoğullarından başlayarak Kureyş kabilesi yazılmış; sonra Evs kabilesinden Sa'd b. Muaz'ın kabilesinden başlanarak Ensar kayıtlara geçirilmiştir.[12]

Hz. Ömer, birçok konuda olduğu gibi bu konuda da farklı bir uygulama başlatmıştır. Gelirlerin Müslümanlara dağıtımında Hz. Ebu Bekir dönemindeki esaslar uygulanırken[13], Hz. Ömer, kendisinden önce uygulanan bazı esasları terk ederek, Müslümanların İslam'a yaptıkları hizmetleri ve Hz. Peygamber'e yakınlık derecesini hazine yardımına esas almıştır.[14] Divanlarda Hz. Peygamber'e yakınlık, Hicret, Bedir Savaşı, Mekke'nin Fethi gibi ölçütler esas alınarak farklı miktarlar tahsis edilmiştir. Aylık erzak dağıtımı ise herkese eşit olarak verilmiştir.[15] Müslümanlar aileleriyle birlikte divana kaydedilmiş, kadınlara ve çocuklara da gelir bağlanmıştır. Bazı mevali, köy ağası anlamına gelen Dihkanlara ve esir olarak Medine'de bulunan yabancılara da gelir bağlandığına dair rivayetler bulunmaktadır.[16]

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[5] Belâzurî, Ebu'l-Abbas Ahmed b. Yahya b. Cerîr, *Fütūḥu'l-Buldān* (Beyrut: y.y., 1987), 641.
[6] Mâverdî, s. 225.
[7] İbnü'l-Esîr, Ebu'l-Hasan İzzeddin Ali b. Muhammed el- Cezerî, *el-Kāmil fī't-Tārīḫ* (Beyrut: Dāru'l-Kütübi'l-ʿİlmiyye,1987), 2/350.
[8] İbn Haldun, Ebu Zeyd Abdurrahman, *Muḳaddime*, thk. Abdullah Muhammed ed-Derviş, (Dımeşḳ: Dāru'l-Yaʿrub, 2004), 1/427.
[9] Belâzurî, 641; İbn Haldun, 427.
[10] el-Hayrav, "İdāretü'l-Iraḳ fī Ṣadri'l-İslām" çev. Abdullah Baktır, 123.
[11] Belâzurî, 641.
[12] Mâverdî, 227.
[13] Ebu Yusuf, Yakub b. İbrahim b. Habîb el-Ensârî el-Kûfî. *Kitābu'l-Ḫarac* (Ḳahire: el-Maṭbaʿatüs's-Selefiyye, 1967), 58, 83.
[14] Ebu Yusuf, 84; İbn Haldun, 427.
[15] Ebu Yusuf, 86.
[16] Belâzurî, 642.

İbn Haldun ve Belâzurî gibi bazı İslam tarihçileri, Müslümanların ilk devlet kurumunu, Bizans ve Sâsânî İmparatorluklarından alınmış olduğunu belirtmişlerdir. İbn Haldun, Abbasîler dönemine dair divan kayıt prosedürlerini gösteren ayrıntılar aktarmıştır. Abbasî Devleti'ndeki muhasebe sistemi hakkında gelişmeleri gözlemlemiş, muhasebeyi tutan kâtiplerin defteri yazdıklarını ve defterin sonuna adını yazıp imzaladıklarını ve bunu sultanın mührüyle mühürlediklerini ifade etmiştir.[17]

Yapılan araştırmalar, Sâsânîler döneminde hangi divanların bulunduğu ve bunların nasıl bir görev yaptıkları konusunda yeterli bilgi ve belgenin bulunmadığını belirtmektedir. İslam kaynaklarında, Sâsânî yöneticilerine dair birtakım bilgilerin I. Hüsrev ve ondan sonraki yöneticiler dönemine ait olduğu kaydedilmiştir. Araştırmalarda; Sâsânîler'in bu kadar az bir teşkilatla idare edilemeyeceği, askerî ve posta işleri, malî, ölçü ve tartı işleri, hükümdarın mülkleri ve topraklar için ayrı ayrı divanların kurulması gerektiği ve devlet teşkilatında en önde gelen maliyenin idaresinin, en azından Emevîler ve Abbasîler döneminde olduğu gibi çeşitli divanların bulunduğuna kesin gözüyle bakılmaktadır.[18]

Sâsânî Devleti'nin yıkılmasından sonra, Hz. Ömer döneminde Sâsânîler'den örnek alınan, onların gelir ve giderini yazdıkları hesap defterine divan ismi verildi ve devleti yönetmek için kurulan devlet dairelerinin gelişmesiyle aynı ismi almıştır.[19] Konum itibariyle Abbasî Devleti'nin, Sâsânî Devleti'nde bulunan kurumlardan etkilenmemesi mümkün değildir.[20]

Yapılan başka bir araştırmada ise, Sâsânî Devletinin ekonomik sistemini sağlamak için iki önemli divanı kurduğu belirtilmektedir. Bu divanların biri Harac Divanı, diğeri ise Fevâid-i Âmme divanıdır.[21]

Divan, devlet işlerinde kullanılan her tür hesap defterlerinin ismidir. Bu kelimenin anlamı genişleyerek, önce "maliye yönetimi" anlamını kazandıktan sonra, tüm devlet dairelerini ve devlet teşkilatını ifade eden bir kavram haline geldi. Yüzyıllar boyunca tüm Türk ve İslam devletlerinin, onlarla ilişki kuran devletlerin de idarî kavramlarında yer aldı. Bizans'ın egemenliği altında bulunan Suriye de Rumca, Mısır'da Kıptice, Sâsânîlerde Pehlevice tutulan genel divan defterleri, bu bölgelerin Müslümanlar tarafından fethinden sonra da aynı dillerde tutulmaya devam edildi.[22] Emevî halifesi Abdülmelik b. Mervan (685-705) döneminde divanlar Arapça tutulmaya başlandı. Emevîler'in Irak Valisi Haccac'ın kâtibi, Sistanlı Salih b. Abdurrahman, milâdî 701 yılına kadar Pehlevice yazılan Irak defterlerini Arapçaya çevirmiştir.[23] Böylece divan teşkilatı, Hz. Ömer döneminden başlayarak, Emevîler döneminde Arapçanın devletin resmî dili olarak kullanılmaya başlamasıyla birlikte gelişerek devam etmiş, Abbasîler döneminde ise Bağdat'ın hilafet merkezi olmasından sonra Sâsânî örneklerinden faydalanılarak gelişmiştir.[24]

Divan defterlerinin Arapçaya çevrilmesi ile ilgili uygulamalar, ilk önce Sevad-Irak bölgesinde başlamıştır. Daha önce Sâsânîler'in bir eyaleti olan Irak bölgesi divanında, Sâsânîler'in kuralları uygulanmıştır. Bu nedenle, Sevad ve Irak'ın diğer bölgelerinin harac defterleri Farsça yani

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[17] Cemal Elitaş vd, "*Osmanlı İmparatorluğu'nda 500 Yıl Boyunca Kullanılan Muhasebe Yöntemi: Merdiven Yöntemi*" (Ankara: T.C. Maliye Bakanlığı, Strateji Başkanlığı, 2008), 12.

[18] İsmail Hakkı Uzunçarşılı, *Osmanlı Devlet Teşkilâtına Medhal* (Ankara: Türk Tarih Kurumu Yayınları, 1988), 5.

[19] Wilhelm Barthold, çev. M. Fuat Köprülü, *İslâm Medeniyeti Tarihi* (Ankara: Akçağ Yayınları, 1984), 114.

[20] Uzunçarşılı, *Osmanlı Devlet Teşkilâtına Medhal*, 1-2.

[21] Nasır Niray, "Sāsānī İmparatorluğu'nun Devlet Yapısı Üzerine Bir İnceleme" *Muğla Üniversitesi, Sosyal Bilimler Enstitüsü Dergisi,*15 (Güz 2001), 11; M. Fuat Köprülü, *Bizans Müesseselerinin Osmanlı Müesseselerine Tesiri* (İstanbul: Ötüken Yayınları, 1986), 34-35.

[22] İbn Haldun, 427.

[23] İbn Haldun, 427.

[24] Köprülü, *İslam Medeniyeti Tarihi*, 115.

Pehlevice olarak kaydedilmiştir. Irak bölgesinin divanlarının Arapçaya çevrilmesi ise bu bölgenin genel valisi Haccac'ın öncülüğünde yapılmıştır.[25]

Abbasîlerin İdarî Yapısı ve Divanlar

İslam devletinde yönetim kurumları gelişip, çeşitli alt birimler oluşunca, bu yapı içerisindeki yönetim, bugünkü anlamda her birimin kendi içerisinde sekretaryasını yürüten, yazışmalarını yapan, Arapçayı çok iyi bilen ve mesleğiyle ilgili kanunlara hâkim, yeterli deneyime sahip kâtiplere ihtiyaç duyulmuştur. Kâtiplerin yetiştirilmesi, Abbasîlerin kuruluşunun ilk yüzyılı sonuna kadar devam etmiştir. Bu dönemde bir kısım divanların kurulması, yeterli sayıda kâtiplerle mümkün olmuştu. İslam hâkimiyeti altındaki Suriye, Mısır ve Irak'ta ilk dönemde eski yerli bürokrasinin elinde kalmış, Suriye ve Mısır'da yerli ve Hristiyan kâtipler, Irak'ta İranlı ve Nastûrî kâtipler uzun süre bu mesleği kendi ellerinde tutmuşlardır.[26]

Sâmânîler devlet teşkilatının, Türk Devletleri üzerinde önemli etkileri olmuştur. Özellikle Abbasî devlet teşkilatından yararlanan Sâmânîler, yönetimlerinde çalışan memurların Gazneliler'in hizmetine geçmesiyle bu alandaki deneyimlerini Gazneliler'e, oradan da Nizâmülmülk[27] gibi bir devlet adamı vasıtasıyla Selçuklulara intikal ettirmişlerdir. Bu bakımdan Sâmânîler tarihi, gerek siyasî, gerekse kültür ve teşkilat tarihi yönünden dikkatle incelenmesi gereken bir devlettir.

Abbasî Devleti'nin yapısı incelendiğinde, merkez ve merkeze bağlı taşra yönetimi olmak üzere iki kısma ayrıldığı görülür. Emevîler'den sonra Abbasîler döneminde halife mutlak hükümdar, hilafet ise verasete dayalı hükümdarlık şeklinde devam etmiştir. Veliahtlık anlayışı sayesinde, hilafetin Abbasî soyunda kalması sağlanmıştır.

Abbasî Devleti'nin İdari yapısı; Merkez Teşkilatı, Taşra Teşkilatı ve Kitabet ve Kâtipler olmak üzere üç kısma ayrılır.

Merkez Teşkilatı; Hilafet, Veliahtlık, Vezâret ve Hâciplik.

Taşra Teşkilatı; Valilik, Adliye, Hisbe ve Şurta.

Kitabet ve Kâtipler; Hat Kâtibi, Lafız Kâtibi, Akid Kâtibi, Hüküm Kâtibi ve Tedbir Kâtibi.

Akid Kâtibi; Meclis Kâtibi, Âmil Kâtibi ve Ceyş Kâtibi.

Hüküm Kâtibi; Kaza Kâtibi, Mezalim Kâtibi ve Harac Kâtibi gibi kısımlara ayrılmıştır.

Abbasîlerde halifeden sonra en önemli icra organı vezarettir. Bu bağlamda vezir geniş yetkilerle donatılmıştır. Abbasîlerde ilk kez ortaya çıkan vezirlik kurumunun Sâmânîler'den alındığı bilinmektedir.[28] Abbasîlerde Halife Harun Reşîd dönemine kadar ülke sorunlarıyla bizzat halife

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[25] Belâzurî, 430; Mâverdî, 226.

[26] Mehmet Aykaç, *Abbasî Devletinin İlk Dönemi İdārī Teşkilātında Divanlar* (Ankara: Türk Tarih Kurumu Yayınları, 1997), 21.

[27] Asıl adı Ebu Ali Kıvâmüddin (Gıyasuddevle, Şemsü'l-Mille) Hasan b. Ali b. İshak et-Tûsî olan Büyük Selçuklu veziri Nizâmü'l-Mülk, 21 Zilkade 408'de (10 Nisan 1018), Horasan'ın eski kültür merkezlerinden Tûs şehrine bağlı Nukan kasabasında doğmuştur. Babası Ali b. İshak Dihkan'ın Gaznelilerin Tûs âmili ve Nukan kasabasının dihkanı olmasından dolayı, iki kardeşi ile birlikte devrin en iyi şartları içinde yetiştirme imkânlarına sahipti. Nitekim kardeşi Ebu'l-Kasım Abdullah dönemin ünlü fakihlerindendi. Hasan da, tahsil ve terbiyesine gösterilen özen sayesinde daha 11-12 yaşlarında Kur'an'ı ezberlemiş, Şâfiî fıkhı ile ilgilenerek genç yaşında bu fıkhın teorisini en iyi bilenler arasına girmiş, aynı zamanda tanınmış edip ve muharrirlerle dostluk kurmuş, edebiyat alanında ciddi çalışmalar yapmış, iyi yazma ve konuşmada zamanının seçkin kişilerinden birisi olmuştur. Geniş bilgi için bz. İbrahim Kafesoğlu, "Nizāmülmülk", *MEB İslam Ansiklopedisi* (İstanbul: MEB Yayınları, 1988), 9/329-330; Abdülkerim Özaydın, "Nizāmülmülk", *Türkiye Diyanet Vakfı İslam Ansiklopedisi* (İstanbul: TDV Yayınları, 2007), 33/194-196; Osman Turan, *Selçuklular Tarihi ve Türk-İslam Medeniyeti*, (İstanbul: Ötüken Yayınları, 1999), 215-220; İbrahim Kafesoğlu, "Nizāmülmülk", *Türk Ansiklopedisi* (Ankara: MEB Yayınları, 1977), 25/300.

[28] Aykaç, 17.

ilgilenirken, Harun Reşîd döneminde bu usul terk edildi ve bütün yetki vezir Yahya b. Bermek'e devredildi.[29]

Abbasîlerde iki tür vezirlik vardı. Bu iki vezirlik yetki yönünden birbirinden farklıydı. Birincisi; sınırsız yetkilerle donatılan ve halifenin vekili, hilafet mührü elinde olan Tevfîz Veziri'dir. Bunun en güzel örneği Bermekîler'dir. Diğeri ise; yetkileri sadece icra ile sınırlı olup, görevi halifenin emirlerini uygulamaktan ibaret olan Tenfîz Veziri'dir.

Abbasî Devleti'nde Hâciplik (Hicabet), bir memuriyetti. Hâcib'in görevi; çok önemli bir iş olan halifenin kapısını beklemekti. Buna "sahibu's-sitâre" perdedarlık da denirdi. Rivayetlere göre hâciplik Muaviye döneminde ihdas edilmiştir.[30]

Abbasîler'de taşra teşkilatında divanların dışında vali, kadı, şurta ve hisbe teşkilatları da vardı. Valiler eyaletleri yönetir ve görevleri kısaca şunlardır. Ordunun ihtiyaçlarını karşılamak ve savaşa hazır tutmak, hukukî sorunların çözümü, zekât ve vergilerin toplanması, cihat ve ganimetlerin taksimini yapmak, bidat ve hurafelerle mücadele etmek, cezaların infazı, Cuma namazını kıldırmak ve hac işlerini düzenlemektir.

Adliye teşkilâtını şu bölümler meydana getiriyordu; mahkemeler, mezalim mahkemesi ve hisbe teşkilatı. Halifenin mahkeme ile ilgili konuları fakihlerden seçtiği kadılar, toplumun huzur, güven ve ahlâkî değerlerinin korunması, çarşı ve pazardaki ölçü ve tartılarda hilenin kaldırılmasını hisbe teşkilatı, toplumun genel asayişini ve suçluların yakalanmasını şurta teşkilatı sağlardı.[31]

Abbasîler'de İdarî Divanlar; divan terimi ilk fey gelirlerini dağıtmak için Hz. Ömer'in kurduğu bir teşkilat olup, bu dönemden itibaren kullanılmaya başlanan divan terimi, Emevîler ve Abbasîler döneminde askerî ve malî bir kurum olarak devletin çeşitli hizmetlerine bakan kurumlardı. Abbasîler'in kurduğu divanlar, sonraki Türk-İslam devletleri içinde örnek bir kurum olmuştur.[32]

Abbasîler döneminde divanları ilk kuruluşundan o güne adar geçirdiği aşamaları, Halife Cafer el-Mansur'un VIII. yüzyılın 60. yıllarında Dicle Nehri'nin batı yakasında inşa ettirdiği yeni başkentle ilgili olarak şu bilgiler aktarılmaktadır: Bağdat'ın o dönemin ünlü şehirlerinden bir farkı, daire şeklinde bir plana sahip olmasıydı. Duvarlarının dört cephesinde dört adet kapı vardı. Kapıların her birinin yanına askerlerin iskân etmesi için büyük binalar inşa edilmişti. Her bir kapı da merkezde bulunan büyük meydana açılıyordu. Bu meydanda bir saray, büyükçe bir cami ve divanlar bulunuyordu. O dönemdeki divanlar yedi taneydi. Bu divanlar şunlardır:

Divanü'l-hatem; sultana tasdik edilmek üzere sunulan evrakla ilgilenir.

Divanü'r- resâil; diplomatik işlerle meşgul olan divan.

Divanü'l-mezalim; yönetimden kaynaklanan ve adaletle ilgili yanışların mahkeme edildiği divan.

Divanü'l- ceyş (cünd); asker ve askerlikle ilgili konulara bakan divan.

Divan-ı beyti'l-mal: Devletin gelirleriyle meşgul olan Hazine Divanı.

Divan-ı harâc: Devletin harcamalarıyla, başka bir deyişle parasal işleri idare eden divan.

Düvanü'l-işraf; devletin erzak işleriyle ilgilenen divandır.

Bağdat'ın inşasına ait anlatılan bu rivayetin, Hz. Peygamber ve dört halifeden sonra Müslüman âleminin hayatında ne kadar önemli değişiklikler meydana geldiğini ve bu durumun sonraki

[29] Taberî, Ebu Cafer Muhammed b. Cerîr, *Târîḫu't-Ṭaberî*, nşr. Muhammed Ebu'l Fadl İbrahîm, (Ḳahire: Dâru'l-Maʿarif, 1967), 10/86; İbnü'l-Esîr, *el-Kâmil*, 6/61.
[30] Uzunçarşılı, *Osmanlı Devleti Teşkilâtına Medhal*, 6-8.
[31] Aykaç, 27-28.
[32] M. Ali Ünal, "Osmanlı İmparatorluğunda Müsâdere", *Türk Dünyası Araştırmaları Dergisi*, 2/9 (Aralık 1980), 96.

halifeler zamanında da devam ettiğini göstermektedir. Bürokrasinin kuvvetlenmesi; divanların çoğalması ve divanların başında bulunan vezirin iktidarını artırmıştır.[33]

Abbasilerde divan teşkilatı idarî, askerî ve malî olmak üzere üç kısma ayrılır. Bütün divan teşkilatları devlet yapısı içerisinde birbiriyle ilişkilidir. Abbasîler'de idarî divanlar şunlardır: Divanü't-tevki ', Divanü'r-resâil, Divanü'l-berîd, Divanü'l-hatem, Divanü'l-ezimme, Divanü'l-mezâlim, Divanü'l-müsadere'dir.

Divan-ı Berîd'de; Sahibü'l-berîd, Âmilü'l-berîd, el-Müterettibûn, el-Muvakkıûn, el-Fervânikiyyûn, el-Vükelâ ve el-Muhbirûn gibi görevlileri bulunmaktadır.

Divanü'l-Mezâlim de ise; Sahibü'd-divan, Kâtübu't-tesbît, Kâtibü'n-nüsah, Kâtibü'l-inşâ, Kâtibü't-tahrîr gibi görevliler bulunmaktadır.

Abbasî yöneticileri önceki devletlerin tecrübelerinden de faydalanarak sağlam ve geniş idarî kurumlar kurmuşlardır. Ülke toprakları üzerinde her bölgenin kendi şartlarına uygun idari önlemlere başvurmuşlar ve divanlar ihdas etmişlerdir.[34]

Abbasîler'de Ordu Divanı

İslam Devlet teşkilatında ilk olarak Hz. Ömer döneminde, fey gelirlerinin artması üzerine kurduğu askerî divan, Divanü'l-atâ idi. Bilindiği üzere Hz. Ömer'in beytülmale intikal eden fey gelirlerinden Müslümanlara yılda bir defa "atiyye" adı altında bir ödenek ve "erzak" adı altında da her ay yiyecek tahsis etmişti. Bu divanın Emevîler döneminde Divanü'l-cünd'e tekâmül ettiği belirtilse de Emevîler zamanında bazı aksamalara rağmen Divan-ı atâ devam etmiştir.[35]

İslam tarihi kaynaklarına göre, Emevî ordusunda iki tür askerî hizmet statüsü vardı. Birincisi; dört halife döneminde uygulanan "daimi nizamî" askerlik, ikincisi ise; "gönüllü" askerliktir. Daimi askerlik, Divan-ı cünd (ordu divanı) yoluyla orduya yazılarak, yaptığı askerî hizmet karşılığında devlet bütçesinden kendisine maaş verilmesi esasına dayanan askerliktir. Bir başka deyişle, mesleği askerlik olan ve geçimini bu yolla sağlayan savaşçılardan kurulu ordu anlamına gelmektedir.

Emevî Devleti'nde askerî alanda gönüllülük, herhangi bir mecburiyete tabi olmaksızın, sadece kendi arzu ve isteği ile mevcut orduya veya oluşturulan sefere katılan askerlerdir. Bu statüye tabi olanlar, Divan-ı cünd yoluyla askere alınmadıkları halde, savaş esnasında cihad çağrısına uyarak, kendi istekleriyle orduya katılıp emir ve komuta altına giren askerlerdir. Gönüllülerden oluşan ordu birliklerine "mutatavvia" veya "cündü'l-mutatavvia" denmektedir.[36]

Abbasîler, Emevîler döneminde oluşan kurumların çoğunu aynen korumuşlardır. Emevîler'le birlikte başlayan "Halife Muhafız Ordusu" Abbasîler'de de aynen devam etmiştir. Hz. Ömer'in ihdas ettiği "Divanü'l-atâ" denilen divan aynı şekilde devam ettirilmiştir. Abbasî hilafetinin hem maddi hem de dinî güce sahip olduğu dönemlerde mükemmel bir askerî gücü vardı.[37] Ordunun yönetimi, parasal ve hukukî işleri Divanü'l-ceyş tarafından icra edilirdi. Emevîler'de olduğu gibi Abbasî ordusunun esasını paralı ve sürekli olarak bu işi kendisine görev edinmiş askerlerden oluşmaktaydı. Bu askerler yerine getirdikleri görevin karşılığında devletten maaş alırlar ve tüm gereksinimleri devlet tarafından karşılanırdı. Bunun yanı sıra, savaş için çağrıldıkları zaman kendi iradeleriyle orduya iştirak eden, savaştan elde edilen ganimet ve zekâttan pay alan, Emevîler'de olduğu gibi gönüllü askerler grubu da vardı. Bu grup, devlet hazinesinden herhangi

[33] Uzunçarşılı, *Osmanlı Devleti Teşkilātına Medhal*, 29-30.
[34] Aykaç, 40.
[35] Aykaç, 71.
[36] M. Zeki Terzi, "Emevīler'de Kara Ordusu Teşkilātı" *On dokuz Mayıs Üniversitesi, İlahiyat Fakültesi Dergisi*, 9 (1997), 42-45.
[37] Uzunçarşılı, *Osmanlı Devleti Teşkilātına Medhal*, 12.

bir maaş veya ücret almazlardı. Gönüllü gruplar arasında bedevî Araplardan katılanlar olduğu gibi köy, kasaba ve şehirde yaşayan halkından da katılanlar olurdu.[38]

Abbasîler'de askerî divan; Divanü'l-atâ ve Divanü'l-ceyş diye ikiye ayrılır. Divanü'l-ceyş ise; Meclisü'-inşâ, Meclisü't-tahrîr, Meclisü'n-nüsah, Müclisü'l-esküdar, Meclisü't-takrîr, Meclisü'l-mukâbele, Meclisü'l-arz, Meclisü'l-atâ ve't-tefrika'dan oluşmaktaydı.

Abbasîler'de Malî Divanlar

Abbasî Devleti'nin malî teşkilatı toplumun ekonomik durumuyla yakından ilgili olduğu için kısaca bu duruma değinmek gerekir.

Abbasî Devleti'nde yaşayan toplum "Havas" ve "Avam" olmak üzere iki sınıftan oluşmaktaydı. Havas grubunu; halifenin yakınları, vezirler, emirler, kadılar, âlimler, kâtipler meydana getirmekteydi. Avam grubunu ise; esnaf, çiftçiler, sanatkârlar, köleler ve askerler ile diğer insanlar meydana getirmekteydi. Araplar, Farslar ve Türker'in yanında çeşitli etnik gruplardan insanlar Abbasî yönetimi altında yaşamaktaydı. Ülkede refahın artması beraberinde lüks hayatı da getirmişti. Abbasî yönetimi ekonomik hayatın her alanında refah ve üretimin artması için büyük gayretler sarf etmiştir.

Abbasîlerde ekonomik hayatın temelini ziraat oluşturmaktaydı. Devletin gelirlerinin büyük kısmı bu sektöre bağlıydı. Abbasîler, dönemin modern usullerini tarım sektöründe uygulayarak ciddi verim elde ettiler. Ayrıca, zengin maden yataklarına da sahiptiler. Doğu eyaletlerinden gümüş, batıda Sudan'dan altın, Horasan ve Fars'tan bakır ve kurşun çıkarılmaktaydı. Zengin demir yatakları Beyrut'ta bulunmakta, inci ise Basra körfezinden elde ediyorlardı.

Abbasîlerde, maden işletim ve silah yapım atölyeleri, tuğla ocakları başlıca sanayi kuruluşlarını meydan getirmekte, dokumacılık, gülsuyu ve ıtriyat, cam, kâğıt, sabun üretimi ve ihracı yapılmaktaydı. Ticarette usta kişiler Yahudi, Hristiyan ve Mecusiler iken, daha sonraları Müslümanlar da bu konuda uzmanlaştı. Üretimin artması ve ticaretin gelişmesiyle birlikte, devlet gelirlerinde büyük artışlar meydana geldi. Bu da ülkede refah ortamını oluşturdu.[39]

Abbasîlerde mali divanların oluşum süreci, Hz. Ömer döneminde geniş toprakların fethedilmesinden sonra devletin gelir getiren kaynaklarının artması nedeniyle bu gelirleri toplayıp bir düzene koyma ihtiyacı doğmuştur. Abbasî Devleti'nin gelirleri ganimet, fey, cizye, haraç ve öşür başlıkları altında ele alınmış, tarihi seyir içinde malî teşkilat içinde yer almıştı. Bir devletin maddi gücü olmadan ayakta kalması mümkün değildir. Emevîler, maddi güçle devletin ayakta tutulacağına inanmışlardı. Bu nedenle malî teşkilata son derece önem vermişler ve devletin gelirlerini artırma konusunda hep arayış içinde olmuşlardır. Abbasî Devleti'nin sağlam malî teşkilatı, refahın oluşmasında büyük rol oynamıştır. Abbasîlerde malî teşkilatla ilgili divanlar şu şekildedir:

Malî Teşkilat; Devletin gelirleri, Divanü'n-nafakât, Divanü'd-diya Divanü'l-harac, Divan-ı beyti'l-mal'dır.

Devletin Gelirleri; Ganimet ve Fey, Cizye, Harac, Zekât, Define ve Madenler, Diğer gelirler ve Uşûr'dür. Uşûr; Uşûr'l-ard ve Uşûru't-ticare diye iki kısımdır.

Divanü'n-Nafakât; Meclisü'l-cârî, Meclisü'l-enzâl, Meclisü'l-kurâ', Meclisü'l-binâ ve'l-meremme, Meclisü'l-havâdis, Meclisü'l-inşâ ve't-tahrîr, Meclisü'n-nüsah ve Meclisü beyti'l-mal'den oluşmaktaydı.

[38] Hakkı Dursun Yıldız, "Abbasîler" *Türkiye Diyanet Vakfı İslâm Ansiklopedisi* (İstanbul: TDV Yayınları, 1988), 1/ /39.
[39] Elitaş vd, "*Osmanlı İmparatorluğu'nda 500 Yıl Boyunca Kullanılan Muhasebe Yöntemi: Merdiven Yöntemi*", 19-22.

Divanü Beyti'l-mal; Meclisü'l-ehrâ, Meclisü hizâneti's-silâh, Meclisü'l-hizâne ve Beytü mâli'l-hâssa gibi kısımları vardı.

Büyük Selçuklu Devleti'nde Divanlar

Büyük Selçuklu Devleti'nin ilk dönemlerinde aşiret gelenekleri, devletin idaresinde etkili olmuş, bunun yanı sıra Karahanlılar, Gazneliler ve Sâmânîler'in devlet teşkilatında bulunan kurumları kendisine almıştır. Büyük Selçuklu, Bağdat'a hâkim olduktan sonra Abbasîler'in ve Büveyhiler'in devlet idaresindeki kurumlarından da faydalanmıştır.

Büyük Selçuklu Devleti askerî bir yönetime sahipti. Ülke yönetimi, birinci derecede sorumlu olan hükümdar ve ailesi ile emirlerin elindeydi. İkinci derecede ise divan üyeleri ve kalem kâtipleri sorumluydu. Vezir, devlet işlerinden birinci derecede sorumlu olup, askerî işler hariç devleti hükümdar adına yönetirdi. Beylerbeyi yani sipehsalar ordunun başında bulunurdu. Adlî işler kadılar, diğer idarî, malî ve örfî işler ise divan kararlarıyla yürütülürdü.[40]

Alp Arslan döneminde Büyük Selçuklu Devlet teşkilatı oluşmuş haldeydi. Oğlu Melikşah ve torunu Sencer döneminde devlet tam şeklini almıştır. Bu nedenle Alp Arslan dönemi, devlet teşkilatı, hükümdarlık anlayışı yönünden bir geçiş dönemidir. Alp Arslan'ın Selçuklu yönetimini ele almasıyla birlikte devletin birlik ve beraberliği sağlanmış, Tuğrul Bey dönemindeki ikili vasfı "çift hükümdarlık" sona ermiştir. Böylece devlet, tek yöneticili ve çok tebaalı bir Türk-İslam devleti haline gelmiştir. Sivil teşkilat kadrolarında genellikle İranlılar, askerî teşkilat kadroların da "gulam" sistemine göre yetişmiş Türkler bulunmaktaydı.

Devlet teşkilatında büyük divan, yasama (teşrii), yürütme (icra), ve yargıdan (kaza) oluşan ve yetkilerini hükümdardan alan üç unsurdan meydana gelmiştir. Sultan ve yaşadığı saray, vezirin başında bulunduğu sivil teşkilat, Gulam sistemine göre yetişmiş Türklerin yer aldığı askerî teşkilat (ordu teşkilatı), Büyük Selçuklu Devleti'nin teşkilatını oluşturmaktaydı.[41]

Büyük Selçuklu Devleti'nde yürütmeden sorumlu olan vezirin devlet işlerinin görüşülüp karar verildiği Büyük Divan'a (Divan-ı âlâ) başkanlık etmesi yetkilerinin başında gelmektedir. Vezir geniş malî yetkilerle, memurları tayin ve azletmekle görevlendirilmiştir. Ayrıca, imar faaliyetleriyle ilgileniyor, hilat giydiriyor ve devlet dairelerini de denetliyordu.

Büyük Selçuklu Devleti'nde Divan teşkilatı:

Mezalim Divanı, Âmiri: Barbey veya Emîr-i Dâd-emîr-i Bâr'dır.

Büyük Divan buna Divan-ı sultân da denir, Âmiri: Sahib-i divan-ı devlet yani vezir'dir.

Berîd Divanı (Posta Divanı), Âmiri: Sahib-i berîd'dir.

Büyük Divan ise;

Maliye Divanı (Sahib-i zimâm ve'l-istîfâ olan Divan-ı istîfâ-), âmiri: Müstevfî'dir.

İnşâ Divanı (Divan-ı tuğrâ-Divanü'r-resâil), âmiri: Tuğrâî, Münşî'dir.

Müşrif Divanı (Divanü'l-işrâf), âmiri: Müşrîf (müfettiş)'tir.

Ârz Divanı (Divanü'l-ceyş- Milli Müdâfâ Divanı), âmiri: Emîrü'l-ârızı'l-ceyş'den meydana gelmekteydi.

Nizâmülmülk, Büyük Selçuklu Devleti'nde hükümdarın "Divan-ı mezalim"e başkanlık etmesi ve zalimlerden mazlumları koruması için bizzat bu görevi üstlenmesi konusunu kayda alıp, bu divanın fonksiyonuna işaret etmektedir: "Hükümdarın, dönemindeki zulümleri ortadan

[40] Uzunçarşılı, *Osmanlı Devleti Teşkilātına Medhal*, 19.
[41] Mehmet Altay Köymen, "Alp Arslan Zamanı Selçuklu Saray Teşkilātı ve Hayatı", *Ankara Dil Tarih-Coğrafya Fakültesi, Tarih Bölümü, Tarih Araştırmaları Dergisi*, 4/ 6 (1966), 2.

kaldırması adalet hâkim kılması gerekir. Hükümdar, gerek gördüğünde en az haftada iki gün adalet divanı kurup, mazlumların hakkını alması, suçlulara hak ettiği cezayı vermelidir. Bunu halkın bizzat hükümdardan duyması, bu konuda önemli hikâyelerden birkaçını halka anlatması, olaylar için birer örnek vermesi lazımdır. Hükümdarın, zulme uğrayanları ve adaletin yerine getirilmesini isteyenleri haftanın uygun gördüğü iki gününde sarayına çağırıp, onların şikâyetlerini dinlemesi, zalimler ve haksızlık yapanlar hükümdarın kendisine vereceği cezadan korkarak ellerini millet malından çeker ve onlara zulmetmekten vaz geçerler.[42]

Divan-ı Berîd (Posta Divanı): Nizâmülmülk, istihbarat ve haberleşme teşkilatının bir devlet için ne kadar önemli bir kurum olduğu konusunda şunları ifade eder: "Ülkenin geleceği ve iyiliği için casuslar göndermek ve gereken önlemleri almak, dünyanın dört bir köşesine tüccar, seyyah, sûfî, eczacı ve derviş kılığında casuslar göndermelidir. Bu görevi yerine getirenler, duydukları her şeyi haber olarak getirmeli ve ülkelerde hiçbir zaman meçhul kalmamalıdır. Çoğu zaman valiler, arazi sahipleri, memurlar, emirler muhalefete ve isyana kalkışmamışlar ve sultana karşı bağlılıklarını koparmamışlardır. Casuslar aldıkları haberleri sultana getirdiklerinde, sultan zamanında hazırlık yapar, harekete geçer ve ansızın asilerin üzerine saldırırdı. Böylece asiler tutuklanır ve hedeflerine ulaşamazlardı. Eğer bir sultan, askerleriyle memlekete saldırmaya niyet ederse, o (casuslardan aldığı istihbaratla), onları (kendi ülkesinden) çıkarır. Casuslar sultana, halkın ve tımarların durumundan hayır ve şer şeklinde bir haber ulaştırırlarsa, sultan da Adudu'd-Devle'nin zamanında yaptığı gibi hareket eder, onları cezalandırır."[43]

"Barışın devamlı olması için elçiler ve haberciler gönderilmedir. Ülkenin yolları üzerine haber alma merkezleri kurulmalıdır. Burada görevlendirilenlerin aylık ve yolluklarının zamanında ödenmesi sağlanmalıdır. Bu şekilde yapılırsa, 300 km mesafede bile olsa gece veya gündüz meydana gelecek olaydan merkezin anında haberi olur. Geçmişte olduğu gibi, geçim sıkıntıları olmamalı, bütün ömürlerini devlet işinde mazbut bir şekilde harcayabilmeleri için başlarında tımar sahibi nakipler bulunmalıdır."[44]

Divan-ı âlâ (Büyük Divan): Devlet işlerinin görüşülüp karara bağlandığı divandır. Divan üyeleri sultan tarafından belirlenir ve sultanın emriyle görevlerinden alınırlar. Büyük Divan'ın asıl başkanı hükümdar olmakla beraber, onun adına bu görevi vezir yerine getirirdi.[45] Vezir devletin bütün işlerinden sorumluydu ve vezâret menşuru adı verilen fermanla tayin edilirdi. Vezâretin alâmeti ise altın divit, taç ve külahtır.[46]

Divan-ı inşâ (veya Tuğra): Vezirlikten sona en büyük makamdır. Divan-ı inşâ, genel olarak vezârete vekillik görevi yapıyordu. Vezâret'in kontrolü altında, devletin içeride ve dışarıda tüm yazılı muhaberatının idaresi ve belgelerin hazırlanmasıyla görevlidir. Tuğrâî, divandan çıkan emirnâme, mektup ve bilcümle muhaberatı itinalı bir şekilde kontrol ederdi. Başlangıçta Tuğrâî'nin işi tuğra çekmekti. Bu memuriyetin başında, Tuğrul Bey döneminde Türk asıllı bir emîr vardı. Nizâmülmülk'ün vezirliğinden itibaren İranlılar atandı ve Divan-ı tuğrâ, Divanı inşâ ile birleştirilerek tek divan haline getirildi.

Divanü'r-resâil/Divan-ı tuğrâ: Amiri Tuğrâî (Münşî)'den çıkacak yazılarla ilgili Nizâmülmülk'ün yaptığı açıklamalardan, yönetimde emrin yerine getirilmesi, devletin otoritesi ve saygınlığı açısından ne kadar önemli ve ciddi bir konu olduğu anlaşılmaktadır. Nizâmülmülk bu konuda şunları ifade eder: "Çok olan şeye saygı olmadığı gibi, Saray Divanı'nda fazla ferman

[42] Nizâmülmülk, *Siyasetnâme*, Hasan Ali Yücel Klasikler Dizisi, çev. Mehmet Taha Ayar, 4. Basım, (İstanbul: İş Bankası Kültür Yayınları, 2012), 17.
[43] Nizâmülmülk, *Siyasetnâme*, 101.
[44] Nizâmülmülk, *Siyasetnâme*, 117.
[45] Aydın "Taneri, Büyük Selçuklu İmparatorluğunda Vezirlik", *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi, Tarih Bölümü, Tarih Araştırmaları Dergisi*, 5/8 (1967), 103.
[46] Uzunçarşılı, *Osmanlı Devleti Teşkilâtına Medhal*, 46.

ve mektup yazılırsa halkın saygısı azalır. Önemli olan yüce mecliste bir şeyin yazılması ve yazılan şeyin emredici olması gerekir. Bu nedenle de kimse ona el ve dil uzatmaya cesaret edememeli ve verilen emirleri yerine getirmede kusur işlememelidir. Eğer bir kimse, yüce divandan çıkan bir fermana hakaretle bakarsa, onu işitmekte veya yerine getirmede gevşeklik gösterirse, hükümdar karşısında, herkesin eşit olduğu ve bunu yapan kim olursa olsun cezalandırılmalıdır."[47]

Divan-ı istîfâ: Divan-ı âlâ'nın –malî işlerle uğraşan- ilk dairesidir. Müstevfî, devletin tüm maliye çalışanlarının ve saltanat divanı yani Divan-ı hass'da çalışanların amiridir. Halkın durumunu Müstevfî ıslah eder. Hakları ve sorumlulukları belirlerdi. O, yeni vergiler koymaz, sadece yapılan şikâyetleri neticelendirmekle mükellefti. Bunun yanında, devlet bütçesinin gelir ve gideri hakkında tutulan defterleri kontrol eder ve vergi tahsiline salahiyetli kişileri istihdam ederdi. Müstevfî, çalışanlara maaşlarını öder, malî bakımdan ikta 'sistemini denetler ve karar verirdi.

Divan-ı işrâf: Bir denetleme kurumudur. Bu divan, devletin maliye yönetiminin kontrolünü yapar. Özellikle gelirlerin harcamasını denetler.

Nizâmülmülk, Müşrif (Müfettiş) yani divan amiri hakkında şunları söyler: "Hükümdar hiçbir şekilde memurlarının durumundan habersiz olmamalı, sürekli onların durum ve davranışlarını kontrol etmeli, onlardan zulüm ve ihanet görürse, derhal azletmelidir. Diğerlerinin ibret alması için, suçları derecesinde onları cezalandırmalıdır. Bu durumu gören hiç kimse ceza korkusundan sultan aleyhine bir şey düşünemez. Bir kişiyi büyük bir işle görevlendirirse, ondan habersiz, durumunu ve çalışmasını kontrol edecek müfettiş göndermelidir."[48]

Divan-ı arz veya Divanü'l-ceyş: Askerî şahısların ikta'larını, her türlü gelirlerini ve maaşlarını idare edip, birliklerin ve teçhizatın kayıt ve kontrolünü yapardı. Arz divanı sahibi, mülkü ya da ikta'ı kim alırsa alsın, sahibinin veya alıcısının sivil memur veya askerî personel olmasını dikkate almadan idare ederdi. Divan-ı arz, ikta'ların büyüklüğünü, bunlardan elde edilen gelirleri tespit ederdi.

Divan-ı âlâ'yı meydana getiren bu yüksek makam sahipleri, vezir gibi mahkemeye sevk edilir ve icraatlarının hesaplarını vermek zorunda kalırlardı. Herhangi bir yolsuzluk yaptıklarında tutuklanıp hapishaneye atıldıkları, mallarının müsadere ve evlerinin yağma edildiği kaynaklarda belirtilmektedir.[49]

Selçuklu Devleti'nde dinî ve sosyal yapının sarsıldığı, ülkenin sıkıntılı döneminde vezirlik makamına gelen Nizâmülmülk, devlet yönetimini, dinî ve sosyal yapıyı rayına oturtmak için büyük gayret sarf etmiştir. Sultan Melikşah döneminde Nizâmülmülk'ün de katkılarıyla hayat şartlarının yükselmesi ve refahın artması için gerekli olan bütün şartlar sağlanmıştı. Devlet, dışarıdan gelecek tehlikelere karşı savunmasını yapmak ve içeride asayişi düzene sokmak için güçlü bir orduya sahipti. İyi işleyen bir idare, devletin düzenli gelir elde etmesini sağlamaktaydı.

Büyük Selçuklular Öncesi Toprağın İdaresi ve İkta'nın Başlangıcı

Tarih boyunca insanları, toplumu ve kurumları etkileyen etkenlerden biri de toprağın yönetimi olmuştur. İslam devletlerinde ticaretin gelişmesi, şehirleşme ve İslamlaşma hareketlerine yön veren parametrelerden biri, toprak üzerindeki mülkiyet ve tasarruf sistemidir. İslâmî yönetimi esas alan devlet teşkilatında, toprağın yönetimi ve işletilmesi karmaşık bir konudur. İslam dininin getirdiği esaslar, İslam'dan önceki toprakla ilgili uygulamalara yeni bir yorum getirmiş, tarihi süreç içerisinde devletlere yön vermiştir.

[47] Nizâmülmülk, *Siyasetnāme*, 95.
[48] Nizâmülmülk, *Siyasetnāme*, 28.
[49] Taneri, 103, 105-106.

Toprağın işletilmesi, dağıtımı, ihya edilmesi kısaca ikta'sistemiyle birlikte anılmış, devlet, toprak ve toplum ilişkilerinde ölçü alınabilecek bir konu olmuştur.

İkta'İslam medeniyetine ait bir kurumdur. İslam tarihinde ilk örneğine Hz. Peygamber döneminde rastlanır. İkta', Dört Halife, Emevîler ve Abbasîler döneminde daha da gelişmiş, Avrupa'nın en batısındaki Endülüs Emevîleri'nden doğudaki Hindistan'a kadar uzanan alanda kurulan tüm İslam devletlerinde uygulanan bir sistem haline gelmiştir.[50]

İkta'nın çeşitli tanımları yapılmıştır. İkta'bir tanıma göre; İslam'da devlet arazisinin (arâzi-yi emîrîyye) yalnız bir yıllık vergi veya öşür hasılatının, hizmet karşılığında herhangi bir şahsa verilmesi demektir. İkta'memuriyet hizmeti karşılığı verildiği gibi, istenirse başka birine de verilebilirdi. Bir vilayet veya eyaletin bütün varidatı gelirleriyle birlikte komutan veya valiye verildiği takdirde bu kişi ikta'karşılığında hazineye belli bir vergi vermekle mükellefti.[51]

Bir başka tanıma göre ikta'; devlet yöneticisinin tasarrufu altında bulunan arazi, maden, kamu işletmelerinin mülkiyetinden veya gelirlerinden faydalanma ve işletme haklarının ya da imtiyazının belli şartlar dâhilinde bu işi yapabilecek kimselere verilmesidir. İkta'kelimesi, müessese anlamında hicrî birinci asrın sonlarına doğru yaygınlaşmıştır. İkta'yönetiminin İslam'dan önceki dönemlerde de kullanılmış olduğu düşünülebilir. Sâsânî İmparatorluğunun uydusu durumundaki Lahmi krallarına İran hükümdarları, bölgedeki köyleri ikta'verdiği, hatta ilk İslam fetihleri esnasında bazı bölge ve köyler adlarını bu ikta'lardan aldığı (Sevadiye Köyü) kaydedilmiştir.[52] Çevreden etkilenme durumu göz önüne alındığı zaman, Arapların da bu uygulamayı bildiği kabul edilebilir. Bilindiği gibi bazı arazilerin ikta 'olarak verilmesi meselesi Hammurabi Kanunları'nda da geçmektedir.[53]

Hulefâ-i Râşidîn döneminin sonuna kadar verilmiş olan ikta'ların esas özelliği, atıl durumda olan arazilerin işletilmesi ve bölgede İslam'ın yayılmasında etkili olacak kimselerin tercih edilmesidir. Hz. Peygamber tarafından verilen ikta'lar, kabile reislerinin desteğini almak, gönüllerini İslam'a ısındırmak, fethedilmemiş bölgelerden gelen kişilere verilen araziler ile bu bölgelerin fethini teşvik etmek gibi dinî ve sosyo-ekonomik amaçlar taşıdığı dikkat çeker. Hz. Osman devrinde devletin fey arazileri üzerinde tasarruf etmeye başlaması, daha önce ikta'edilmeyen Savafî arazilerin ikta' edilmesinin yolu açılmış ve çok sayıda arazi ve köy şahıslara tahsis edilmiştir.[54]

Emevîler devrinde, orduya maaş vermek yerine geçinmek üzere arazi ikta'edildiği görülmektedir. Bu dönemde ikta'tahsislerindeki artış ve ikta'ların daha ziyade Ümeyye ailesine ve hilafeti destekleyen kabilelere verildiği ortak bir görüştür. Hz. Osman döneminde

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[50] Erkan Göksu, "İkta 'Sisteminin Tekâmülünde Selçukluların Rolü", *Tarihin Peşinde Uluslararası Tarih ve Sosyal Araştırmalar Dergisi*, 1 (2009), 85.

[51] Uzunçarşılı, *Osmanlı Devleti Teşkilâtına Medhal*, 17.

[52] Mustafa Demirci, *Abbasîlerde Toprak Sistemi* (İstanbul: Marmara Üniversitesi, Sosyal Bilimler Enstitüsü, Doktora Tezi, 2001), 179-180.

[53] Hammurabi (M.Ö.1728-1686), Mezopotamya'da hükümran olmuş Babil kralıdır. Çeşitli konularda verdiği kararlar, Babil'in koruyucu tanrısı Marduk adına yapılan Esagila Tapınağı'na dikilen bir taş üzerine Akatça dilinde yazılmıştı. Arkeolog Jean Scheil'in 1901 yılında Susa ve Elam'da (bugünkü İran'ın Huzistan bölgesi) bulduğu ve Fransa'ya taşıdığı Hammurabi Kanunları'nın yazılı olduğu tablet Paris'te Louvre Müzesi'nde sergilenmektedir. 172 maddeden oluşan Hammurabi Kanunları'nın 27 ve 28. maddesinde ikta 'ile ilgili olarak şunlar yazılıdır. Madde- 27: "Bir subay ya da er savaşta kralın talihsizliğine uğrarsa (esir düşerse), onun arazileri ve bahçesi başkasına verilir. Verilen kişi onlara sahip olursa, esir olan kişi geri dönüp kendi yerine vardığı takdirde, arazisi ve bahçesi ona iade edilir ve bunlara tekrar sahip olur." Madde- 28: "Bir subay ya da er kralın talihsizliğine uğrarsa (esir düşerse), oğlu onun varlıklarını üstlenebilecek durumda ise o zaman arazi ve bahçe ona verilir ve o, babasının ücretine de hak kazanır."

[54] Demirci, *Abbasīlerde Toprak* Sistemi, 183; Irak'taki Sevad arazisi için bk. Mahayudin HJ. Yahaya, "Kūfelilerin Milādī VII Yüzyılın Ortalarındaki Siyasi Muhalefetleri, çev. Ünal Kılıç, *Cumhuriyet Üniversitesi, İlahiyat Fakültesi Dergisi*, 6/2 (2020), 229-238.

ikta'verilmesi huzursuzluğa neden olan Savafî arazilerinin, Emevîler döneminde de aynı şekilde ikta' olarak verilmesi, Ömer b. Abdülaziz döneminde değiştirilmiştir. Bilindiği üzere Fedek arazileri Ümeyye ailesinden alınarak tekrar Hz. Peygamber nesline iade edilmiştir. Ayrıca, Akdeniz sahil şeridinde ve Bizans sınır boylarında, Horasan ve diğer yeni fethedilen bölgelerde yoğun bir nüfus hareketliliği yaşandığından, göçebe Arap kabileleri gruplar halinde bu bölgelere iskân edilmişler ve bu topraklara arazi ikta'sı verilerek yerleşmeleri sağlanmıştır.[55] Bunun yanı sıra Abbasî halifeleri de Emevîler'de olduğu gibi kendi akrabalarına ikta'lar vermişler ve bu ikta'lardan vergi almamışlardır.[56]

Abbasîler döneminde fetihlerin yavaşlaması ikta'siyasetinde kendisini açıkça göstermiştir. Bu dönemde sınır boylarında boşalan yerlere nüfus aktararak düşmana karşı tahkime, fethedilen bölgelerin nüfus yapısını yeni getirilen Müslüman topluluklarla değiştirerek, İslam'ın bölgedeki hâkimiyetini pekiştirip, İslamlaşmasını sağlamaya yönelik bir anlayış sürdürmüştür. Bu dönemde fetihler aksamış olsa da, Bizans bölgesinde hicrî III. asra kadar devam etmiştir. Bölgede her an çıkabilecek savaşa karşı güçlü bir ordunun bulundurulması gerekiyordu. Bu yüzden bu bölgelere yerleştirilen insanlara arazi ikta 'edilmesi yoluna gidilmiştir. Bundan da anlaşılıyor ki, Abbasîler ikta'yı, özellikle sınır bölgelerinde, devletin gelen askerî sisteminden ayrı malî bir yöntem ve sistem olarak uygulamıştır.[57] Abbasîlerin kurdukları toprak sistemi daha sonraki dönemlerde Türk-İslam devletlerini de etkilemiştir.

Büyük Selçuklu Devleti Döneminde Toprağın Yönetimi ve İkta '

İkta'sisteminin tarihî gelişiminde Büyük Selçuklular döneminin özel bir yeri vardır. Nizâmülmülk, döneminde ikta'sisteminde çok önemli değişiklikler yapılmış ve uygulanmıştır. Bu nedenle bazı müellifler ikta'sistemini Nizâmülmülk'le özdeşleştirmişlerdir. Bundan dolayı ikta'sisteminin ilk defa Nizâmülmülk tarafından Büyük Selçuklular döneminde uygulanmaya başlandığını zannetmişlerdir. Aslında Nizâmülmülk'ün yaptığı, daha önceki devirlerde uygulanan ikta'sisteminin eksik taraflarını düzeltmek ve Büyük Selçuklu Devleti'nin siyasî, sosyal ve ekonomik gelişmesine göre yeniden düzenlemekten ibarettir.[58]

Bilindiği gibi Büyük Selçuklu Devleti'nin sınırları içerisinde toprak ve halk büyük sultanın malıydı. Kendilerine ikta'verilen kişilerden tahsil edilmek istenen mal dışında halktan bir şey almaya hakları yoktu. Haksız yere tahsil ettikleri takdirde, halkın kendisi, malı, zevcesi, evladı, arazi ve mülkü koruma altına alınmış olur. İkta'verilen kişiler bu mal üzerinde daha fazla hak iddia edemez.[59]

Büyük Selçuklu Devleti'nde arazi; Hass, İkta 've Harâcî olmak üzere üç kısma ayrılmıştı. Hass arazi: Sultanın şahsına ait olan, halkın ekip diktiği bağ, bahçe, koru, otlak olarak faydalandığı topraklardır. Bu topraklardan elde edilen vergi ihtiyat hazinesine yatırılırdı. İkta 'olarak verilen arazi: Hassa ordusu kıtası ile şehir dışında oturup bilfiil askerlik hizmetinde bulunanlara dağıtılmış ve onlar adına kaydedilen topraklardır. Şehzâdelere, emirlere, devlet ricaline ve hanedana mensup kişilere ve kadılara arazi ikta'edilirdi. Araziler irsi olarak geçmekle birlikte, vefat ve azil gibi durumlarda varisler namına ikta'beratlarının yenilenmesi gerekirdi. İkta'lar gerekli hallerde sultan tarafından artırılabilirdi.[60]

Harâcî arazisi: Bu arazi ile ilgili olarak, Abbasîler döneminden itibaren şöyle bir usul takip edilmiştir: Birincisi; Haracın para veya mahsul yahut her ikisi şeklinde alındığı muhasebe

[55] Demirci, *Abbasīlerde Toprak Sistemi*, 185.
[56] Uzunçarşılı, *Osmanlı Devleti Teşkilātına Medhal*, 17.
[57] Demirci, *Abbasīlerde Toprak Sistemi*, 189.
[58] Göksu, 87.
[59] Nizâmülmülk, *Siyasetnāme*, 41.
[60] İbrahim Kafesoğlu, *Sultan Melikşah Devrinde Büyük Selçuklu İmparatorluğu*, (İstanbul: Ötüken Neşriyat, 2014), 168-170.

usulüdür. İkincisi; Mukâseme usulü: Haraclar, Halife Cafer el-Mansur dönemine kadar genellikle harac görevlileri tarafından toplanırdı. Onun döneminden itibaren mukâseme denilen usule dönüldü. Üçüncüsü ise; Mukâtaa (İltizam) usulü: Bazı devlet ileri gelenlerine ve komutanlara tahsis edilen harac ve diğer devlet gelirlerinin toplanmasıdır. Bu metot, Abbasîler döneminde askerlik Türklerin eline geçtiği sırada ortaya çıkmıştır. Harac vergisinin çoğunluğu bu şekilde toplanmıştır.[61]

Medreselerin Teşekkülü ve Büyük Selçuklu Devleti'ndeki Fonksiyonu

İnsanlık tarihi boyunca gerçekleşen kültür geçişlerinden biri, VIII. yüzyılın başlarından itibaren Antik Yunan kaynaklarının Arapçaya tercüme edilmesiyle gerçekleşen geçişlerdir. Bir diğer geçiş ise, XI. yüzyıldan başlamış XIII. yüzyılın sonuna kadar devam etmiş olan Arapçadan Latince ve İbranîce ve diğer dillere yapılan tercümelerle gerçekleşmiştir. Bu kültür akımlarında Süryanîler önemli rol oynamıştır. VIII. yüzyıldan X. yüzyıla kadar Yunanca eserleri Süryanîce metinlerden veya kendi düzelttikleri ve kısmen de yeniden düzenledikleri nüshalardan Arapçaya Süryanîler çevirmiştir.

Müslümanlar, doğu bölgelerinin fethiyle birlikte eski Hint bilim ve kültürü ile ilgili eserleri Arapçaya tercüme etmişlerdir. Müslümanlar, Yunan Antik düşüncesinin eserlerini sadece metinlerde tanımakla kalmamışlar, Süryanîce, Kıptîce, Farsça ve Hintçe aracılığıyla bu kültürün değişik versiyonlarını tanıyıp, dönemin ortak bilim ve kültür dili olan Arapçaya çevirmişlerdir.

Tercümede göze çarpan bir nitelik, bazı metinlerin "köprü dil" olarak kullanılan Arapçaya çevrilmesi ve çeviri faaliyetlerinde kişisel istekler temel etken olmakla beraber çevrilecek metinlerin nitelikleri üzerinde bir yere kadar etkili olmuştur.[62]

Hulefâ-i Râşidîn döneminde (632-660), Müslümanlar, İslam'ın kendine yeterliliğini düşünerek, bu kültür ve medeniyetlerle fazla ilişki içerisine girmemişlerdir. Ancak kısa bir süre sonra diğer kültür ve medeniyetlerle ilişki kurmak zorunda kaldılar. Zira toplumsal açıdan bu durum kaçınılmazdı.

Yunan felsefesi, Aristo mantığı ve beşeri ilimleri konu edinen, çeşitli inançların din adamları ve çeşitli gruplarla Müslümanlar arasındaki teolojik tartışmalar Şam, Basra ve Kûfe gibi önemli şehirlerde, herkesin önünde Emevîler döneminde başlamıştır.

Abbasî Devleti'nin kurulmasından sonra Müslümanlar, komşu ülkeleri olan Mezopotamya, Mısır, Asur-Babil, Grek ve Hint medeniyetlerinin düşünsel, bilimsel ve kültürel birikimlerine kayıtsız kalmamışlardır. Abbasîler döneminde tesis edilen *Beytü'l-Hikme*, medeniyetler ve kültürlerarası tercüme etkinliklerinin kurumsallaştığı, aynı zamanda yüksek seviyeli bilimsel araştırmaların yapıldığı bir mekân olmuştur. *Beytü'l-Hikme*'nin esas önemi, Yunan felsefesi, İran, Hint, Mezopotamya ve Mısır gibi köklü bilimsel, düşünsel ve kültürel geleneklerin İslam düşüncesine geçişi sonucunda, Müslümanların entelektüel alanda yeni bir dönem açmış olmasıdır.[63]

Beytü'l-Hikme, sadece tercüme faaliyetlerinin yapıldığı bir mekân olmayıp, aynı zamanda yüksek seviyeli eğitim yapılan bir kurum olmuştur. O dönemde benzer müesseselerin de olduğunu varsayarak, bu müesseseler ileride kurulacak olan medreselere örneklik teşkil etmiştir. Abbasî halifesi Me'mun tarafından kurulan *Beytü'l-Hikme*'de Sanskristçe, Pehlevîce ve Yunanca eserler Arapçaya tercüme edilmiştir. Burada yapılan çalışmalar sayesinde, büyük âlimlerin eserlerinin yok olması önlemiştir. Aristo, Eflatun, Hipokrat, Dioscoride, Batlamyus gibi büyük

[61] Mustafa Ç. Varlık vd, *Osmanlı Tarih Ansiklopedisi* (İstanbul: İhlas Matbaacılık, 1998), 3/ 226.
[62] Gürkan Dağbaşı, "Abbasî Dönemi Çeviri Faaliyetleri", *Eskiyeni Dergisi*, 27 (Güz 2013), 184.
[63] Mehmet Ulukütük, "İslām Düşüncesinde Tercüme Faaliyetleri: Hermeneutik ve Bibliyografik bir Katkı", *İstanbul Üniversitesi, İlahiyat Fakültesi Dergisi*, 1/2 (Güz 2010), 251-252, 256-257, 260.

bilginlerin eserleri yapılan tercümeler arasında yer almıştır.[64] Bu ise İslamî bilimlerin kapalı bir bilim olmadığını, diğer bilimlere açık olduğunu ve diğer kültürlere ait bilim dallarını kendi süzgecinden geçirerek hayata uyguladığını gösterir.[65]

Müslümanlar, gerçekleştirdikleri fetihlerle sınırlarını genişletmiş, diğer kültür ve medeniyetlerle karşılaşma fırsatı bulmuşlardır. Yeni fethedilen bölgelerdeki milletler ve onların düşünsel ve bilimsel dünyalarını tanımışlardır. Bu bağlamda medreseler önemli bir rol üstlenmiştir. Abbasî Devleti'nde bulunan medreselerin bazıları fetihlerden öncede bulunmaktaydı. Bu medreseler, fetihten sonra da varlıklarını devam ettirmişlerdir. Urfa, Nusaybin, Cündişapur, İskenderiye, Antakya, Harran ve Bağdat medreseler önceden bulunan medreselerdi. Medreseler sayesinde, bu bölgelerde var olan kültürlere ait eserler Arapçaya çevrilmeye başlanmıştır.

Eğitim etkinliklerinin yoğunlaşması sonucu, öğrenci sayısının çoğalması, cami veya mescitlerin dersler için yetersizliği, öğrencilerin ibata, beslenme ve temizlik gereksinimlerinin düzenli olarak karşılanma ihtiyacı, medrese kurumunun doğmasına zemin hazırlamıştır. Medreseler, hem ekonomik düşüncelerin savunulması hem de yanlış düşünce akımlarının ilim yolu ile engellenmeye çalışılması için elverişli bir mekân olmuş, hem de yönetim ve adalet işlerinde iyi iş yapacak eğitilmiş kişilerin yetiştirilme gereksinimi, medreselerin ortaya çıkmasına katkı sağlamıştır.[66]

Medreselerin vakıf sistemiyle ilgili olduğu bilinmektedir. Vakıf müesseselerinin ne zaman kurulduğu konusunda farklı değerlendirmeler mevcuttur. Vakfın, Türk-İslam devletleri teşkilatında, ilk defa Karahanlılar devrinde, Emir Ebu İshak İbrahim b. Nasr Tamgaç Buğra Han tarafından kurulduğu ve bu vakfın, bir medrese tesis ettiği belirtilmektedir. Kurulan bu vakfın dikkat çeken en önemli özelliği, Selçuklu Veziri Nizâmülmülk tarafından 1067 yılında Bağdat'ta tesis edilen Bağdat Nizâmiye Medresesi'nden önce kurulmuş olmasıdır.

Büyük Selçuklu Devleti kurulduktan sonra, vakıf kurumları önemli gelişmeler katetmiştir. Ehl-i sünnet inancını kabul eden Büyük Selçuklu Devleti'nin, Şiî-Fâtımî Devleti'ne karşı giriştiği mücadelede[67] dinî bir kurum ve medrese şeklini alması, Büyük Selçuklu topraklarında yine birer vakıf kurumu olarak tekke ve zâviyelerin çoğalmasına neden olmuştur. Bundan dolayı, Büyük Selçuklu Devleti'nde büyük vakıf eserler kurma konusunda sultanlar, şehzâdeler, devlet adamları ve ileri gelenleri adeta birbirleriyle yarışmışlardır.[68]

Nizâmülmülk, Sultan Melikşah döneminde yazdığı *Siyasetnâme* adlı eserinde hükümdarların sorumluluklarından bahsederken, imar faaliyetlerine değinir, medreselerin kurulmasından bahseder ve şunları belirtir: "Hükümdar dünyayı imar eder. Su gereksinimini karşılamak için su kaynaklarından yeraltı su yolları ve kanallar açar, nehirleri ıslah eder, büyük nehirler üzerine köprüler yapar, toprağın verimliliğini artırmak için çareler arar. Kaleler, yeni şehirler, yüksek

[64] Will Durant, *İslam Medeniyeti*, çev. Orhan Bahaddin (Ankara: Elps Kitap, 2004), 96.

[65] Haydar Bammat, *Garp Medeniyetinin Kuruluşunda Müslümanların Rolü*, çev. Ali Muhammed Ömeri-Avni İlhan (İstanbul: Bahar Yayınları, 1975), 8, 17.

[66] KızılAbdullah Yıldız, "Başlangıçtan Medreselere Kadar Eğitim-Öğretim ve Mekân Anlayışının Din Eğitimi Açısından Analizi", *Fırat Üniversitesi, İlahiyat Fakültesi Dergisi*, 17/2 (2012), 179-180.

[67] Bu mücadele konusunu Nizâmülmülk şöyle ifade eder: "Bendeniz divanın Horasanlı Kâtip ve mutasarrıflardan temizlenmesini tekrar ediyorum. Bundan sonra bir kişi kâhyalık, farraşlık, rikâdarlık isteyerek bir Türkün hizmetine girmek isteyince, ondan hangi vilayetin hangi şehrinden, hangi mezhepten olduğunu soracaklardır. Eğer Hanefî, Şâfiî, Horasanlı ve Maveraünnehirli olduğunu söylerse, onu kabul edecekler. Fakat Kum, Sâve, Rey'den ve Şiîyim derse, '*Git; bize yılan besleyen değil, yılan öldüreniz*' diyeceklerdir. Kendilerine pek çok para ve mal teklif etseler bile onları reddedip, sarayına kabul etmeyeceklerdir. Eğer Sultan Tuğrul veya Sultan Alparslan (Allah kabirlerini nurlandırsın) bir emirin veya bir Türk'ün, bir Râfizîyi hizmetine aldığını duyduysa, kızıp onu cezalandırırdı. Şüphesiz onların sultanlıkları huzur ve sükûn içinde geçti ve başımıza hiçbir bela gelmedi." Nizâmülmülk, *Siyasetnāme*, 232.

[68] Ahmet Turan Yüksel, "Türk-İslam Medeniyetinde Vakıfların Yeri ve Önemi", *Selçuklu Üniversitesi, İlahiyat Fakültesi Dergisi*, (2002), 48.

binalar, güzel yerleşim merkezleri kurar, anayollara dinlenme tesisleri kurar. İlim tahsil edecekler için medreseler yapılmasını emreder. Böylece bu dünyada hoş bir seda bırakır ve yaptığı işlerin sevabını öteki dünyada alacağı gibi, halkta kendisini hayırla zikreder."[69]

Nizâmülmülk gibi Tûs'lu olan İmam Gazalî (öl. 505/1111), Büyük Selçuklu veziri Nizâmülmülk tarafından Bağdat'ta tesis edilen Nizâmiye Medresesi'nde ders vermiştir. Endülüslü Seyyab b. Cübeyr (ö. 614/1217), Abbasîlerin başkenti Bağdat'ı ziyaret ettiği zaman, burada 30 medrese saymıştır.[70] Medreseye bırakılan mallarla, öğretmenlerin, çeşitli vazife gören görevlilerin maaşları ödenmekte; öğrencilerin giyinme, yiyecek ve barınma gereksinimleri karşılanmaktaydı.

Bilim ve düşüncenin gelişmesinde medreseler, X. asırdan itibaren merkezî konum haline gelmiştir. Karahanlılar döneminde de bu gelenek devam etmiş ve aynı zamanda, Gazneliler döneminde de bizzat Sultan Mahmud tarafından desteklenerek sürdürülmüştür. Bu dönemde İbn Furek, Beyhakiyye, Ebu Said İsmail el- Esterabâdî, Sa'diyye, ve Ebu İshak Esferâyinî medreseleri gibi medreseler açılarak ilmin hizmetine sunulmuştur. Ancak bu medreseler, şahıslar tarafından tesis edilen kuruluşlar olduğu için resmî bir kimliğe sahip değillerdir.

Şiîler tarafından Mısır'da ilk defa devlet destekli ve kurumsal özellik taşıyan medreseler kurulmuştur. el-Ezher Câmii/medresesi (975) tesis edilerek, Şiî propagandaları için merkez haline getirilmiştir. Fâtımîler'in burada yetiştirdikleri Şiî propagandacıların amacı "dâî"lerle faaliyetlerini yürüterek, hedefleri olan Sünnî İslam düşüncesini yok etmekti. Şiî propagandacıların diğer bir amacı da, hakiki halifenin Fâtımî halifesi olduğu, Abbasî halifesi ve onu destekleyen Büyük Selçuklu yönetiminin gayri meşru olduğu propagandasını yapmaktı. Bu yolla insanların zihinlerini bulandırıp onları Büyük Selçuklu yönetimine karşı kışkırtmışlardır. Fâtımîler, gerçekleştirdikleri faaliyetlerinde kısmen başarılı oldular ve "Bâtınîler"i devreye koyarak, ikna edemedikleri insanları korku ve terör yoluyla hedeflerine ulaşmayı amaçlamışlardır. Büyük Selçuklu sultanları dinî kavramları çarpıtarak kullanan, İslam'ın özüne zarar veren, insanların fikir dünyasını bulandıran ve devletin bekasını hedef alan bu propagandaları engellemek için mücadele etmeye karar verdiler.

Medresede ders veren hocalara ilk defa maaş bağlama işlemi Nizâmiye Medreseleri'nde gerçekleştirilmiştir. Bu medreseler, uyguladıkları ders programlarıyla kendilerinden sonraki medreselere model olmuşlardır. Halife Mustansır, Selahaddin Eyyûbî ve Nureddin Zengi aynı koldan yürüyerek Sünnî medreseler açmışlar ve Sünnî düşüncenin gelişmesi için çalışmışlardır. Nizâmiye Medreselerinin uyguladıkları ders programları tüm İslam ülkelerinde olduğu gibi Osmanlıların meşhur Sahn-ı Seman Medreseleri'nde de devam etmiştir.[71]

SONUÇ

Birçok kurum gibi ilk kurulan divan teşkilatının kuruluşunu Hz. Peygamber zamanına kadar götürenler olsa da, Müslümanların ilk divan teşkilatının kuruluşu Hz. Ömer zamanına rastlar. Onun dönemindeki gelişmeler, yönetim teşkilatları, bürokratik kurumları zorunlu hale getirmiştir. Bu kurumların oluşumunda Hz. Ömer cesur davranarak işleri kolaylaştırmıştır. Bu bakımdan Hz. Ömer, İslam devletinin ve yönetim kurumlarının kurucusu sayılır. Onun

[69] Nizāmülmülk, *Siyasetnāme*, 12.
[70] Chikh Bouamrane, "İslam Tarihinde Eğitim Öğretim Kurumları", çev. Nesimi Yazıcı, *Ankara Üniversitesi, İlahiyat Fakültesi Dergisi*, 30/1 (1988), 282.
[71] Ahmet Ocak, "Selçukluların Seleflerine Göre Medeniyet Tarihindeki Yeri ve Önemi", *Abant İzzet Baysal Üniversitesi, History Student Prof Dr. Enver Konukçu Armağanı Özel Sayı*, (2012), 266-268; bk. Ahmet Ocak, "Bir Terör örgütü Olarak "Bātınīlik" ve Selçuklu Ülkesindeki Faaliyetleri", *Dinī Araştırmalar Dergisi*, 7/20, 163-178; M. Şemsettin Günaltay, "Anarşist Dervişler Çetesi (Haşşaşin)", *Hurafeden Hakikate*, nşr. Ahmet Gökbel, (İstanbul: Marifet Yayınları, 1997), 161.

zamanında kurulan divan teşkilatı, Emevîler zamanında yaygınlaştırılmış, divanlar çeşitlenmiş ve Halife Hişam b. Abdülmelik döneminde yeniden yapılandırılmıştır.

Abbasîler döneminde ülke sınırlarının genişlemesiyle birlikte devlet işleri çeşitlilik göstermiş, divanların çeşitleriyle birlikte bürokraside yeni iş alanları açılmıştır. Divanların bürokratik işlerini yürüten kâtipler bu alanda önemli işler yürütmüşlerdir. Abbasilerde kâtiplik, kişileri en yüksek makamlara götüren bir köprü işlevi görmekteydi. Kâtipler, işlerinde gösterdikleri üstün başarılarla, devletin en önemli kademeleri olan divan kâtipliğine kadar yükselmişler, bununla da kalmayıp vezirlik makamına kadar gelmişlerdir.

Vezir, Abbasî Devleti'nin yönetim sisteminde merkezde oturan ve halife adına devleti yöneten kişidir. Aynı zamanda divanların işleyişinden sorumlu olan üst düzey yöneticidir. Abbasîler'de her divanın başında Sahibü'd-divan denen yöneticisi bulunmaktaydı. Yazışmalar, arşiv ve istatistiksel kayıtlardan Divan-resâil sorumluydu. Haberleşme ve istihbarat görevini Berîd teşkilatı yürütmekteydi. Malî işlerin yürütüldüğü Divan-ı istîfâ, devlet hesaplarının kontrolünü yapan Divan-ı ezimme ile birlikte koordineli şekilde çalışmaktaydı. Devlette denetim işleri, halife hariç her makam ve mevkiyi kapsamış, bunun için Divan-ı mezalim erken dönemde ihdas edilmişti. Abbasî Devleti yönetim teşkilatında Divanü'l-ceyş, devletin askerî işlerine bakan ve ordunun idarî, malî, kazaî ve diğer işlerini yürüten kurumdu.

Abbasîler'in ilk dönemlerinde toprak daha çok üst düzey kesimin ve bazı tüccarların faaliyeti olarak kaldı. Araplar, kitleler halinde yeni fethedilen topraklara yerleşmeye başladılar. Devletin en önemli gelirleri toprağa bağlı vergilerden oluşmaktaydı. Yaygınlaşan ticaretin gelişmesiyle, yerli ve yabancı tüccarlardan önemli miktarda kazanç elde ediliyordu. Zımmîler, malları ve canlarının güvenliği karşılığında tespit edilen miktarda yılda bir kez cizye vergisi ödüyordu. Devlet, Müslümanların görünür mallarından (emvâl-i zâhire) zekâtı kendi görevlileri tarafından topluyor ve gerekli yerlere harcıyordu. Görünmeyen mallardan (emvâl-i bâtıne) zekât ise mükelleflerce yetkililere veriliyordu. Devletin harcamaları Divan-ı nafakât tarafından dikkatlice takip ediliyordu. Devlet gelirlerinin toplanması için Divan-ı harac oluşturulmuştu. Bütün bunlara bakıldığında Abbasî Devleti kuruluşundan itibaren idarî, askerî ve malî bakımdan döneminin zirvesine ulaştığını söylemek mümkündür.

Klasik İslamî kurumlardan olan ikta', Büyük Selçuklu tarihinin dikkat çeken kurumlarından biri olmuştur. İkta'sisteminin tarihî gelişiminde, Büyük Selçuklular döneminin özel bir yere sahip olduğu şüphesizdir. Nizâmülmülk vasıtasıyla geliştirilen ikta 'sisteminde, bazı değişiklikler yapıldıktan sonra düzenli ve yaygın bir şekilde uygulanmıştır. Nizâmülmülk, daha önceki dönemlerde uygulanan ikta'nın eksik taraflarını düzeltmiş, Büyük Selçuklu Devleti'nin siyasî, sosyal ve ekonomik şartlarına göre yeniden düzenlemiş, önceki devirlerde uygulanan idarî ikta'ya askerî bir işlev kazandırmıştır. Bu haliyle Büyük Selçuklular dönemindeki ikta', daha önceki İslam devletlerinde görülen ikta' sisteminden farklı olup, toprağa bağlı ordu siteminin kurulmasına zemin hazırlamıştır.

Nizâmülmülk, saray, eyalet ve devlet kurumlarına önemli yenilikler getirmiş, divanları geliştirmiş olmakla birlikte, dinî sahada mezhep çekişmelerini ortadan kaldırmış, ülkeyi terk etmek zorunda kalmış, dönemin bilim adamlarının yurtlarına dönmesini sağlamıştır. Müslüman halkı Sünnî akideler etrafında toplamaya gayret etmiş, Sünnîliğin kuvvetlenmesi için Büyük Selçukluların siyasî ve fikrî hasmı olan Mısır'daki Şiî Fâtımî Devleti'nin yaymak istediği Şiî-Bâtınî düşüncelere karşı mücadele etmiştir.

Büyük Selçuklu Devleti döneminde, seviyeli eğitim sistemiyle devlet bütünlüğünü esas alan ve Sünnî inancın güçlenmesinde önemli rol oynayan Nizâmiye Medreseleri, sadece fizikî planda değil, aynı zamanda eğitimi ve ders programlarıyla da kendisinden sonraki medreselere model olmuştur.

Selçuklular, İslam medeniyetinin önemli bir üyesi olmuş, İslam'ın hem yayılmasında hem de ona karşı yönelen tehlikelerin bertaraf edilmesinde önemli bir rol oynamışlardır. İslam dünyasının siyasî liderliğini tam anlamıyla üstlendikleri için, gerek İslam'ı yeniden ihya ve inşasında, gerekse İslam dünyasının sorunlarının çözümünde büyük bir çaba göstermiş, devletin bütün imkânlarını kullanarak ellerinden geleni yapmışlardır.

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OSMANLI'DA GÖLGE OYUNU HAKKINDA VERİLMİŞ FETVÂLAR

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ÖZET

Türk kültürünün zengin kaynaklarından birisi olan hayâl-i zıll (karagöz, gölge oyunu)ın ortaya çıkışı hakkında farklı görüşler vardır. Bu görüşlere göre, bu oyun Anadolu'ya ya Orta Asya'dan veya Hindistan'dan Batı'ya doğru Çingene göçleriyle gelmiştir veya bu oyunun baş karakterleri yaşamış kişilerdir. Bir başka görüşe göre de Sultan Orhan zamanında bir cami inşaatının gecikmesine sebep olduklarından öldürülen iki kişinin oyuna dönüştürülmüş şeklidir. Bu görüşler herhangi bir belgeye dayanmadığından kesin değildir. Eldeki yazılı kaynaklar ise bu oyunun Osmanlı topraklarına 16. yüzyılda Mısır'dan Memlük sanatçıları vasıtasıyla geldiğini göstermiştir. Elimizdeki en eski karagöz tasvirleri 19. yüzyıl sonlarına ait olmakla beraber Alman müzelerinde 12. yüzyıla ait Mısır tasvirleri bulunmuştur. Osmanlı belgelerinde bu oyun hakkında *hayâl-i zıl* tabiri kullanılmıştır. Hayâl-i zıll oyunu Osmanlı fetvâlarına da konu olmuş ve bu oyunun hükmüne dair sorulan sorulara ilginç cevaplar verilmiştir. Mesela bu oyunu seyretmenin hükmünün sorulduğu bir fetvâda bu oyunu ibret almak üzere seyretmenin iyi bir şey olduğu ifade edilmiştir. Bir başka fetvâda ise bu oyunu neden seyrettiği sorulan bir kimse kendisini kınayarak cevap vermiştir. Osmanlı fetvâlarında bu oyun genellikle 16. yüyıldan itibaren geçmeye başlamış ve daha çok "kerahet ve istihsân" bölümlerinde ele alınmıştır. Bildirimizde bu oyunla ilgili olarak Osmanlı fetvâ kitaplarında veya mecmualarında geçen fetvâlar bu kaynaklar taranarak bulunacak ve analitik biçimde incelenerek tanıtılacaktır.

Anahtar kelimeler: Gölge oyunu, Osmanlı, fetvâ, şeyhülislam.

FATWAS ON THE SHADOW PLAY IN THE OTTOMAN LIFE

ABSTRACT

There are different opinions about the emergence of hayâl-i zıll (karagöz, shadow play), which is one of the rich sources of Turkish culture. According to these views, this game came to Anatolia either from Central Asia or India with the migration of Gypsies to the West, or the main characters of this game are people who lived. According to another view, it is the form of two people who were killed because they caused delay in the construction of a mosque during the reign of Sultan Orhan. Since these views are not based on any document, they are not certain. The written sources at hand show that this game came to the Ottoman lands in the 16th century through Mamluk artists from Egypt. The earliest depictions of karagöz we have belong to the end of the 19th century, but Egyptian depictions of the 12th century have been found in German museums. In the Ottoman documents, the term "hayal-i zıl" was used about this game. Hayâl-i zıll game was also the subject of Ottoman fatwas and interesting answers were given to the questions asked about the ruling of this game. For example, in a fatwa in which the ruling of watching this play is asked, it is stated that it is a good thing to watch this play as a lesson. In another fatwa, a person who was asked why he watched this play replied

by condemning himself. In Ottoman fatwas, this game generally started to take place from the 16th century and was mostly discussed in the "kerahet and istihsan" sections. In our paper, the fatwas related to this game in Ottoman fatwa books or journals will be found by scanning these sources and will be introduced by analyzing them analytically.

Keywords: Shadow play, Ottoman, fatwa, sheikhulislam.

GİRİŞ

Türk kültür ve edebiyatının zengin kaynaklarından birisi de hayâl-i zıll oyunu (karagöz, gölge oyunu) olup bunun ortaya çıkışı hakkında farklı görüş bulunmaktadır. Belgelere dayanmadığından kabul görmeyen görüşlere göre, köklü bir gölge oyunu geleneği bulunan Çinlilerle Orta Asya Türklerinin ilişkileri bu oyunun Orta Asya'dan gelmiş olabileceğini düşündürmüş, bir başka görüşe göre de bu oyun Hindistan'dan Batı'ya doğru Çingene göçleriyle gelmiştir. Farklı iki izaha göre de Karagöz, Selçuklular devrinde yaşayan İstanbul tekfurunun seyisi Sofyozlu Bâlî Çelebi, Hacivat ise Selçuklu Sultanı Alâeddin devrinde yaşayan Yorkça Halil adında biridir. Diğer görüşe göre ise Sultan Orhan zamanında Bursa'da yapılan bir camide çalışan iki kişi olup sürekli konuşup işçileri alıkoyduklarından idam edilmişlerdir. Eldeki yazılı kaynaklara göre ise bu oyun Osmanlı topraklarına 16. yüzyılda Mısır'dan Memlük sanatçılar vasıtasıyla girmiştir. Memlük tarihçisi İbn İyâs'ın Bedâiu'z-zühûr adlı tarih kitabında 1517'de Mısır'ı ele geçirip Memlük Sultanı II. Tomanbay'ı idam ettiren Yavuz'un huzurunda bir gölge oyuncusu Sultan Tomanbay'ın asılışını ve ipin iki kez kopuşunu canlandırınca bu, Yavuz'un çok hoşuna gitmiş ve bu sanatçıyla birlikte birçok Mısırlı sanatçıyı İstanbul'a getirmiştir. Bizdeki en eski karagöz tasvirleri 19. yüzyıl sonlarına ait ise de Alman müzelerinde 12. yüzyıldan kalma Mısır tasvirleri vardır. Osmanlı belgelerinde *hayâl-i zıl* terkibiyle geçen bu oyunun tasvirleri 17. yüzyılda Türk sanatçılarınca eklem yerlerinden hareket imkânı da sağlanarak düzenlenmiş, Karagöz adı da ilk kez bu yüzyılda ortaya çıkmıştır. Bir sanatçının tek başına gösterimi olan bu oyunda sanatçı el ustalığı ve değişik sesler çıkaran bir aktör, oyunun ritim ve temposunu belirleyen bir rejisör, dansları ve hareketleri düzenleyen bir koreograf, tasvirleri kesip boyayan bir ressamdır. Her oyun; mukaddime, muhâvere, fasıl, bitiş şeklinde birbirinden bağımsız dört bölümden oluşur ve her sanatçı kendi zevkine göre bu parçaları değiştirip muhtevada değişiklikler yapabilir. Yağ kandili veya mumla aydınlatılan bir beyaz perde arkasında oynatılan hayâl-i zıll oyununda deriden yapılmış tasvirler deliklere yerleştirilen yatay ve dikey çubuklarla oynatılmış, tasvirler yatay çubuklarla tek yönlü, dikey çubukla da sağa sola hareket etmiştir. Oyuna başlanmadan göstermelikle beraber çalınan bir parçadan sonra Hacivat'ın okuduğu semâi, Karagöz'ün okuduğu perde gazeli ve oyunda değişik tiplerce okunan hayal şarkıları karagöz mûsikisinin zengin repertuvarını oluşturmuştur (And, 2001:401-403).

Osmanlı'da hayâl-i zıll oyunu bazen fetvâlara da konu olmuş ve buna dair sorulan meseleler 16. yüzyıldan itibaren değişik şeyhülislam ve müftülerce cevaplanmıştır. Sorulan sorularda genellikle bu oyunu seyretmenin caiz olup olmadığı sorılmakta, verilen cevaplarda ise bu oyunu boşa vakit geçirmeden ve ibret almak için seyretmek caiz görülmektedir. Verilen cevaplarda ibret almadan bahseden bir Arapça dörtlük de yer almaktadır. Osmanlı fetvâlarında bu oyunla ilgili meseleler sık geçmese de esrar ve tütün gibi konuların 16. yüzyılın fetvâlarında sıkça yer almasının da etkisiyle bir istihsan ve kerahet konusu olarak bu oyun fetvâların da konusu olmuştur. Bu konuda kendisine istihsan ve kerahetle ilgili konular sıkça sorulan Şeyhülislam Ebussuud Efendi (ö.1574) öne çıkan bir isim olup verdiği cevaplar da genellikle espri içermektedir. Aşağıda yer alan fetvâlar ona ait olup içinde örnek olarak bir de Arapça dörtlüğe yer verilmiştir. Bu fetvâda, gölge oyunu oynatılan bir gecede imam ve hatip olan bir kişinin de yer aldığı ve bu oyunu sonuna dek izlediği belirtilerek bunun

imamlıktan ve hatiplikten azledilmesine sebep olup olmayacağı sorulmuştur. Verilen cevapta ise, eger bu kişi bu oyuna ibret almak için bakıp tefekküre dalarsa azline sebep olmayacağı bildirilmiştir. Dikkat edilirse imam ve hatip olan bir kişinin bu oyunu seyretmesinin caiz olup olmadığı değil, azline yol açıp açmayacağı sorulmuştur. Yani bu oyunu seyretmek ta baştan caiz görülmemekte, ancak kişinin ibret alıp düşünceye dalarak kendisini düzeltmeye yol açacak bir etki yapacaksa caiz olacağı bildirilmektedir. Öyleyse bu oyunu seyretmede gözetilen fıkhi düstur boş vakit geçirmeye yol açıp açmadığıdır. Zaten esrar, tütün, kahve, afyon, boza gibi genellikle bir kısmı haram, bir kısmı da mekruh sayılmış keyif verici içecekler de eğlence meclislerinde boşa vakit geçirip gaflete düşmeye sebep oldukları için caiz görülmemiş, ancak bazıları ihtilaflı biçimde caiz görülmüştür. Hayâl-i zıll denilen gölge oyunu ise herhangi bir içki olmayıp sadece boş vakit geçirme veya orada sergilenen kötü söz veya davranışlardan dolayı caiz görülmemektedir. Bu oyuna ibret almak için bakılınca caiz olduğuna göre oyunun aslı değil, kullanım şekli esas alınmaktadır.

Hayâl-i Zıll (gölge oyunu) ile İlgili Fetvâlar

Osmanlı fetvâ kitaplarında hayâl-i zıll oyunu ile ilgili tespit edilen fetvâlar aşağıda gösterilmekte olup bunların sayısı bütün fetvâ kitap veya mecmuaları tarandığında biraz daha artabilir. Ancak bu oyunla ilgili verilmiş fetvâlar genellikle Şeyhülislam Ebussuud Efendi'ye ait olup diğer yüzyıllarda verilmiş fetvâlar da buna atfedilmiş gibidir. Bu oyun Osmanlı topraklarına 16. yüzyılda girmiş olduğundan verilen fetvâlar genellikle bu yüzyıla aittir ve diğer yüzyıllardaki fetvâların da kaynağı durumundadır.

1.[1]

Mesele: Bir gice bir meclise hayâl-i zıll oyunu getürilüp imâm ve hatîb olan Zeyd ol meclisde bile olup oyun âhirine degin gitmeyüp bile seyr eylese şeran imâmetden ve hitâbetden azle müstahak olur mı?

El-cevâb: Eger ibret içün nazar idüp ehl-i hâl fikriyle tefekkür itdi ise olmaz.

müfâaletün müstef'ilün mütefâilün

Raeytü hayālu'z-zılli ekberü ibreten

Li-men hüve fi-ilmi'l-hakîkati râkin

Şuhūsu ve eşbâhun temurru ve tenkazî

Ve tugnî serîan ve'l-muharriki bâkin

Günümüz Türkçesiyle:

Soru: Bir gece meclise gölge oyunu getirilip imam ve hatip olan Zeyd de o mecliste bulunup oyunu sonuna kadar seyretse şeriate göre imamlıktan ve hatiplikten azledilmeyi hak eder mi?

Cevap: Eğer ibret için bakıp sufilerin fikriyle düşünceye dalarsa azledilmez. Ebussuûd

Dörtlüğün çevirisi:

Gölge oyununu hakikat ilminde yükselen için en büyük bir ibret olarak gördüm; şahıslar ve cisimler gelip geçip hızlıca doyuruyor ve hareket ettiren baki kalıyor.

[1] Mecmûatü'l-Fetāvā, Diyanet İşleri Başkanlığı Kütüphanesi, nr.001923, vrk.111a.

2.[2]

Mesele: Sûfî olan Zeyd hayâl-i zıll didükleri nesneyi seyr itdükde Amr sûfîsin niçün bakarsın didükde Zeyd bu bir büyük kimesnenün icadı imiş gördügün diyüp ve hem sûfîlik kanda biz kanda dise nesne lazım olur mı?

El-cevâb: Mühmel sûfî değil imiş lekeligine itiraf eylemiş i'tizâra mecâl variken bu bâbda ehl-i basîret:

Raeytü hayālu'z-zılli ekberü ibreten

Li-men hüve fi-ilmi'l-hakîkati râkin

Şuhūsu ve eşbâhun temurru ve tenkazî

Ve tugnî serîan ve'l-muharriki bâkin

dimişdür hem mahall-i ibretdür. Ebussuûd

Günümüz Türkçesiyle:

Soru: Sûfî olan Zeyd gölge oyunu denilen şeyi seyrettiğinde Amr, sûfîsin niçin bakarsın dediğinde Zeyd, bu gördüğün bir büyük kimsenin icadıymış, hem sûfîlik nerde biz nerde dese bir şey gerekir mi?

Cevap: Boş sûfî değilmiş, mazeret gösterecek imkanı varken eksikliğini itiraf etmiş, bu konuda işin ehli kişiler: "Gölge oyununu hakikat ilminde yükselen için en büyük bir ibret olarak gördüm; şahıslar ve cisimler gelip geçip hızlıca doyuruyor, hareket ettiren baki kalıyor." demiştir ve hem ibret alınabilecek yerdir. Ebussuûd

Sonuç

Kültür ve edebiyatımızın renkli oyunlarından biri olan gölge oyunu Osmanlı topraklarına 16. yüzyılda girmiş ve hemen ardından bu oyunun caiz olup olmadığına dair tartışmalar çıkmıştır. Zaten o yüzyılda kahve, tütün, afyon, sema, raks, devran gibi eğlence yönü bulunan birçok uygulama hakkında da tartışmalar çıkmış ve fetvâlara konu olmuştur. Gölge oyunu da bu tartışmalardan birisi olarak sıkça fetvâlara konu olmuştur. Osmanlı'da hayâl-i zıll oyununa dair meseleler 16. yüzyılda değişik şeyhülislam ve müftülerce cevaplanmış ve verilen fetvâlar genellikle bu oyunun boşa vakit geçirmeden ve ibret almak amacıyla seyredildiğinde caiz olduğu yönünde olmuştur. Ancak, imam ve hatip olan bir kimsenin bu oyunu seyretmesi daha dar ve kısıtlayıcı olarak değerlendirilmiş ve bu kişinin ibret almak amacıyla bu oyunu seyretmesi azlini gerektirmeyecek bir durum olarak görülmüştür. Yani imam ve hatip olan bu kişinin bu oyunu eğlenmek üzere seyretmesi caiz görülmemiş, ancak ibret almak amacıyla seyretmesi azline yol açmayacak bir durum olarak görülmüştür. Bu oyunu sadece seyredip boşa vakit geçirmek ise baştan caiz görülmeyen bir durum olmaktadır.

Kaynakça

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Mecmûatü'l-Fetāvā, Diyanet İşleri Başkanlığı Kütüphanesi, demirbaş nr.001923.

[2] Mecmûatü'l-Fetāvā, Diyanet İşleri Başkanlığı Kütüphanesi, nr.001923, vrk.117b.

OSMANLI'DA KAHVE HAKKINDA FONETİK BİR TARTIŞMA FETVÂSI

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ÖZET

Osmanlı topraklarında 16. yüzyıldan itibaren yaygınlaşan kahve, tütün, esrar, afyon gibi keyif verici içecekler hakkında birçok fetvâ verilmiş ve hükümleri ortaya konulmuştur. İlk önce Habeşistan'da yiyecek olarak ortaya çıkan kahve, 15. yüzyılın başlarında Yemen'de içecek olarak yaygınlaşmış, 16. yüzyılın başlarında Mekke'ye, ardından Kahire'ye, yüzyılın ortalarında İstanbul'a gelmiş, 17. yüzyılın ortalarında da Avrupa'ya ulaşmıştır. Osmanlı'da kahve hakkında 16.yüzyılın sonlarında Şeyhülislâm Bostanzade Muhammed Efendi 64 beyitlik meşhur fetvâsıyla kahvenin helal ve bazı faydaları da bulunan bir içecek olduğunu bildirmiştir. Osmanlı'da bu fetvâdan önce genel kanaat kahvenin caiz olmadığı yönündeydi. Osmanlı fetvâlarında kahve genellikle caiz görülmüş, ancak bazı fetvâlarda kahveyi oyun ve eğlence olarak içmenin haram olduğu bildirilmiş, bazı fetvâlarda ise kahve bir gramer konusu yapılarak haflerinin hükmü bile tartışılmıştır. Mesela bir fetvâda kahve sözcüğünün hangi "ha" harfi ile yazıldığı sorularak bununla ilgili yapılan bir tartışmada hangi tarafın haklı olduğu sorulmuştur. Bu konuda yine Şeyhülislâm Bostanzade Muhammed Efendi verdiği tek beyitlik manzum fetvâ ile bunun hükmünü ortaya koymuştur. Bu bildiride bu konuda verilmiş fetvâlardan örnekler verilerek yapılan tartışmalar açıklanacaktır. Bu fetvâlarda kahvenin caiz olup olmadığı değil, hangi harfle yazıldığı hakkında iki kişi arasında geçen tartışmanın hükmü sorulmakta, fonetik öğeler Arapça gramer konularıyla birlikte ele alınarak açıklanmakta ve bazı mizahi mana ve unsurların da oluştuğu görülmektedir.

Anahtar kelimeler: Osmanlı, kahve, fetvâ, fonetik, tartışma.

A PHONETIC DISCUSSION FATWA ABOUT COFFEE IN THE OTTOMAN

ABSTRACT

Many fatwas have been issued and their rulings have been put forward on pleasurable beverages such as coffee, tobacco, hashish and opium, which have become widespread in the Ottoman lands since the 16th century. Coffee which first appeared as a food in Abyssinia, became widespread as a beverage in Yemen at the beginning of the 15th century, came to Mecca at the beginning of the 16th century, then to Cairo, to Istanbul in the middle of the century and to Europe in the middle of the 17th century reached. About coffee in the Ottoman Empire, at the end of the 16th century, Şeyhülislâm Bostanzade Muhammed Efendi declared that coffee was a halal beverage with some benefits, with his famous 64 couplet fatwa. Before this fatwa, the general opinion in the Ottoman Empire was that coffee was not permissible. In Ottoman fatwas, coffee was generally considered permissible, but in some fatwas it was stated that it was haram to drink coffee as a game and entertainment, and in some fatwas, coffee was a grammar subject and even the ruling of its letters was discussed. For example, by asking which letter "ha" the word coffee was written in a fatwa, it was asked which side was right in a discussion about it. In this regard, Sheikhulislam Bostanzade Muhammed Efendi revealed the verdict of this with a single couplet verse fatwa. In this paper, the discussions will be

explained by giving examples from the fatwas given on this subject. In these fatwas, it is not asked whether coffee is permissible, but the decision of the debate between two people about which letter it is written, the phonetic elements are explained by dealing with Arabic grammar issues, and it is seen that some humorous meanings and elements are formed.

Keywords: Ottoman, coffee, fatwa, phonetic, discussion.

GİRİŞ

16.yüzyılda en geniş sınırlarına ulaşan Osmanlı topraklarında bu yayılmanın tabiî bir sonucu olarak yeni ortaya çıkan birtakım meseleler tartışılmaya başlanmış ve bunların hükümlerine dair fetvâlar verilmiştir. Tartışılan bu konuların başında tütün, kahve, esrar, afyon gibi keyif verici içeceklerin yanında devran, sema, raks gibi bazı tasavvufi unsurlar da gelmektedir. Keyif verici içeceklerin başında kahve gelmekte olup bunun hükmüne dair birçok fetvâ verilmiş, manzume ve risaleler yazılmıştır. Osmanlı toplumunda böylesine önemli bir yer tutmuş olan kahve hakkında şeyhülislam ve müftüler farklı görüşlere sahip olmuş iseler de genel olarak kahve, içilme şekil ve amacı vurgulanarak değerlendirilmiştir. Kahve ve tütün yaklaşık aynı tarihlerde Osmanlı topraklarına girmiş, bunların hükümlerine dair birbirine zıt içerikte fetvâlar verilebilmiş, müstakil eserler yazılıp hükümleri açıklanmıştır. Özellikle Şeyhülislâm Bostanzade Muhammed Efendi'nin verdiği 64 beyitlik manzum fetvâ bir kahvenâme görünümünde olup kahvenin caizliği bir yana bazı faydaları da ayrıntılı biçimde açıklanmıştır. Bununla birlikte Şeyhülislâm Ebussuud Efendi'nin fetvâlarında kahve, fasıkların oyun ve eğlence aleti olarak içildiğinde mekruh veya haram görülmüş, bir başka fetvâsında ise uykuyu giderip zihni açma ve ibadete yardımcı olma amacıyla içildiğinde helal olduğu bildirilmiştir. Bostanzade Muhammed Efendi eski tıp anlayışındaki gıdaların fiziksel özelliklerini de dile getirerek kahveyi caiz ve faydalı görmüş, sebeplerini de ayrıntılı biçimde açıklayarak kahve hakkındaki şüpheleri ve müşkilatı gidermiştir.

Kahve

16.yüzyılda büyük bir alana yayılan Osmanlı topraklarında kahve, tütün, esrar, afyon vb. keyif verici içeceklerin fıkhi hükmü hakkında muhtelif fetvâlar verilmiştir. Osmanlı topraklarına birbirine yakın tarihlerde giren kahve ve tütün hakkında müftülere birçok mesele sorulmuş ve birbirine zıt cevaplar alınabilmiştir. Şarap anlamına gelen kahve Arapça bir kelime olup iştahı kestiği için bu anlamı kazanmış ve bugünkü anlamı da ehl-i keyf kimselerce verilmiştir (Asım, 1305, s.911). Kahve önce Habeşistan'da yiyecek olarak ortaya çıkmış, Yemen'de 15. yüzyılın başlarında tanınıp sonra içecek olarak yaygınlaşmış, 16. yüzyılın başlarında Mekke, ardından Kahire'ye, yüzyılın ortalarında da İstanbul'a gelip, 17. yüzyılın ortalarında Avrupa'ya ulaşmıştır (Bostan, 2001, s.202). Osmanlı'da kahve hakkında 16.yüzyılda Şeyhülislâm Bostanzade Muhammed Efendi 64 beyitlik manzum fetvâsını verip kahvenin caiz olduğunu ve bazı faydaları bulunduğunu bildirmiştir. Osmanlı fetvâlarında genellikle caiz görülen kahve bazı fetvâlarda da mekruh görülmüş, ama buna sebep olarak Şeyhülislâm Ebussuud Efendi'nin fetvâlarında da olduğu gibi, fasıkların oyun ve eğlence aleti olarak içmesi gösterilmiş, böyle bir durumda kahvenin zihin ve hazım açıcı olarak da kullanılamayacağı belirtilmiştir. Bu şeyhülislâm bir başka fetvâsında uykuyu giderme, zihni açma ve ibadete yardımcı olma amacıyla kahvenin helal olduğunu bildirmiştir. Şeyhülislâm Bostanzade Muhammed Efendi ise kahveyi caiz görüp birçok faydasını tıbbi delilleriyle birlikte açıklamıştır. Bu fetvanın 12 beyitlik soru kısmı İştipli Vaiz Emir Efendi tarafından sorulmuş, 52 beyitlik cevap kısmında ise sorulara ayrıntılı cevaplar verilmiş, eski tıp anlayışındaki sıcak-yaş, kuru-soğuk gibi, gıdaların fiziksel özellikleri de dile getirilerek kahvenin faydaları açıklanmıştır. Bostanzade Muhammed Efendi bu fetvâdan başka, kahve hakkında bir manzum fetvâ daha vermiş ve yine kahvenin faydasını açıklamıştır. Fakat bu

fetvâ 64 beyitlik fetvâsına göre oldukça farklıdır ve cevap kısmı sadece tek beyittir. Üstelik bu fetvâda muamma türü manzumeler bulunmakta ve adeta kahve hakkında söylenen beyitler birbiriyle karşılaştırılarak hükümleri sorulmaktadır. Ayrıca bu fetvâ manzum-mensur karışık bir fetvâ olup kahve kelimesinin harfleri üzerine yapılmış fonetik bir tartışma üzerine sorulmuştur. Yani iki kişinin kendi arasında kahve kelimesinin yazıldığı harflerle ilgili yaptığı bir tartışma mesele olarak fetvâ formunda sual edilmiş, Bostanzade Muhammed Efendi de verdiği veciz bir manzum cevapla meseleyi çözmüştür. Bu meselenin yine Bostanzade Muhammed Efendi'ye sorulmuş olması dikkat çekici olup bunda elbette kendisinin kahve hakkında adeta uzmanlaşmış olmasının etkisi bulunmalıdır. Bu fetvâda kahve sözcüğünün Arapça hangi "ha" harfi ile yazıldığı üzerine yapılan bir tartışmada hangi tarafın haklı olduğu sorulmakta, Bostanzade Muhammed Efendi de tek beyitlik manzum fetvâsıyla bunun hükmünü ortaya koymaktadır. Bu fetvâda kahve kelimesinin hangi "ha" harfiyle yazıldığı fonetik öğelerle açıklanıp mizahi mana ve unsurlar da kullanılmıştır. Bu fetvâ ve açıklaması aşağıda görülmektedir:

Mes'ele:[1] *Zeyd ile Amr lafz-ı kahvenün resm-i hattında tenâzu' idüp Zeyd hâ-i hattî ile kitâbet olınur diyüp makâm-ı istişhâdda beyt: "Kahve hakkında halâl olmalı diyen ahmak- Bu nedür aslı ne bilür kalbile olur hüve hak" beytini îrâd eylese Amr hâ-i hevvez ile kitâbet olınur diyüp makâm-ı istişhâdda beyt: "Ân siyeh-rû ki nâm-ı û kahve-Mâniu'n-nevmi kâtıu'ş-şehve" beytini îrâd eylese kankısınun kelâmı evlâ ve müddeâsı ve şâhidi ısgâ ve kabûle ahrâdur. Cevâb-ı bâ-savâbda bast u ıtnâb buyurılup me'cûr u müsâb olına.*

El-cevâb: Lehâ kışruhu zâle şerrün lehâ – Zamîrun ledeyhi ke-lübbin mukîm Harrerehu'l-fakîr Muhammed

Günümüz Türkçesi ile:

Soru: Zeyd ile Amr kahve kelimesinin harflerinin yazılış şeklinde çekişse ve Zeyd noktasız hâ harfi ile yazılır deyip örnek olarak da: "Kahve hakkında halâl olmalı diyen ahmak- Bu nedür aslı ne bilür kalbile olur hüve hak" beytini verse; Amr ise güzel he ile yazılır deyip örnek olarak: "Ân siyeh-rû ki nâm-ı û kahve-Mâniu'n-nevmi kâtıu'ş-şehve" beytini verse hangisinin sözü doğru, iddiâ ve örneği de kabule daha uygundur? Doğru cevabı vererek sevab kazanınız.

Cevap: Kabuğu ile onun için zarar gitti – Onun yanında iç, sağlam bir öz gibidir Muhammed

Bu fetvâda geçen konu, bir muamma tartışması olup kahve kelimesinin Arap harfleriyle nasıl ve hangi ha harfiyle yazıldığı tartışılmış ve bununla ilgili görülen beyitler örnek olarak getirilmiştir. Kahve kelimesi Arap harfleriyle قهوه şeklinde yazılmakta olup bu da hâ-i hevvez denilen harfin kullanıldığını göstermektedir. Dolayısıyla Amr'ın iddiası doğru olup verdiği örnek de kahvenin tanımını daha doğru yansıtmaktadır. Zeyd'in iddiası ise yanlış ve ukalaca olup verdiği örnekteki هو حق ifadesi bir edebî sanat olan "kalp" ile tersinden okunduğunda قحوه kelimesi ortaya çıkmakta, bu ise bir şeyi tamamen sıyırıp alarak ortadan kaldırmak manasını vermekte, dolayısıyla "hüve hak=o haktır" ifadesi "sıyırıp kaldırmak" anlamına dönüşmekte, bu sebeple de "kahve", anlamdan dolayı helal olmamaktadır. Ama doğru olan iddia Amr'ınki olup onun verdiği örnek beyitte ise: "Adı kahve olan o siyah yüzlü, uykuyu giderir, şehveti keser" denilmektedir. Böylece Amr'ın sözü kahveyi doğru bir şekilde tanıtmakla kalmayıp faydalarını da ortaya koymuştur. Bundan dolayı da Bostanzade Muhammed Efendi cevabında Amr'ın iddiasını destekleyen bir beyti örnek verip: "*Kabuğu ile onun için zarar yok oldu – Onun yanında iç, sağlam bir öz gibidir"* demiş ve Amr'ın iddiası böylece doğrulanmıştır. Bu fetvâ manzum kahve fetvâlarına değişik bir örnek olup

[1] Amasya Beyazıt İl Halk Kütüphanesi, 05 Ba 1853, vrk. 31a.

Osmanlı'da kahve hakkında bu şekilde daha birçok manzume yazılmıştır. Bu manzumeler bir araya getirildiğinde ortaya hacimli bir kahvenameler kitabının çıkacağında şüphe yoktur.

Sonuç

Osmanlı topraklarında özellikle 16.yüzyılda kahvenin yaygın bir keyif verici içecek olarak ortaya çıktığı, müftülere kahve hakkında birçok meselenin sorulduğu ve verilen cevaplarda birbirine zıt cevapların bulunduğu görülmektedir. Osmanlı fetvâlarında genellikle caiz görülen kahve bazen de mekruh görülmüş ve bunun sebebi olarak da fasıkların oyun ve eğlence aleti olarak içmesi gösterilmiştir. Sırf uykuyu giderme, zihni açma ve ibadete yardımcı olma amacıyla kahvenin içilmesi ise helal görülmüştür. Kahveyi caiz görüp birçok faydasını tıbbi delilleriyle birlikte açıklayan Şeyhülislâm Bostanzade Muhammed Efendi kahve hakkında bir manzum fetvâ daha vererek yine kahvenin faydasını ortaya koymuştur. Cevap kısmı sadece tek beyit olan bu fetvâ, muamma türü manzumeleri ve kahve kelimesinin harfleri üzerine yapılmış fonetik bir tartışmayı da içermektedir. Bu meselenin yine Bostanzade Muhammed Efendi'ye sorulması kahve hakkında uzmanlaşmış olmasıyla ilgili gibidir. Bu fetvâda kahve sözcüğünün Arapça hangi "ha" harfi ile yazıldığı üzerine yapılan bir tartışmada haklı tarafın kim olduğu sorulmuş, Bostanzade Muhammed Efendi ise tek beyitlik fetvâsıyla bunun hükmünü ortaya koymuştur.

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DEDE KORKUT HİKÂYELERİ'NDEN "KANLI KOCA OĞLU KAN TURALI BOYU"NUN HALK BİLİMİ UNSURLARI AÇISINDAN BİR İNCELEMESİ

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ÖZET
Halk, aralarında en az bir ortak değerin bulunduğu ve en az iki kişiden oluşan gruptur. Halkı halk yapan meziyetlerin başında ortak bir kültüre sahip olmak gelir. Halk ve halka ait olan her şey o milleti diğerlerinden ayırır kendine özgü kılar. Dede Korkut Hikâyeleri de Türk milleti için ortak bir maddi-manevi değer taşımaktadır. Türk edebiyatının önemli eserlerinden olan Dede Korkut Hikâyeleri Oğuz boylarının yaşam tarzını, kültürel hayatını, aile yapısını, maddi-manevi unsurlarını ve mücadelelerini anlatan manzum ve mensur yapı iç içe bir eserdir. Dede Korkut'un Türk edebiyatı ve kültürü içerisindeki önemini Fuat Köprülü'nün "Bütün Türk edebiyatını terazinin bir gözüne, Dede Korkut'u öbür gözüne koysanız yine Dede Korkut ağır basar." sözüyle ifade edebiliriz. Dede Korkut Kitabı halk edebiyatı ve halk bilimi unsurları bakımından incelenmesi gereken en önemli kültürel mirasımızdır. Toplam on üç hikâyeden oluşan Dede Korkut Hikâyeleri, içerisinde barındırdığı millî ve manevi değerler dolayısıyla Türk edebiyatının temel kaynağıdır ve en önemli kültürel mirasımızdır. Oğuzların atlı-göçebe hayat tarzını, yavaş yavaş geçtikleri yerleşik düzenini bize en güzel örnekleriyle sunar. Hikâyeler incelendiğinde içerisinde toplumsal ve kültürel yaşam, sosyo-ekonomik durum, sosyal hayat, dinî inançlar, değer yargıları, örf-âdet, gelenek-göreneklerle ilgili birçok unsurun bulunduğu görülmektedir. Bizde Dede Korkut Hikâyelerinden "Kanlı Koca Oğlu Kan Turalı Boyu" adlı hikâyeyi halk edebiyatı ve halk kültürü unsurları bakımından incelemeye değer gördük. Kanlı Koca Oğlu Kan Turalı hikâyesinde geçen halk bilimi unsurlarını teker teker tespit edip örnekleriyle birlikte çalışmamızda ele aldık.
Anahtar Kelimeler: Dede Korkut Hikâyeleri, Kanlı Koca Oğlu Kan Turalı, halk, halk bilimi, kültür

AN EXAMINATION OF THE "KANLI SON OF KANLI BODY SON KAN TURALI" FROM DEDE KORKUT STORIES IN TERMS OF FOLK SCIENCE ELEMENTS

ABSTRACT
A people is a group of at least two people, among whom there is at least one common value. One of the virtues that make people people is to have a common culture. The people and everything that belongs to the people distinguishes that nation from others and makes it unique. Dede Korkut Stories also have a common material and moral value for the Turkish nation. Dede Korkut Stories, one of the important works of Turkish literature, is a work in verse and prose, which tells the life style, cultural life, family structure, material-spiritual elements and struggles of the Oghuz tribes. The importance of Dede Korkut in Turkish literature and culture is quoted by Fuat Köprülü as "If you put all Turkish literature in one eye of the scale and Dede Korkut in the other, Dede Korkut would still outweigh." We can express it in words. The Book of Dede Korkut is our most important cultural heritage that should be examined in terms of folk literature and folklore elements. Dede Korkut Stories,

consisting of thirteen stories in total, are the main source of Turkish literature and our most important cultural heritage due to the national and spiritual values it contains. It presents us with the best examples of the equestrian-nomadic lifestyle of the Oghuzs and the settled order they gradually passed through. When the stories are examined, it is seen that there are many elements related to social and cultural life, socio-economic status, social life, religious beliefs, value judgments, customs and traditions. We also found the story "Kanlı Kocaoğlu Kan Turalı Boyu", one of the Dede Korkut Stories, worth examining in terms of folk literature and folk culture elements. We identified the folklore elements in the story of Kanlı Koca Son Kan Turalı one by one and discussed them in our study with examples.
Keywords: Dede Korkut Stories, Kanlı Koca Son Kan Turalı, folk, folklore, culture

EDEBİYAT SOSYOLOJİSİ PERSPEKTİFİNDEN KURGU VE GERÇEKLİK

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ÖZET

Edebiyat sosyolojisinin temel felsefesi yazarın kişiliğinin de yapıtının da toplumu ifade ediyor olmasıdır. Edebiyatın kendisinin de bir sosyolojik olay olduğu düşüncesini ilk ortaya atan kişi Madame de Stël olmuştur. On dokuzuncu yüzyılın ilk döneminde bu düşünceyi geliştiren isim Hippolyte Taine; on dokuzuncu yüzyılın sonunda, akademik bir disiplin olarak inşa eden, edebiyat tarihiyle bütünleştiren kişi Gustave Lanson olmuştur. Edebiyat Sosyolojisi, yirminci yüzyılda kendisine akademik bir disiplin olarak yer bulduğunda beraberinde birçok sorunu getirmiştir. Edebiyat eseri hangi bağlamda incelenmeli sorusu bunlardan bir tanesidir. Yazarın yaşam öyküsüyle mi, Marksist kuramcıların savunduğu aidiyet sınıfıyla mı, ulusal edebiyatla mı, eserin toplumsal üretim şartlarıyla mı, Kantçı geleneğe göre kültürün alt kategorileriyle mi incelenmeliydi? Bunun yanında edebiyat sosyolojisinin kullandığı tek şey edebi metin değildir. Yazar, okur, yayıncı, ideoloji gibi meseleleri de odağına alarak edebi eserden daha fazlasını inceleyebilir. Edebiyatın toplum üzerindeki etkisi ya da toplumun edebiyat üzerindeki etkisi gibi geniş bir inceleme alanına sahiptir. Sapiro'ya göre ise edebiyat kuramı, yeni eleştiri ve yapısalcılığın içinde boğulurken edebiyat sosyolojisi Marksist düşünce içinde gelişmiş ve şekillenmiştir. Marksist kuramcılar edebiyatın gerçekliği ne denli yansıttığı sorusunun peşinden gitmişlerdir. Kurgu metinler üzerinden gerçekliğe bir yol açan edebiyat sosyolojisi kimi zaman edebiyat yapıtının içinde yer alan kişilerin toplumun içinde yer alan tiplerle ilişkisini inceler kimi zaman bir yapıtın üslubuna bakarak o yapıtın toplum tarihinin hangi kesitinde olduğuna yönelik çalışmalar gerçekleştirmektedir. Edebi eserin mekânı, zamanı, biçimi ve dili üzerinden yapılan incelemeler, elbette edebiyatın toplumun içinden doğduğu kanaatini göstermek için çıkılan başat yollardır.

Anahtar Kelimeler: Edebiyat Sosyolojisi, kurgu ve gerçeklik, edebiyat, toplum.

FICTION AND REALITY FROM THE PERSPECTIVE OF LITERARY SOCIOLOGY

ABSTRACT

The basic philosophy of the sociology of literature is that both the personality of the author and his work express the society. Madame de Stël was the first to suggest that literature itself is a sociological phenomenon. Hippolyte Taine, who developed this idea in the first period of the nineteenth century; At the end of the nineteenth century, it was Gustave Lanson who built it as an academic discipline and integrated it with the history of literature. Sociology of Literature brought with it many problems when it found its place as an academic discipline in the twentieth

century. The question of in which context should a literary work be studied is one of them. Should it be studied with the author's life story, with the class of belonging advocated by Marxist theorists, with national literature, with the social production conditions of the work, or with the subcategories of culture according to the Kantian tradition? Besides, literary text is not the only thing used by the sociology of literature. By focusing on issues such as author, reader, publisher, ideology, he can examine more than a literary work. It has a wide field of study such as the effect of literature on society or the effect of society on literature. According to Sapiro, while literary theory was drowned in new criticism and structuralism, the sociology of literature developed and took shape within Marxist thought. Marxist theorists pursued the question of how much literature reflects reality. The sociology of literature, which makes a way to reality through fictional texts, sometimes examines the relationship of the people in the literary work with the types in the society, sometimes it studies the style of a work and studies the section of the social history of that work. Studies on the place, time, form and language of the literary work are, of course, the main ways to show the opinion that literature is born out of society.

Keywords: Sociology of literature, fiction and reality, literature, society.

"VATAN HİZMETİ" ÖDEVİNİN AZƏRBAYCAN VE TÜRKİYE ANAYASALARINDA TESBİTİ

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ÖZET

Azerbaycan'ın Vatan Savaşı'ndaki zaferindeki önemli faktörlerden biri, "ilk ateşten başlayarak" uyqulanan gelişmiş askeri mevzuatın mevcudiyetidir. Bu, uzun yıllardır uygulanan amaca yönelik bir yasama politikasının sonucudur. Ülkenin yasama sisteminin temelini oluşturan Azerbaycan Cumhuriyeti Anayasası, diğer yasama alanlarında olduğu gibi, askeri mevzuatın temel ilkelerini ve ön hükümlerini yansıtmaktadır. Ordunun hukuki statüsünün doğru bir şekilde belirlenmesi ve siyasetle ordu arasında net bir sınır belirlenmesi açısından özel önem taşıyan Anayasanın 9. maddesi – Silahlı Kuvvetler, Azerbaycan Ordusu'ndan ve diğer silahlı oluşumlardan oluşmaktadır – şeklindedir. Maddenin Anayasa'da böyle bir bağlamda yansıtılması, ileride herhangi bir yasadışı askeri birlik kurulması ihtimalinin önüne geçilmesi açısından önemli bir hukuki dayanak oluşturmaktadır.

Aynı zamanda, Anayasa'nın "Vatandaşların Temel Görevleri" başlıklı 4. Bölümü, askerlik hizmeti kurallarını düzenleyen kanun ve kararnamelerin ilkin hükümlerini yansıtan "Vatan Savunması" (Madde 76) görevini belirler. Maddenin metnine göre, "Vatan savunması her vatandaşın ödevidir". Buradaki "ödev" ifadesi, Vatan savunmasının anayasal bir görev olduğunu bir kez daha kanıtlamaktadır. Karşılaştırma için 1982 Türkiye Cumhuriyeti Anayasası'nın "Siyasi Haklar ve Ödevler" bölümünde 72. maddeye bakalım. "Vatan Hizmeti" başlıklı bu maddenin metnine göre, "Vatan hizmeti, her Türk'ün hakkı ve ödevidir". Görüldüğü gibi Azerbaycan Cumhuriyeti Anayasasından farklı olarak Türkiye Cumhuriyeti Anayasası "Vatan Hizmeti"ni hem bir hak, hem de bir görev olarak kabul etmektedir. Öte yandan, Vatan hizmeti yalnızca askerlik hizmeti ile sınırlı değildir. Türkiye Cumhuriyeti Anayasası'nın "Vatan hizmeti"ni öngören 72. maddesi, bu hizmetin Silahlı Kuvvetlerde veya kamu kesiminde ne şekilde yerine getirileceği veya getirilmiş sayılacağı kanunla düzenlendiğini belirtmektedir. Sözü keçen maddede "yerine getirilmiş sayılacağı" ifadesi açıklığa kavuşturulmalıdır. Türk askeri mevzuatı, "Vatan Hizmeti" görevinin askerlik hizmeti olmaksızın farklı şekillerde yerine getirilmesini sağlar. Örneğin, yabancı ülkelerde işçi sıfatı ile çalışmakta olan ve oturma hakkına sahip bulunan askerlik yükümlüsü işçilerin, belli miktarda yabancı ülke parasını ödemeleri ve iki aylık askerlik temel eğitimine tabi tutulmaları suretiyle, vatan ödevini yerine getirmiş sayılacakları kabul edilmektedir. Bu açıdan Azerbaycan Cumhuriyeti Anayasası'nın 76.2. maddesinde yer alan "Vatandaşların inançları gerçek askerlik hizmetiyle çelişiyorsa, kanunun öngördüğü hallerde aktif askerlik hizmetinin alternatif hizmetle değiştirilmesi" ifadesini açıklamaya ihtiyaç vardır.

Anahtar Kelimeler: vatanı müdafaa, vatan hizmeti, anayasa, Türk Anayasası, Azerbaycan ordusu, referandum, alternatif hizmet, vicdani ret.

THE DETERMINATION OF THE DUTY "DEFENCE OF MOTHERLAND" IN THE CONSTITUTIONS OF AZERBAIJAN AND TURKEY

ABSTRACT

One of the most leading factors in the victory of Azerbaijan in the Patriotic War is the availability of advanced military legislation, which was implemented "starting from the first fire." This is the result of a purposeful legislative policy that has been implemented for many years. The Constitution of the Azerbaijan Republic, which forms the basis of the legislative system of the country, reflects the basic principles and preliminary provisions of military legislation, as in other legislative areas. The 9th article of the Constitution – The Armed Forces are composed of the Azerbaijani army and other armed formations – is of particular importance in terms of the correct determination of the legal status of the army and the demarcation of a clear boundary between politics and the army. The reflection of the article in the Constitution in such a context constitutes an important legal basis in order to prevent the possibility of establishing an illegal military unit in the future.

At the same time, Chapter 4 of the Constitution titled "Fundamental Duties of Citizens" sets the task of "The Defense of the Motherland" (Article 76), which reflects the initial provisions of the laws and decrees regulating the rules of military service. According to the text of the article, "the Defense of the Motherland is the duty of every citizen". The expression "duty" here proves once again that the defense of the Motherland is a constitutional duty. For comparison, let us look at article 72 in the "Political Rights and Duties" chapter of the 1982 Turkish Constitution. According to the text of this article titled "National service", "Military conscription is the right and duty of every Turk." As it can be seen, contrary to the Constitution of Azerbaijan Republic, the Constitution of Turkey accepts "National service" as both a right and a duty. On the other hand, national service is not limited to military service only. Article 72 of the Constitution of the Turkey Republic, which envisages the "National service", states to this service shall be performed, or considered as performed, either in the armed forces or in public service, shall be regulated by law. The phrase "considered as performed" should be clarified. Turkish military legislation provides for the fulfillment of the duty of "National Service" in different ways without military service. For example, it is accepted that persons with military conscription who work in overseas countries as workers and have residence permits will be deemed to have fulfilled their national service duty by paying a certain amount of fee and undergoing two-month military basic training. In this respect, there is a need to explain the expression "If military service is contrary to a person's convictions, then, in cases prescribed by law, it may be permissible to replace regular military service with alternative service" in Article 76.2 of the Constitution of Azerbaijan Republic.

Keywords: defense of the motherland, national service, constitution, Turkish Constitution, Azerbaijani army, referendum, alternative service, conscientious objection.

HAWAN KAHO OR BULLHORNS'MOUNTING AS A THEATRICAL PERFORMANCE IN HAUSA ORAL LITERATURE

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ABSTRACT

This article is a demonstration of a Hausa traditional game entitled *Hawan Ƙaho,* meaning Bullhorns's Mounting, as a theatrical performance in oral literature. To achieve this aim, the researchers use the elements of theatricality such as the performance of the ritual of *shan gumba* as an initiation, a protection, an identity and an entertainment to interpret the game of horns' mounting. The latter is the butchers' cultural heritage, practised since the reign of sultan Tanimoun around 1860 in Zinder city. The study is conducted in the light of the evolutionists approach to African theatre to better interpret the performance of bullhorns' mounting with the various changes that have affected the game so as to guarantee its continuity in the twenty first century.

Key words : *Hawan ƙaho,*Hausa theatre, performance, ritual, evolutionists' approach, Zinder.

RESUME :

Cet article est une démonstration du jeu traditionnel Hausa intitulé *Hawan kaho,* qui veut dire la montée sur les cornes d'un bœuf, comme une représentation théâtrale en littérature orale. Pour atteindre ce but, les chercheurs utilisent des éléments théâtraux tels que le spectacle du rite de *shan gumba* présenté comme une initiation, une protection, une identité, et un divertissement pour interpréter le jeu de *hawan ƙaho*. Ce dernier est un héritage culturel des bouchers, pratiqué depuis le règne du sultan Tanimoun autour des années 1860 dans la ville de Zinder. Cette étude est menée à la lumière de l'approche évolutionniste du théâtre Africain pour mieux interpréter la performance de *hawan kaho* avec les divers changements qui l'ont affecté dans le but de garantir sa continuité au 21e siècle.

Mots clés *: Hawan ƙaho*, haoussa théâtre, performance, rituel, approche évolutionniste, Zinder.

1. Introduction

In Niger our cultural values are not much considered because they are unknown and unpublished. That is the motivation behind the choice of a traditional game in Zinder. That region has known the traditional game of *Hawan ƙaho*, which literarily means bullhorns mounting, since the reign of Sultan Tanimoun around 1860. The game is a tradition of the butchers; especially those who inherited the job of selling meat from their forefathers. The game is performed yearly at the eve of the feast of Ramadan in different places in Zinder city; starting generally from the king's palace. It consists of a young butcher's jumping and vaulting over the horns of a very furious bull until he tamed the animal under the acclaim of an audience. Edward L. Powe (1994: 117), who did his fieldwork in Northern Nigeria, describes the game as:

The most spectacular contest involving man and a beast, that is Hawan ƙaho (bull-mounting) as practiced by the butcher guild (mahauta). Here youths (samari) and adults alike demonstrate their courage by mounting the horns of an angry bull that is about to be slaughtered. Ames and King (1971:126) describe this contest as'' a form of entertainment prior to important feast days which involves acrobatics on and around a large, fierce bull''.

An acrobatic movement as art may involve a visible demonstration and an outward realization of a culture as in the following image which illustrates a performance of bullhorns' mounting in Zinder in 2018.



A bullhorns' mounting performance in Zinder 2018.

1.1 OBJECTIVES

This study is conducted to value the butcher' cultural legacy; to preserve and promote Niger's cultural heritage to the coming generations; and finally to document bullhorns' mounting as a theatrical performance and a part of Niger's oral literature.

1.2. Methodology and Theoretical Framework

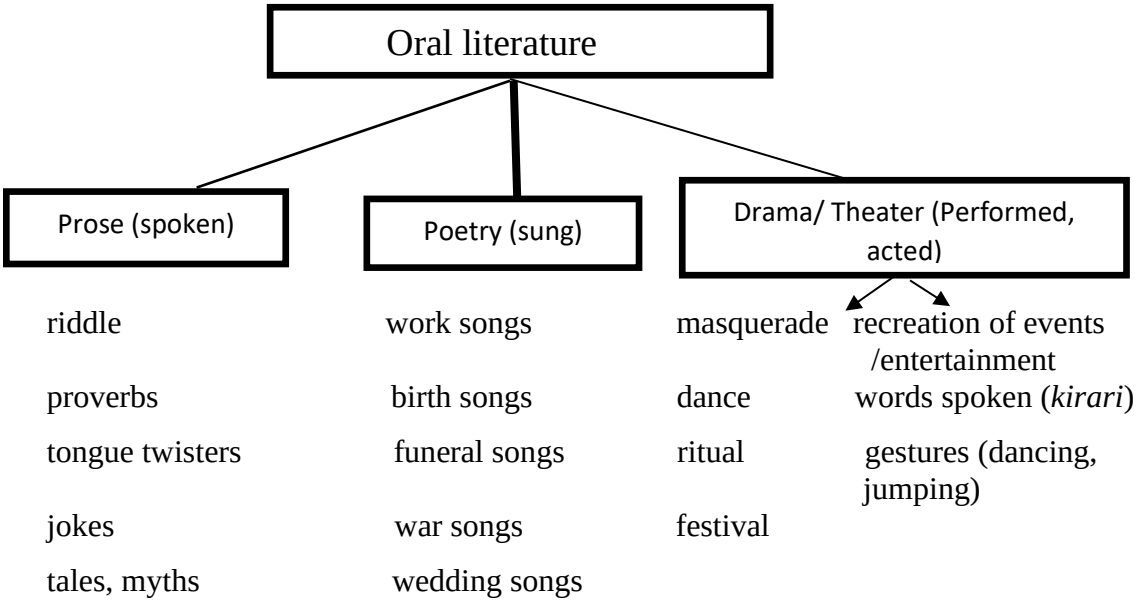
Methodology is concerned with the researchers' approaches which indicate the tools and methods used throughout a work. In this study, we use two techniques: a) The indirect technique which is mainly concerned with documentary or library search through written documents: books, journals, articles, critical notes. b) The direct one focuses on field survey that is usually conducted by the use of a block note and a pen to collect respondents' feedback. We conducted an interview with the chief butcher and some elders before the observation of the game of bullhorns' mounting in Zinder city on the eve of Ramadan feast in 2018.

To these techniques, we add the Evolutionary Approach that influence the development of African theater. The evolutionists claim that in African societies, man's need and desire to control and dominate the natural and the unforeseen forces is directly connected to his world. The ritual and sacrifices which involve magic and spiritual elements are being used by man to repress the forces of nature. The evolutionist's approach to human culture also claims that humans possess one race and one mind. Their folklore reveals much the same qualities because human traditions were handed from one generation to another and Bullhorns' mounting performance is also handed down as oral literature until the 21st century.

2. Bullhorns' Mounting as a Theatrical Performance and Oral Literature.

Bullhorns' mounting is a theatrical performance in Hausa oral literature. The latter is transmitted orally from month to ear, or from month to month and from one generation to another. In fact, Okpewho (1992) supports that ''the performance of oral literature is only realized within the context where it is meaningful: before an audience''. Okpewho's statement also means that theater is the most social of the arts in terms of the social relationship which is created between the audience and the performers. For example, when a competitor mounts on the bull's horns, the audience acclaims him while another mounter either regulates the bull's furiosity or pulls its leg from the back. Therefore, there is a relationship between what is happening on the stage and the audience.

How does the game of bullhorns' mounting relates to oral literature? The chart below is taken from Dr Boubé Bali's course description [1] . It shows the components of oral literature, including aspects of bullhorns' mounting as a theatrical performance.



Bullhorns' mounting falls in the third genre of drama and theater, which are represented by the art of acting or performance. Mackey (208) argues that: "Theater is surrounded by human relationships. It is set in an environment that is social and it is presented in a social manner''. This assertion supports theater as a physical entity which is the recreation of life on a stage, an instrument with which oral literature is revived through the dancers, singers, narrators, and actors who perform in public.

Theater, also spelled as theatre, is a dramatic art, an art concerned almost exclusively with live performances in which the action is precisely planned to create a coherence and significant sense of drama. Though the word theater is derived from the greek *theaomai*, "to see'', the performance itself may appeal either to the ear or to the eye or to both, as is suggested by the interchangeability of the term *spectator* (which derives from the word meaning to "view'') and audience (which derives from the word meaning "to hear'') (www.britannica.com/art/theater-art). As a theatrical performance, *hawan ƙaho* belongs to the Hausa *wasan kwaikwayo*. In fact,

[1] (A year, course unit 104A entitled'' Introduction à la Littérature Orale Africaine'', Introduction to African Oral Literature) and modified by myself.

Graham Furniss (1996: 84) observes that: "in Hausa society, the regularly used term for theater/ drama is *wasan kwaikwayo* which means literally "game of imitation''. Mimesis is the central concept of " *wasan kwaikwayo*.'' And it is a more restricted concept than performing arts. They cover a wide range of elements such as TV or radio (heard or seen). The mimetic performance is found in formal theater or in live performance on acting space and with actors acting out stories. But a theatrical performance bears some similarities with drama, it is therefore closer to the society compared to all the other art forms. However, both are performed and acted as cultural elements.

In Hausa lands, the bullhorns' mounting is an art in which a young boy or a girl grabs the horns of a bull and vaults over them with the acclaim of the observers' and the drummers' encouragements. This art also represents the butchers' cultural identity.

Mackey (2016) writes that: "The arts interpret cultural beliefs; often the words are used synonymously. Society and art are intertwined.''(p190) He further sees in theater the most social of the arts. In any theater performance, for instance, theater is the realization of a live event, in action, not only on the stage, but in the relationship between the other people such as the elders or the supervisors of the game, the observers and the drummers who interact on the spot. This interaction is often non-verbal and has been analyzed by scholars like Okpewho and Finnegan (1992) who have created the histrionics of the performance, which is the movements made with the face, hands or any other parts of the body as a way of demonstrating an action.

Another example of action in performance is given by Nkem Okoh (2001) the Nigerian scholar, on oral literature. Okoh defines performance through a portrayal of a scene of violence which involves a fight between a leopard and a dog similar to horns' mounting in the following quotation:

They settled down to serious fighting, I tell you, tearing at each other with their claws. Now the ground was filled with blood. Leopard tried to push and lift Dog, but Dog stood his ground. Dog descended kpogidi gidi, gidi, pushed Leopard this way, dragged Leopard that way and sent him crashing to the ground kpim! Attempting frantically to tear his throat to pieces. But Leopard sprang away from him cham. Soo! [what a fight!].

This quotation clearly exemplifies a performance with a particular degree of dramatization of the scene of combat between two animals. This description is similar to the Kenyan bullfighting performed between two bulls while bullhorns' mounting in Niger involves a man and a bull. In this case, the performance of bullhorns' mounting with movements of dancing, jumping and vaulting over horns until the animal becomes submissive is typically a theatrical game through which the heirs manifest their need for a social identity.

As a matter of fact, Martin Esslin (1978:11), a specialist of the dramatic art, writes that ''One can likewise consider the dramatic art as the manifestation of one of the social needs that are fundamental like ritual: *the tribal dances, the religious services, all the great national ceremonies embody important theatrical elements*''. (Italics added).

In this study, *Shan gumba* is a rite that involves a ritual dance and music as part of bullhorns' mounting. It is also possible to define as artistic something conceived and realized to be watched as a spectacle. For instance, Okpewho (1992) sees spectacles in the gladiators[2]fighting against the lions, in the public performances and all the sports that take place in front of spectators. Thus, bullhorns' mounting is an impressive and exciting spectacle to look at. The actors, the

[2] In ancient Rome, a man trained to fight other men or animals in order to entertain the public.

space to perform and the audience constitute the three fundamental requirements of theater performance.

Okphewo and Finnegan (1992) have developed the understanding of performance around oral speeches like chanting, singing with the quality of the voice when reciting. In their need to overcome any challenge of the verbal art, they examine not only what is said but the way it is said. To further their analysis of the elements of oral performance, they add weaving, dance, and rituals. Okpewho (1992) notes that performances differ one from the other depending on physical factors such as age and the energy of the performer, the nature of the occasion, the type of setting, whether or not any musical accompaniments are used, especially by the performer. Recalling Esslin's definition above, we can establish a link between a live spectacle of bullhorns's mounting and the accompanying ritual of *shan gumba,* as theatrical performances.

2.1 The Ritual of S*han Gumba* as a Theatrical Performance.

A ritual is a ceremony against or in favor of natural and supernatural forces. This ritual is part of the theatrical performances of bullhorns' mounting. In this ritual, the competitors or the heirs of the tradition of selling meat imitate the walk of a big bull and its way of drinking water as the following images illustrate:



A girl imitating the walk of a bull



A boy imitating the way animals drink water. Maradi, 2002

A young girl dances and imitates the walk of a bull (left) while a boy imitates the way an animal drinks water (right) in the ritual of *shan gumba*, Niamey 1987.

It is important to recall the origin and significance of rituals or magical performances in Africa in general, and in Niger in particular. Dramatic rituals are functional in African societies because the rites are efforts made by the performers and the spirits when they are involved to make the participants believe in what seems to be unbelievable.

In ancient Greek and Rome, people performed many rituals in the observance of their religious rites. They include recitation of prayers and elaborate animals' sacrifices as the offerings to the gods, and other gifts.

In Niger context, the ritual is to address the supernatural or the secret domain to innihilate a person, or to seek for protection as in this study. That is why some informants do not speak with open heart as a way of keeping secret. In bullhorns' mounting performance in Zinder and

Maradi, the ritual of *shan gumba* is done just before the mounting of the horns by the competitors or the butchers who inherited the tradition of selling meat. The purpose of the ritual is to show to the public the mysterious facet of the job of meat selling as well as the secrets they possess and, to a large extent, their relationship with the spirits' world.

The *gumba* is millet pounded into farina and mixed with water, a piece of meat and plants' powder. The drink is nowadays prepared in a *kwalla* or big metal container which is put on the ground inside the arena. The selected mounters of the horns are invited one by one to be in an animal position; knelt down, they do not use their hands but just put their mouths in the container to drink the liquid. That is the *shan gumba;* a ritual that has many social functions as described below:

2.2 Shan *Gumba* as an Initiation Ritual

The making of the drink in the ritual of *shan gumba* just before the bullhorns mounting is never the business of every butcher or performer. It is the concern of the elders, men or women who keep the secrets of the plants that are used in the preparation of the drink. The ritual is an appeal to the spirits that protect the butchers and the horns grabbers. For instance, the one of the *rumzawa* of Maradi region is called '*Takuluje Mai Jan Ido'* (*Takuluje* who has red eyes) as described by Abdoulkader Abdou Bouzou (2006-2007). This spirit is implored to assist and protect the competitors before the beginning and during the game of the bullhorns' mounting.

2.3 *Shan Gumba* as a Protective Ritual

All rituals are considered as protective because they are perceived as an inheritance of the forefathers. Thus, no bullhorns' mounting can take place without an occult counseling session in which an elder predicts the risks and the feasibility of the game. That is why some elders have to go through the reading of the *Qur'an* before the mounting of the horns. The player is also influenced by the crowd, the elders and his fellow mounters around him and the drummers' music. There is also the spirits' influence, such as *Guiyé* and *Kuré*[3], which testify that the ritual of the *shan gumba* is well done.This ritual also stands as the butchers' cultural identity.

2.4 *Shan Gumba* as an Identity Ritual.

This annual game is the most spectacular contest between a man and an animal among the Hausa butchers. It is the only occasion for the butchers to show to the audience their mystic powers as a symbol of their forefathers' heritage, which makes them the only ones capable of affronting and taming furious bulls in front of a public. The spectacle is also an entertainment for the public and a display of supernatural powers for the actors.

2.5 *Shan Gumba* as an Entertainment Ritual.

The ritual of *shan gumba* as well as the contest of horns' mounting are to entertain people with the feeling of satisfaction for the accomplishment of a duty for the butchers. In addition to this moral satisfaction of a young butcher as a performer, the money collected from wealthy patrons and the satisfaction of the impressed viewers are shared among the butchers. Beyond doubt the performance relieves the observers from boredom. And at that time the performers are delighted and relaxed by the effort made to slake the audience. Okpewho (1992) sustains in the same vein that "Oral literature has the advantage of being performed for one particular audience and, if properly recorded and examined is likely to reveal some of the effort made by the performer to please that audience or some of the ways in which the audience tried to influence the

[3] Are the major spirits protectors of the butchers of Zinder city (Informant Hassan Bante,Zinder Birni district.)

performance''. The spectacle also allows the competitor to show his masculinity through the game of brave souls. Finally, the bull is slaughtered after each performance and its meat is shared amongst the competitors. In addition to entertainment, *shan gumba* is also didactive.

2.6 *Shan Gumba* as a Didactic Ritual.

This ritual teaches the young competitors wisdom, and the importance of being obedient and submissive to the chief butcher and the elders. An obedient youth abides by all the recommendations and observances related to the game, and becomes successful. These young combatants are also prepared psychologically to be future supervisors and advisers to the coming generation of the children who are natural symbols of the future in time and space.

2.7 The Space and Time in Bullhorns' Mounting.

The game of bullhorns' mounting cannot be performed everywhere. Selected venues are most of the times prepared in advance for the event. For instance, in Maradi city only the gate of the sultan's palace is reserved for the game on the day of the yearly feasts of Ramadan and Tabaski. In Zinder city, a place near *kasuwar ƙuda* is the location of the performance that is organized for the weeding or naming ceremonies in an heir's family or a chief butcher. During the feast of Ramadan, the performance takes place at the sultan's palace outdoors, then it moves to *Sarkin* Fulani's gate, to the governor's, and to the gates of some respectful persons in the city.

2.8 The Personae or Actors in Bullhorns' Mounting.

Sunday Victor Oluwadare (2014:41) calls a dramatic personae each and every one who plays one role or the other in work of art –drama. Young teenagers from the age of twenty and young adult from thirty to thirty five years old are the personae allowed to perform the game of bullhorns' mounting. They start their training in the art with smartness as their major strategy and approach to the first step of the performance. For example, the bull grabbers start with a slow dance in front of the beast. The dance is a way of teasing the animal furiously and of capturing the observers' attention during the vaulting on the horns. More than entertainment, the spectacle has some educational and cultural benefits.

Adegboyega Ajayi and Samuel Idowu Fabarebo (2009) have studied some games in the traditional African milieux and their importance in shaping human mind. These scholars consider games as components of traditional education because they provide leisure and entertainment during festive periods; they sustain the culture of the people through songs and performances; they teach endurance in difficult times; they promote human relationship by co-operating one with the other; they help children to appreciate traditional occupations by dramatizing them during plays or games so that idleness is avoided through them while they promote respect for age and peer group and they help in making some of the children future performers in theater/drama.

Conclusion

It follows from the above that the game of bullhorns' mounting is indeed a live theatrical performance,that shows the mounting on the bull's horns in front of an audience. The accompanying ritual of *shan gumba*, through its variety of functions, ensures the protection of the performers by the protective spirits of the butchers' guild while the dance of the bull grabbers enhances the performance as a theatrical art.

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KHAWAJA GHULAM FARID'S TRANSCENDENT LOVE FOR HUMANITY AND ITS IMPERATIVE NEED IN THE CONTEMPORARY WORLD

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ABSTRACT

The primordial unity of mankind is a metaphysical truth. The affirmation of transcendence by the Holy Prophet of Islam continues to guide the Metaphysicians, Mystics, Sufis and Religious Philosophers of different ages and countries. The Prophetic message of truth, justice, beauty and love embraces the inward and the outward. The mercy of the worlds manifests transcendent love for the entire cosmos. Khawaja Ghulam Farid, an outstanding Sufi-poet of the nineteenth century, belonging to Southern Punjab talks of transcendence and universality in the tradition of the Prophetic light. His love of God, love of the Prophet and love of humanity is integrated into a unified whole. His ontological love embraces the entire creation. He makes man remember his Origin and Center. The Omnipresence of God warrants His service in all forms. It is 'Seeing God Everywhere'. Loving God in fullness means loving God in His transcendence and loving Him in His creatures as well. Man worships God in His transcendence and serves Him in His Immanence. The modern man's denial of the transcendent (God) also makes Him deny the transcendent love of mankind. His humanism is tied to the human psyche bereft of the Spirit. It principally fails to manifest the higher dimensions of love and thereby is unable to reach the heart of humanity. The Sufi tradition of love and gnosis can create peace and harmony in the world.

Khawaja Ghulam Farid enlightens man on the purification of the self in the path of love. Love at the plane of psyche due to its psychic determinants can turn into hatred at any moment. It tends to even destroy the object of love. It is an emotional love which needs to be handled with care. But love at the plane of the Spirit is free from all these limitations. It radiates towards others. Love on the plane of psyche is psychic, but love on the plane of the Spirit is spiritual. Love at the psychic plane is conditional, individual, and earth-rooted whereas love at the spiritual plane is unconditional, universal and transcendent. The conflicts of humanity can only be solved by virtue of Divine Love which is ever present in all forms of creation and more so in the human creation. It is only the light of love which can dispel the darkness of hate. Khawaja Ghulam Farid gives the message of hope for the despairing humanity. Man has to transcend himself by virtue of love and gnosis in order to unite with the Principle and create peace and harmony. His uniting with the Principle is his uniting with humanity.

Keywords: Transcendence, Universality, Love, Psyche, Spirit

ANALYSIS OF CATFISH TRADE ZAKAT IN GEBANG VILLAGE, PEKALONGAN CITY

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ABSTRACT

Trade Zakat is zakat issued on the results of trade or commerce that generate profits and have reached the nishab. This study aims to determine: (1) the potential of zakat on catfish trade in Gebang Village, East Pekalongan District. (2) entrepreneurs' understanding of trade zakat in Gebang Village, East Pekalongan District. The type of research used is descriptive qualitative type. Research informants as many as 10 people. Sources of primary data and secondary data. Data collection techniques in the form of observation, interviews, documentation. Meanwhile, the data and information obtained were analyzed analytically using information from interviews, from the results of discussions and conclusions. Based on the conclusion, it is known to have extraordinary potential as seen from the amount owned by the informants if on average each person has 12 catfish ponds. This means that it exceeds the nishab limit for catfish trade. An understanding that only understands the meaning of zakat fitrah, and no one understands about nishab, haul, verses of the Qur'an about zakat, and the threat of people not paying zakat, lack of socialization so that catfish entrepreneurs do not know about zakat from the results of trade that must be issued.

Keywords: Trade zakat, potential, nishab.

ONYOMKPOR MASQUERADE: A PANACEA TO COMMUNITY JUSTICE AND PEACE

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ABSTRACT

Masquerade activities in Nigeria and Africa by extension, almost, always reflect the sum total of a community life, beliefs, passion, theatre and tradition. However, as a main focus of this study, masquerading is approached as a regulatory legal instrument for protecting human rights and curbing the ills of society. Amidst eroding cultures and traditions, in Ochobo, the Onyomkpor masquerade is still widely known and sought for in view of its great policing, corrective, intervening, liberating and reconciling values or roles. The Ochobo people are sub-Saharan people found in Benue State and in parts of Akpoli; Olamaboro Local Government of Kogi State, all in the North-Central Nigeria. The Ochobo people had their tradition before the advent of colonialism and Christianity which has greatly influenced their way of life, with 90 percent practicing the Christian faith while 10 percent practice their traditional religion. Using interviews and library sources, the study explores the relevance of the Onyomkpor masquerade in this modern age and investigates its ritualistic affiliation(s). It concludes that just like the police force of the nation, the Onyonkpor masquerade helps to maintain social order in Ochobo and all hands must be on deck so that this socio-cultural activity that promotes justice, peace and unity is not compromised, diminished or eroded with the imports of modern ways.

Key Words: Onyomkpor, Masquerade, Community, Justice, Peace, Nigeria.

ISLAMIC MARKET MECHANISM: PRICE SETTING THEORY AND THE ROLE OF GOVERNMENT

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ABSTRACT

One of the important decisions in the marketing mix is "price" namely pricing, because in this pricing the company must set goals, calculate costs, demand levels, market prices and other achievements that the company wants to get for its products or services. Although the pricing method used is the same for each company, it is based on cost, competition, demand, and profit. But the optimal combination of these factors differs according to the nature of the product, its market, and the objectives of the company. This study intends to describe the Islamic Market Mechanism: Pricing Theory and the Role of the Government. Based on the analysis of various literatures, this study concludes that the relationship with the product cannot be separated from the issue of price, to be successful in marketing a product or service, every company must set the price correctly, there are several pricing. In setting prices, there are various methods that can be used. Pricing is usually done to add value or the amount of production costs that are calculated against the costs incurred and the sacrifice of energy and time in processing goods or services. In determining the selling price of a product, a company must pay attention to various parties such as end consumers, distributors, competitors, suppliers of funds, workers, and the government. Because the price level is inseparable from the purchasing power of consumers, the reactions of competitors, the type of product and the elasticity of demand and the level of company profits. Methods, namely choosing a pricing objective, determining demand, estimating the cost of competitors' prices and offers, selecting a pricing method and selecting a final price.

Keywords: Price, Product and Market.

INTRODUCTION

The market mechanism is a tendency in the free market so that prices change until the market is in equilibrium, that is, until the amount of demand and supply is the same(M. Nur Rianto Al Arif dan Euis Amalia, 2010).

Boediono defines the market mechanism as a process that runs on the basis of the attractive force (strength) between consumers (demand) and producers (supply) who meet in the market(Boediono, 1982).

A market mechanism that can run in a healthy manner will be able to form a balanced condition between demand and supply, namely a condition where there is no excess or shortage of stock. So the quantity of goods supplied in a certain period is equal to the goods demanded. In this condition, the equilibrium price will be formed.

Muslim Economist's View on Market Mechanism

1. Market Mechanism According to Abu Yusuf (751-798 AD)

Abu Yusuf is listed as a famous cleric who began to mention the market mechanism. Thoughts about the market can be found in his book Al-Kharaj which discusses the principles of taxation and the state budget that guides the caliphate of Harun Al Rashid in Baghdad, he concludes the operation of the law of demand and market reasoning in determining the price level. In addition, the book also explains that the price is not only determined by reasoning, but also in the demand for the price of the item. Even Abu Yusuf indicated that there were

other variables that also influenced prices, such as the amount of money in circulation, hoarding or holding of an item(Wibowo dkk, 2013).

2. Market Evolution According to Al-Ghazali (1058-1111 AD)

In the book of Al-Ihya Ulumuddin by Al-Ghazali, he discusses many economic topics, including markets. Al-Ghazali explained about the supply curve "which rises from left to bottom to top right". It is stated in the sentence "If the farmer does not find a buyer for his goods/products, he will sell it at a very low price".

Thoughts of Ibn Taymiyya (1263-1328 AD)

Ibnu Taimiyah is a fuqoha who has works of thought in various fields of science including in the field of economics. In the book Al-Hisbah Fi'l Islam and As-Siyasah Ash-Shar'iyah fi Islah Ar-ra'I wa Ar-Ra'iyah, he discusses a lot of economic problems faced at that time, both in social and legal terms (fiqh) Islam. His work contains many forward-looking ideas, as many economists have reviewed, his work also covers micro and macroeconomic aspects.

3. Market Mechanism According to Ibn Khaldun (1332-1383 AD)

Ibn Khaldun's thoughts on the market are contained in a monumental book, namely al-muqaddimah, especially in the chapter on prices in the city. In the book describing the effect of rising and falling demand on the price level, he said, “When there are few available goods, prices will rise. However, if the distance between cities is close and it is safe to travel, a lot of goods will be imported so that the availability of goods will be abundant and prices will fall”.

Pricing Theory

1. Price Definition

In interpreting the concept of price, of course, there are many interpretations, according to Kotler, basically, price is one element of the marketing mix or marketing mix that can generate income, where other elements get costs.

As stated by Kotler that price is part of the elements of the marketing mix, namely price, product, channel and promotion, which is what is known as the four P (Price, Product, Place and Promotion). The price for a business or business entity generates income (Income), while other new elements of marketing, namely product (product), place (place/channel) and promotion (promotion) cause costs or burdens that must be borne by a business/entity business.

Pricing steps

What must be considered by marketing management can be transferred to the procedure for determining the price offered. If a company does not have the same procedure in determining or setting prices, according to William J. Stanton, pricing has five stages, namely (Marius Angipora, 2002):

a. Estimating for goods demand
b. Knowing in advance the reaction in the price
c. Other goods produced by other companies that equally want consumers' money.
d. Pricing strategy
e. Considering the company's marketing politics

Pricing Method

Kotler mentions some details on the six-step procedure for setting prices:

a. Choosing a goal in pricing
b. Determine request
c. Estimating costs
d. Analyze competitors' costs, prices and offerings
e. Choosing a pricing method
f. Choose the final price

Types of Government Intervention

a. Tax Determination

This policy is carried out by the government by imposing different taxes on various commodities. For example, to protect domestic producers, the government can increase high tax rates for imported goods. This causes consumers to buy domestic products and also encourages the occurrence of a black market.

b. Subsidies

This policy was adopted by the government in an effort to control prices to protect producers and consumers as well as to suppress the inflation rate.

c. Poverty Problems

Poverty is a state of incapacity that is economic (weak economy) so that a person cannot fulfill basic needs because his income is low which causes low purchasing power. In addition, the lack of public education so that people do not get a decent life.

d. Minimum and Maximum Pricing

The setting of minimum prices aims to protect producers, especially for basic agricultural products. For example, the price of dry grain against the market price is too low. This is done so that there are no middlemen who buy the product outside the price that has been applied by the government. If no one buys at that price, the government will buy it through BULOG and then distribute it to the market.

Role of Government in Market Mechanism

The role of the government specifically related to market mechanisms is as follows :

- In general, ensure and maintain that market mechanisms can compete perfectly.
- Making various steps to increase the competitiveness and purchasing power of weak market players, such as small producers and poor consumers, including in this case creating various scenarios of cooperation among market players, for example between large and small producers, to increase efficiency and equity.
- Take various policies to create fair prices, especially if perfect competition is not possible in the market. Monopoly will not have a bad impact on society if the resulting price remains a fair price.
- Production and employment management in the public sector.
- Instruments related to efforts to encourage the activities of the private sector, for example establishing regulations for that sector.
- Fiscal policy, namely the management of the State Budget adjusted to the principles of Islamic public finance
- Financing & monetary policy
- Investment of wealth and public sector surplus

CONCLUSION

The connection with the product cannot be separated from the issue of price, in order to be successful in marketing a product or service, every company must set the right price using the right method as well.

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COMPARISON OF ISLAMIC EDUCATION SYSTEMS INDONESIA AND IRAN

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ABSTRACT

Islamic education is a representation of Islamic teachings that play a role in carrying out the process of coaching, directing and teaching students systematically and gradually. Learning cannot be separated from educational institutions as a place for learning to take place. Educational institutions also influence where the learning process takes place. A comparative study of education between countries was conducted to determine the strengths and weaknesses between the structures of Islamic educational institutions held in the two countries. This paper attempts to analyze the comparison of Islamic education in Indonesia and Iran about the Islamic education system in the two countries. The two countries were chosen because both are countries with a majority Muslim population, so they are relatively balanced. The results of this study include: first, the structure of Islamic educational institutions in Indonesia includes : Early Childhood Education, Kindergarden, Islamic Elementery School, Islamic Junior High School, And Islamic Senior High School. while in Iran Pre-School Education, Primary Education, Secondary Education, and Higher Education. In Indonesia, it includes religious lessons (Qur'an Hadits, History of Islam, Aqidah, Fiqh) and Arabic plus general subjects. While in Iran the integration of Religion-General Sciences, but the allocation of general knowledge is more numerous and varied than in Indonesia.

Keywords : Comparison of Education System, Indonesian Education System, Iranian Education System, Indonesia and Iran.

INTRODUCTION

Islamic education is a representation of Islamic teachings that play a role in carrying out the process of coaching, directing and teaching students systematically and gradually. Islamic education does not only focus on the intellectual aspects of students, but also on aspects of attitudes and skills as well as mental.

Learning cannot be separated from educational institutions as a place for learning to take place. Educational institutions also influence where the learning process takes place.

Thus, this paper seeks to examine and find and analyze the comparison of Islamic education in Indonesia and Iran regarding the Islamic education system in the two countries. The two countries were chosen because both are countries with a majority Muslim population, so they are relatively balanced.

DISCUSSION

A. Comparison of Indonesian and Iranian Islamic Education Systems

a) Understanding the Indonesian Education System

The word system comes from the Greek systema which means "way, strategy". In English the system means "system, arrangement, network, way". The system is also defined as "a strategy, way of thinking or model of thinking". The traditional definition states that a system is a set of components or elements that interact with each other to achieve a goal.

Education can be interpreted as a conscious and planned effort to realize the learning process and learning atmosphere so that students are actively educated in developing their potential needed for themselves and society.

Based on the understandings above, we may conclude that the Islamic education system is a whole of parts that work together or elements that are arranged regularly and interrelated in order to form a human being with a Muslim personality based on the values of religious teachings. Islam based on the Al Qur'an and the Al Sunnah.

b) Islamic Education System in Iran

After Iran's Islamic revolution in 1979, Iran's education system underwent a very basic change, and all educational and teaching efforts must be in accordance with Islamic principles. Iran is trying to open up as many opportunities as possible for all its people to be able to receive formal education, from elementary to university levels. Article 30 of the Constitution of the Islamic Republic of Iran states, "The government is obliged to provide free education and teaching for all people until the end of secondary education level and to develop higher education for free as well as possible".

Then related to the structure of Islamic educational institutions in Iran, which are as follows:

1) Pre-School Education

   At the pre-school level, students are taught about language learning, introduction to mathematics, and science concepts, especially religious values and beliefs. In addition, there are skills activities.

2) Basic Education

   The focus of the basic education curriculum is on developing basic literacy and numeracy skills, environmental studies on physical themes and social phenomena, and religious learning. All subjects and textbooks for primary schools are decided and prepared at the central level. Starting from the age of 6 years, it lasts for 5 years and is followed by 3 years of tutoring (not mandatory, only for children who get fast jobs). In total, the basic education level in Iran takes 8 years.

3) Secondary Education

   Secondary education is held for 4 years. Secondary education in Iran is divided into two, namely as follows:

   - Low Secondary Education

     Minority religious groups do their own special learning and there is a special reading list for the sunni group. Required to pass all subjects in different majors. Learning is used with Persian at all levels. For bilingual areas, a one-month course is held to teach key language concepts before the start of the new school year.

- Senior Secondary Education

  High school is for students who have graduated from elementary school. The subjects offered are grouped into the following majors: Academic majors, engineering majors, and vocational education.

4) Higher Education

In higher education teacher education schools that do not require secondary education as an entry requirement and various other high schools and universities. However, many students study abroad. The structure of education in Iran in the early 1990s opened up wide opportunities for students to study according to their talents and interests. The door is also open for students graduating from high school to continue their education to higher education levels. Higher institutions include universities, teacher education centers and technical faculties. For strata and medicine, the length of education is exactly the same as 4 years and 6 years for medicine (Nur. 2002).

Besides formal education as described above, Iran also has non-formal educational institutions such as mosques and others which are empowered to help accelerate the eradication of illiteracy among the elderly. So far Iran is cooperating with UNESCO and UNDP.

In Iran all students are segregated according to sex, textbooks reflecting Islamic teachings are printed. Many universities were closed and reopened gradually from 1982-1983 using an Islamic curriculum (Islamization of Science).

Islamic education in Iran is integrated in all subjects given to students through Islamic values in all subject matter. In practice in the field, its implementation is supervised by the Committee for the Cultural Revolution, which was established in 1980. Religious education is provided for two hours every week plus lessons on the Al Qur'an.

For those who wish to study in depth about Islamic sciences, they can proceed to higher education at the Faculty of Theology or private universities after they pass the college entrance examinations.

c) Islamic Education System in Indonesia

The education system in Indonesia is clearly regulated in the SISDIKNAS Law which is then translated into a Government Regulation and then operationalized in a Ministerial Regulation. Islamic Education is part of the Islamic Education System so that the system follows the National Education System. Religious education according to Government Regulation of the Republic of Indonesia No: 55 of 2007 concerning religious education and religious education. Chapter I, Article 1, Paragraph 2 reads, "religious education is education that prepares students to be able to carry out roles that require mastery of knowledge about religious teachings and / or become experts in religious science and practice their religious teachings".

Then related to the structure of educational institutions in Indonesia, namely starting with pre-school education programs (Early Childhood Education or Kindergarden). In Indonesia, basic Islamic educational institutions are in the form of Islamic Elementery School, secondary education in the form of Islamic Junior High School, while junior high school education is in the form of Islamic Senior High School. Then continue with higher education consisting of D2, D3, D4. Then S1, S2, and S3.

Then, the subject matter taught in the Islamic education environment in Indonesia, including: Religious education, and manners for the general education environment, while in the Islamic education environment it is divided into (al Qur'an al Hadits, Aqidah Akhlak, Fiqh, History of Islam and plus Arabic).

In face-to-face activities islamic elementery school lasts 35 minutes, islamic junior high school 40 minutes and Islamic Senior High School 45 minutes. Number of hours of face-to-face learning per week for islamic elementery school class I-III is a minimum of 29-32 hours of learning. Class IV-VI is a minimum of 34 learning hours. Number of hours of face-to-face learning per week for islamic junior high school; 34 hours of learning. Number of face-to-face learning per week for islamic senior high school; 38-39 hours of learning.

CONCLUSION

In this case it can be concluded that the Islamic education system is a whole of parts that work together or elements that are arranged regularly and interrelated in order to form human beings with Muslim personalities based on the values of Islamic teachings.

The Islamic education system in Iran consists of Pre-School Education, Primary Education, Secondary Education, and Higher Education. In Indonesia, it includes religious lessons (Qurdits, History of Islam, Aqidah, Fiqh) and Arabic plus general subjects. While in Iran the integration of Religion-General Sciences, but the allocation of general knowledge is more numerous and varied than in Indonesia

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REVITALIZATION of RELIGIOUS CULTURAL TOURISM DESTINATION DEVELOPMENT

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ABSTRACT

One form of community empowerment in the village is the Tourism Village. Village development is the basis of national development. Each village is expected to be able to carry out development independently so that community welfare will be easily realized and increase the people's prosperity index. The policy of revitalizing tourism development has an impact on the development of beautiful and livable rural areas with natural resources and beautiful scenery has become a trending topic on social media. The shift in tourist visits to the village is the reason for the revitalization of special tourism developments called tourist villages which are thick with cultural attractions and living together with local residents. With the development of tourist villages, it can add more diverse tourist attractions that are able to attract tourists, so as to increase community economic activities, so as to create equitable development that can compete with other tourism. Revitalization of tourism development as an alternative development approach that aims to increase economic growth, overcome unemployment, to eradicate poverty, and to improve people's welfare. Tourism development is an effective way to revitalize tourist destinations. Tourism revitalization involves the community as an important component, because the community has great authority and responsibility for tourism management. Tourism can be used as a strategic medium in economic empowerment by providing opportunities for the community to develop and empower tourism.

Keywords: Tourism, Revitalization, Cultural

Introduction

Tourism is not only a tertiary or secondary need, but has become a primary need for the Indonesian people. However, since the pandemic and the enactment of various rules from PSBB to PPKM, ranging from tourist attractions not operating, such as the Devoyage European Village to the Indonesian Safari Park. This has an impact on the tourism industry and the welfare of the people in Indonesia. At the same time, the acceleration of industrialization has caused large cities to have formed a clear heat island effect and a bony phenomenon, which has had a great impact on the stress of urban living. In this case, rural tourism has become the best choice for the community (Solichin et al., 2021).

Talking about tourism is a fun thing, even though it is still facing a pandemic that has an impact on the tourism sector which has faded throughout 2020 with the number of foreign tourists entering Indonesia only around 4.052 million people or only 25% of the number of tourists in 2019. In recent years, rural areas and ways of life of people in developing countries are under threat of loss of traditional culture through urbanization and modernization. However, in the modern era, rural areas are more than just villages, in theory, their functions extend to recreation, production, consumption, trade and the arts. Thus, local tourism to operate again by implementing health protocols based on cleanliness, health, security, safety and environmental sustainability, so that recently revitalization of tourism development is growing rapidly along with changes in community tourism patterns (Hardianto et al., 2021).

The dynamics of accelerating tourism growth increase the demand for alternative forms of tourism, strengthening the diversity of products and tourist destinations. One form of community empowerment in the village is the Tourism Village. In pursuing the target number of tourists, Tourism has begun to develop rural areas. This initiative was carried out in collaboration with the Ministry of Tourism and the Ministry of Villages of the Unitary State. This government movement inspired policy makers at the provincial and district and city levels to make similar activities, namely developing tourism in their respective regions (Trisnawati et al., 2018).

Village development is the basis of national development. Each village is expected to be able to carry out development independently so that community welfare will be easily realized and increase the people's prosperity index. The policy of revitalizing tourism development has an impact on the development of beautiful and livable rural areas with natural resources and beautiful scenery has become a trending topic on social media. The shift in tourist visits to the village is the reason for the revitalization of special tourism developments called tourist villages which are thick with cultural attractions and living together with local residents. With the development of tourist villages, it can add more diverse tourist attractions that are able to attract tourists, so as to increase community economic activities, so as to create equitable development that can compete with other tourism (Ariadi, 2019).

Revitalization of tourism development as an alternative development approach that aims to increase economic growth, overcome unemployment, to eradicate poverty, and to improve people's welfare. Tourism development is an effective way to revitalize tourist destinations. Tourism revitalization involves the community as an important component, because the community has great authority and responsibility for tourism management. Tourism can be used as a strategic medium in economic empowerment by providing opportunities for the community to develop and empower tourism (Abdoellah et al., 2019).

Community empowerment is one of the pillars in tourism tourism destination development strategies. Efforts to increase community empowerment include activities to increase tourism awareness and community business potential. Increasing public awareness of the importance of tourism indirectly encourages the growth of new jobs. The imbalance between the rapid growth of the tourism industry and the lack of adequate resources to manage the tourism industry has a negative impact on local communities (“Development of Marine Tourism on Siladen Island,” 2019).

Every development of tourist destinations must be able to provide welfare for local communities around tourist areas. Health Local people will be happy if the community around a tourist destination is treated as a subject rather than an object in the tourism activity. How to treat local communities as subjects, such as considering local people's opinions in various decision-making, and involving them in developing tourist destinations ("Impact of Goa Kreo Tourist Attraction Development for Community Welfare in Kandri Village, Gunungpati Subdistrict, Semarang City,” 2020).

Local productive potential, including village potential, can encourage village development of the village and its resources, so that it can become an effective instrument in fostering socio-cultural and economic development. Various efforts to preserve and empower local potentials with unique cultural values and local wisdom that may be threatened with extinction due to increasingly intensive globalization and enter the countryside. Village tourism is based on the potential utilization of the village with all community entities, both natural and cultural in it as a tourist attraction force (Irhandayaningsih, 2018).

Rural Transformation and adaptive evolutionary paths are important research content in the field of revitalizing the development of sustainable tourism destinations, which have important

theoretical and practical significance for the implementation of rural revitalization strategies and the realization of multiple goals. The community's motivation to participate and support tourism development is the result of internal and external processes that involve each individual, causing them to follow the steps taken to support tourism development enthusiastically and persistently (Syamsudin, 2019).

Rural tourism program combined with the requirements of the times, further promote innovation, promote breakthroughs, promote development, promote protection, promote beauty, and create a distinctive, beautiful and nostalgic rural tourism with rural characteristics has become an important proposition of tourism supply-side reform and the background of the current era this. How to achieve comprehensive development (Imron, 2020).

The revitalization of tourism development has not yet reached its full potential, so this study aims to investigate revitalized tourism by involving local communities in creative activities aimed at tourists. Some tourist villages have become a new tourist attraction for tourists, but not a few well-established tourism villages have not experienced significant development due to various obstacles (Solichin et al., 2021).

The revitalization of the development of tourist destinations requires further concrete steps, especially in efforts to improve the governance of customary tourism concerned by finding and designing new formats. traditional management of sustainable tourism by prioritizing the values of local wisdom as its main foothold. The tourism industry not only has a positive influence, but also causes a loss of sustainability in terms of economic, environmental and social aspects if it is not planned properly. Tourism can revitalize the local economy, strengthen local identity in some areas and can change the structure of the economy. Therefore, this study explains how the revitalization of tourism development affects the welfare of the community (Sianipar, 2019).

Framework

The framework of thinking in a proposal or scientific paper is a description of the researcher's thoughts on the problem that will be or has been researched. As we know that one of the factors that can influence the improvement of the community's economy in Penggarit Village is the revitalization of tourism destination development activities that occur in the Taman District, Pemalang Regency. Therefore, everything will still have an impact on the economy of the surrounding community, because it can be seen from the positive impacts caused by the revitalization of tourism destination development activities, especially in the economic field, one of which can open employment opportunities for the local population so that it will affect at the level of employment that rises so that it will reduce unemployment and poverty in an area and can increase the number of people's welfare. In addition, it can encourage local communities to carry out entrepreneurial activities such as trading around tourist objects or it could be the surrounding community who have creative and innovative skills, so they can make handicrafts and food that can be used as a characteristic of these tourist attractions. So, the tourists who attend can make the characteristics of the tourist attractions as souvenirs that can be taken home. That way it can help increase the income of local people and the government. So it can be concluded that the framework of thought is as follows:



Elements in a tourist attraction broadly include (Ayu Listyaningrum, 2019)

a. Natural attractions, including natural scenery, beaches, mountains, lakes, flora and fauna, caves, protected forest areas, nature reserves.
b. Cultural tourism object. Includes baby birth ceremonies, traditional dances, traditional clothes, traditional weddings, sea ceremonies, down-to-the-field ceremonies, cultural heritage, historically valuable buildings, relics of the past, cultural festivals, traditional woven fabrics, local textiles, traditional performances, local customs, and others.
c. Artificial tourism objects, including physical fitness facilities and facilities, rides for games, entertainment (comedy, circus, theater) agility (horse racing, archery), recreational parks, national parks, shopping centers and others.

Method

Research is a process or activity that is carried out systematically, logically and planned, to collect, process data, analyze data and collect data using certain methods or techniques to find answers to problems that arise. This type of research is research into the field directly from the community through interviews, documentation and other tools and is primary data. The nature of the researchers used in this study is a qualitative descriptive study. In this study, researchers used several data sources, namely primary data and secondary data. In collecting data the researchers used several methods, including: interviews and documentation. The analytical technique used by the researcher is the field qualitative analysis method, because it is obtained by direct community interviews about community empowerment. In qualitative research, researchers are required to explore and track as adequately as possible the reality of existing phenomena. The method of thinking that researchers use in formulating the final conclusion is an inductive way of thinking, which is a way of thinking that departs from specific and concrete facts, then from specific and concrete facts or events that are drawn in generalizations that have general characteristics.

Result and discussion

Development Revitalization

Revitalization is the process of turning something powerless into empowered, so that something becomes vital. Revitalization as an effort to preserve culture has four main components, namely preservation, restoration/rehabilitation, reconstruction and revitalization. Revitalization changes cultural outputs that are adapted to the development of society without removing cultural artifacts. Revitalization of development aims to explore and give new meaning without changing the form and substance. The revitalization of development is an alternative to local and environmentally friendly tourist attractions. In addition, it involves a tourist attraction of authentic and unique cultural heritage. Revitalization of development preserves the culture of wealth through tourism activities by involving the participation of the surrounding community (Pambudi et al., 2020).

Revitalization is a solution to various problems, including: lack of tourist interest, community participation, various facilities, commercial activities, and lack of supporting concepts and characters. The driving factors for tourism development are freedom of movement, completeness of transportation and communication facilities, accommodation facilities, attractiveness of tourist areas and adequate services. Thus, it can be concluded that the supporting factors for development revitalization are adequate facilities and infrastructure (Febrianingrum et al., 2019).

Revitalization has several stages and requires a certain period of time and includes several indicators, including: (1) Physical intervention, initiating revitalization activities, including repairing and improving the quality and physical condition of buildings, green planning, connecting systems, sign systems and regional open spaces; (2) Economic Rehabilitation, revitalization initiated by the process of rejuvenating urban artifacts must support economic rehabilitation. In revitalization, it is necessary to develop mixed functions that encourage economic and social activities; (3) Social/Institutional Revitalization, revitalization not only creates a beautiful place atmosphere, but revitalization must also be able to create an attractive environment, be able to improve the dynamics and social life of the community (Rohaeni, 2019)

Tourism development has been identified as an effective way to revitalize economic destinations, both rural and urban. The development of tourism modifies destinations and produces changes in people's social life. Tourism development that is carried out continuously is expected to provide an alternative for people to find happiness and a place to enjoy. In addition, tourism development is also expected to have sustainability, both economically, environmentally, and socio-culturally, so that it has a positive impact on the local community. Many studies have been conducted on the approach model in developing tourism in rural areas, for example participatory through Community Based Tourism (CBT) in tourism development. Meanwhile, modalities and interventions to optimize CBT in tourism development by preserving local identity and sustainability (Rafika Dhona & Astari, 2020).

Revitalization, in a city environment, objects, and the scope of conservation areas can be classified into several classifications as follows: Area Unit, is an area unit within the city that can be in the form of sub-urban areas (even the entire city itself as a consistent life). The view/visual unit is a unit that can have meaning and an important role for the city. This unit is a visual aspect, which can provide a mental image or a typical image of a city environment. There are five elements, namely: paths, edges, districts, concentrations (nodes), landmarks (Ito et al., 2019).

Revitalization as a conservation effort in reviving something (building, environment or city area) that has become extinct, where in the past these things never worked and then disappeared

(extinct) It aims to attract public activities within the framework of the economic and social fields culture. Revitalization activities that aim in the economic, social and cultural fields in the use of buildings and the environment to prevent the loss of assets in an area of historical value due to a decline, degradation or decline in productivity in the area. Referring to the above understanding, the concept of revitalization that can be carried out is still left as before by taking care of the defective parts and preserving a number of houses that have high cultural and architectural values by changing the function of the house. become a museum village. Maximizing the use of houses as homestays and providing supporting facilities (Fernández-Llamazares & Cabeza, 2018).

Revitalization is one of the efforts to revive ancient areas, buildings, roads and environments by implementing new functions in architectural arrangements to increase economic, social, tourism and cultural activities. In general, revitalization has a meaning as the return of the area by incorporating new functions or activities in a modern way. Besides that, it can also stimulate new activities so that the area becomes more active (Badruzaman & Musofa, 2018).

The culture of the people, which always puts common interests first, shows a high level of participation in developing their villages. Various forms of community participation that can be seen in the form of community self-help are physical participation such as labor and funds or non-physical in the form of thoughts/suggestions or responses for development purposes. The process of implementing community participation can take place optimally if it is supported by various things such as active time, energy and funds as well as the ability of insight from the community in the context of contributing ideas for development purposes. Conversely, if the community does not have personal opportunities because they are busy with individual activities, energy and funds due to inadequate financial capabilities/poor education categories and low education and knowledge (Pelzer et al., 2017)

Tourist Village

The development and development of tourism will directly touch and involve the community, thus bringing various impacts on the local community, both positive and negative impacts. For the community, tourism development has enormous potential benefits for the economy, socio-culture and the environment, but sometimes the wrong tourism development often brings a lot of harm to the local community itself. The existence of various benefits and challenges illustrates that tourism development is like managing fire, where managers can use it for the benefit of the community but on the one hand it can cause losses if the management is not effective (Wijijayanti et al., 2020)

As for the concept of tourism development, it is a word that is quite highly used in any country or at any level, but it seems to be understood differently. Development implies an evolutionary process with positive connotations or at least "out of place". Differences in interpretation occur because the word development can be associated with two things, namely: "process" and "level" of development of something. In this connection, there are 5 contexts and connotations of the use of the term development, namely: Economic growth, Modernization, Justice transformation and Socio-economic transformation (Elake, 2020).

Regional original income is income obtained from sources within its own territory, namely: the higher the role of regional income in the regional financial structure, the higher the role of regional finance and the ability of the region to carry out regional development activities. Local revenue comes from revenues, namely local taxes, regional levies, the proceeds of wealth separated from management, other legitimate local revenues (Saputra, 2018).

Culture is a geographical form of phenomena that arise from the interaction of humans as inhabitants of the earth and the earth as a place for humans to live. Humans are the determining

factor in interacting with the environment, human interaction here is generated by the exploitation of natural and human resources. in an increasingly advanced development, humans continue to explore their own creativity to improve the quality and quantity of themselves so that humans do not lose competition and are able to continue to explore further to meet their needs so that in human creativity there appears a culture that is the result of culture (Sumarto, 2019).

Public welfare

The tourism sector is considered as a means to achieve sustainable development and provides very significant benefits in the economic, environmental and socio-cultural fields as well as opportunities for local communities to improve their welfare. Efforts to find the relationship between tourism and sustainable development which states that sustainable tourism development is development that focuses on two things, on the one hand, sustainability as an economic activity, and the other on the other. form of long-term and intergenerational-oriented policies (Apdillah et al., 2020).

The community welfare indicator compiled by UNDP is known as the Human Development Index (HDI), which is a very useful tool for measuring the level of welfare between countries and regions. The HDI indicator far exceeds conventional growth. Economic growth is important to maintain the welfare of its people, but growth is not the end of human development. Growth is only one tool, what is more important is how economic growth is used to improve human capabilities and how people use these capabilities. A high level of human development greatly determines the ability of the population to manage sources of economic growth, both in relation to technology and to institutions to achieve economic growth (Ratnasari & Rijanta, 2020).

According to Law Number 6 of 1974 concerning Social Welfare, social welfare is a social, material, spiritual life and livelihood that is filled with a sense of safety, decency, and inner and outer peace that makes it possible for every citizen to carry out an effort to fulfill their physical, spiritual, and social needs. the best social services for oneself, family, and society and upholds human rights and obligations in accordance with Pancasila. Welfare is a subjective matter, so that in determining the factors that affect the level of welfare in each individual or family will have different guidelines and goals. Welfare is a systematic action whose goal is to improve welfare by providing assistance to people to meet various needs in several fields such as family and child life, health, social, leisure time, living standards, and social relations (Hakim, 2020).

According to the Central Statistics Agency (BPS 2019) to measure the level of welfare, it can be seen through seven indicators, namely: Population; Education, there are three indicators seen from education, namely: school participation rate, education level. highest ever completed.and number.illiteracy; Health, several indicators seen from health include: morbidity, birth attendants, and life expectancy; Fertility (fertility) and Family Planning; Consumption Patterns: Employment and Housing (Sumartan & B, 2019).

Conclusion

One form of community empowerment in the village is the Tourism Village. Village development is the basis of national development. Each village is expected to be able to carry out development independently so that community welfare will be easily realized and increase the people's prosperity index. The policy of revitalizing tourism development has an impact on the development of beautiful and livable rural areas with natural resources and beautiful scenery has become a trending topic on social media. The shift in tourist visits to the village is the reason for the revitalization of special tourism developments called tourist villages which are thick with cultural attractions and living together with local residents. With the development of tourist villages, it can add more diverse tourist attractions that are able to attract tourists, so as to

increase community economic activities, so as to create equitable development that can compete with other tourism. Revitalization of tourism development as an alternative development approach that aims to increase economic growth, overcome unemployment, to eradicate poverty, and to improve people's welfare. Tourism development is an effective way to revitalize tourist destinations. Tourism revitalization involves the community as an important component, because the community has great authority and responsibility for tourism management. Tourism can be used as a strategic medium in economic empowerment by providing opportunities for the community to develop and empower tourism.

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РОЛЬ ЛАДОВОЙ ОРГАНИЗАЦИИ В АЗЕРБАЙДЖАНСКОЙ НАРОДНОЙ МУЗЫКИ

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РЕЗЮМЕ

Безусловно, что в создании различных жанров музыкального фольклора в равной степени участвуют все средства выразительности, все они необходимы и каждое из них выполняет присущие только ему выразительную и конструктивную функции. Однако, именно лад становится фактором, который, в первую очередь, влияет на эмоциональную окраску, интонационные и структурные особенности музыкальной формы.

Роль функциональности в азербайджанской ладовой системе огромна: это опора на мелодическую модель, примат функциональных отношений ступеней, стабильность каденционных оборотов.

Поскольку один и тот же лад может встретиться в музыке разных народов, черты национального своеобразия проявляются в ладовой сфере не только в самом звукоряде лада, основных функциях его звуков, но и в характерных ладовых оборотах. Азербайджанская ладовая система потенциально заключает в себе многоплановые и многоуровневые ладовые сопряжения, что создает динамические предпосылки для развития ладотональной драматургии формы. При этом, важнейшим типологическим звеном в системе ладообразования азербайджанской музыки выступают типологические формульные попевки на уровне тонических каденций. Подчеркнем, что тонические формулы каденций семантически настолько ярки, что в любом контексте заключают в себе идентичное художественное значение. Каденции – формулы носят знаковый, семантически определенный характер, поэтому и становятся «символами» ладоинтонационной системы азербайджанской музыки. Единая ладовая основа проявляет себя во всех жанрах народной музыки. Достаточно привести такие яркие примеры, как каденции ладов раст, шур, сегях, чаргях.

Принципы ладовой организации оказывают значительное влияние на интонационное развертывание тематизма в музыкальной форме. В этом смысле для каждого лада азербайджанской народной музыки характерны свои типологические интонационные обороты, которые естественным образом функционируют во всех жанрах.

Жанровая разнородность опирается на типологические модели азербайджанской ладовой системы. Таким образом, реалии ладовых типологий являются наджанровыми. Различные жанровые модификации опираются на стабильный костяк, структура которого сформировалась в течение многих веков.

Ключевые слова: Лад,Гармония,Каденция,азербайджанская музыка.

THE ROLE OF MODE ORGANISATION IN AZERBAIJANI FOLK MUSIC

ABSTRACT

Undoubtedly, in the process of creation of the various genres of musical folklore, all means of expression are equally involved, and all of them are necessary, as each of them performs its own expressive and constructive function. However, it is the mode that primarily affects the emotional coloring, intonation and structural features of musical form.

The role of functionality in the Azerbaijani mode system is enormous. It is the basis for the melodic model, and the fundamental of the functional relationships of the stages and the stability of the cadence forms.

As the same mode can be found in the music of various nations, the features of national identity are manifested in the mode sphere not only in the scale of sounds, and the basic functions of its tones, but also in typical mode harmony. The Azerbaijani mode system potentially contains several layers and levels of harmonies, which creates the dynamic preconditions for the development of the form of drama composition of the mode. At the same time the most important typological link in the mode creation of Azerbaijani music is represented by the typological form sings of tonic cadences. Need to emphasize that tonic formulas of cadence are semantically so vivid that in any context they contain identical artistic meaning. Cadence-formulas carry the sign and semantically defined character and, therefore, become "symbols" of harmony modulation system of Azerbaijani music. The unified mode basis is expressed in all genres of folk music. We can mention such bright examples as cadences of the Rast, Shur, Segakh and Chargakh.

The principles of the mode structure have a significant impact on thematic modulation development of music form. In this sense each mode of Azeri folk music has its own modulation methods, which naturally operates in all genres.

The genre diversity is based on the typological models of the Azerbaijani mode system. Thus, the reality of the mode typologies exists in over-genre condition. Different genre modifications are based on a stable backbone, the structure of which was formed over many centuries.

Key words: mode, harmony, cadence, Azerbaijani music.

Введение.

Развитие народных культур непременно включает в себя сложный комплекс традиций, иными словами, сохраняет в своем составе многое из того, что создано и накоплено в прошлом. Поэтому каждая жанровая система – обобщение жизнедеятельности фольклора, не только итог определенного исторического развития, но и **генетически взаимосвязанный комплекс**.

Основной определяющей константой в рассмотрении общих универсалий жанровой системы азербайджанской народной музыки должны стать особенности ее **ладовой организации**. С ладовой стороной очень тесно связаны черты национального своеобразия мелоса. Безусловно, что в создании различных жанров музыкального фольклора в равной степени участвуют все средства выразительности, все они необходимы и каждое из них выполняет присущие только ему выразительную и конструктивную функции. Однако, именно лад становится фактором, который, в

первую очередь, влияет на эмоциональную окраску, интонационные и структурные особенности музыкальной формы.

Ладовую систему В.Беляев называл «историческим запасом звуков». И в этой фразе зафиксирован основной смысл ладовой эволюции.

Роль функциональности в азербайджанской ладовой системе огромна: это опора на мелодическую модель, примат функциональных отношений ступеней, стабильность каденционных оборотов.

«Ладовые образования, или лады, и ладовые системы (группы родственных ладов) – не что иное, как обобщения типов мелодического движения в их интервалике в песенном и инструментальном народном музыкальном творчестве»,[1.с.209] - отмечает В.Беляев. Возникая в народной песне, лады закрепляются в звукорядах народных музыкальных инструментов в тот момент, когда на них появляется возможность не только воспроизводить песенные мелодии и исполнять инструментальные пьесы, но и фиксировать их интервальное строение на звуковых шкалах.

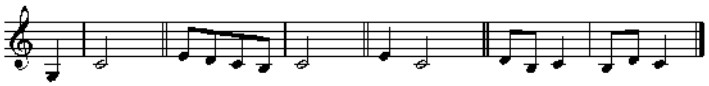
Исследования и выводы.

Поскольку один и тот же лад может встретиться в музыке разных народов, черты национального своеобразия проявляются в ладовой сфере не только в самом звукоряде лада, основных функциях его звуков, но и в характерных ладовых оборотах. Азербайджанская ладовая система потенциально заключает в себе многоплановые и многоуровневые ладовые сопряжения, что создает динамические предпосылки для развития ладотональной драматургии формы. При этом, важнейшим типологическим звеном в системе ладообразования азербайджанской музыки выступают типологические формульные попевки на уровне тонических каденций. Подчеркнем, что тонические формулы каденций семантически настолько ярки, что в любом контексте заключают в себе идентичное художественное значение. Каденции – формулы носят знаковый, семантически определенный характер, поэтому и становятся «символами» ладоинтонационной системы азербайджанской музыки. Единая ладовая основа проявляет себя во всех жанрах народной музыки. Достаточно привести такие яркие примеры, как каденции ладов раст, шур, сегях, чаргях.

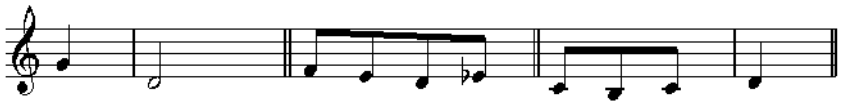
Как известно, основные положения ладовой системы азербайджанской народной музыки были разработаны Узеиром Гаджибейли. В книге великого ученого выделено семь основных ладов – раст, шур, сегях, баяты-шираз, чаргях, шуштэр и хумаюн, и три побочных – чаргях второго вида, шахназ и сарэндж. У.Гаджибейли определил строение ладов исходя из соединения тетрахордов определенным способом. Он выделил пять видов тетрахордов, образующих основу звукорядов азербайджанских ладов, выявил четыре способа соединения тетрахордов. Более того, ученый подчеркнул роль тоники как объединяющего центра лада, указал на наличие в них, помимо тоники, основного тона, рассмотрел побочные опоры ладов, привел примеры полных и половинных каденций.

Принципы ладовой организации оказывают значительное влияние на интонационное развертывание тематизма в музыкальной форме. В этом смысле для каждого лада азербайджанской народной музыки характерны свои типологические интонационные обороты, которые естественным образом функционируют во всех жанрах. К примеру, для лада раст характерно особое подчеркивание тонического центра, часто используется интервал чистой кварты в скачках от нижней кварты

тоники к тонике, от медианты тоники к ее верхнему вводному тону. К числу тонических интонационных оборотов лада раст относится также восходящая попевка в рамках верхнетерцового пространства. Нередко из нее произрастает тематизм музыкального композиции, а шестая ступень (терция тоники) выступает в роли временного устоя в половинных каденциях лада раст.

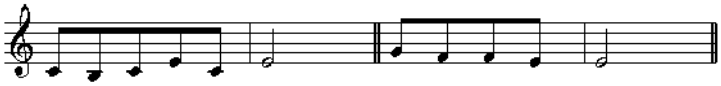


Ладу шур присущи свои типовые интонации, отличающиеся удивительным разнообразием. Секундовые, терцовые и квартовые группы концентрируются в шур вокруг тонического центра, образуя сопряжение с тоникой трех ступеней – малой (минорной) терции, фригийской секунды и натурального нижнего вводного тона. В качестве наиболее яркой интонации в шур выделяется и выразительный скачок от тоники к квартовому или квинтовому тону.



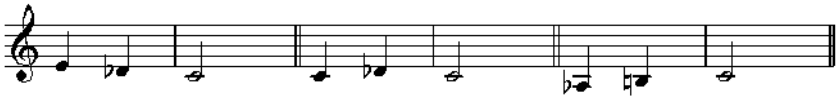
Каждый лад в азербайджанской музыке резонирует по-своему. Сегях вызывает совершенно иные интонационные «ассоциации». Ладу сегях присуща бифункциональность: основной тон звукоряда (вторая ступень) по своему значению приравнивается к тонике. Между тем, функционально устойчивой ступенью наряду с тоникой в интонационном комплексе сегях является квинта основного тона. Подчеркнем лирическую напряженность интонации малой секунды. Имеем в виду типические особенности этой интонации, которая, как правило, обладает семантикой усиления динамического напряжения. Функциональная сила шестой ступени столь велика, что способна создать свою ладоинтонационную зону. Как известно, «слово сегях в переводе с фарсидского языка означает три опоры <…>. И действительно, мелодическое становление этого раздела базируется на основе трех ладовых функций:

1. до – II ступень – основной тон.
2. ми – IV ступень – тоника лада.
3. соль – VI ступень – квинта основного тона».[2.с.203]



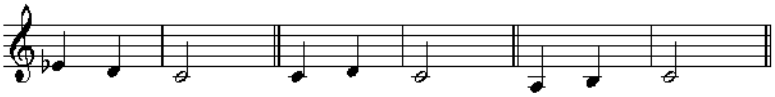
В данном случае речь шла о центральном разделе ми-сегях. Подчеркнем, что именно эти ступени и участвуют в оформлении тонических каденционных формул лада. В последних осуществляется поступенное нисходящее движение к тонике от VI ступени, либо обыгрывается скачок от основного тона к тонике.

Типические интонации лада чаргях характеризуются настойчивым утверждением тонического центра.

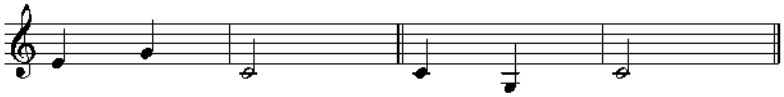


Интонационное «вращение» вокруг тоники чаргях включает в себя подчеркнутое нисхождение к ней, а также скачки от нижней терции и верхней квинты.

Тоническая формульность лада баяты-шираз опирается в своей основе на опевание тоники в верхнем малотерцовом и нижнем малотерцовом пространстве.

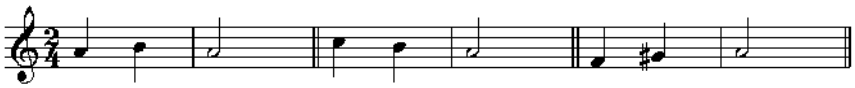


К тонике совершается поступенное движение сверху или внизу чаще в диапазоне малых терций, либо выделен скачок – от квинты вниз, от нижней кварты вверх.

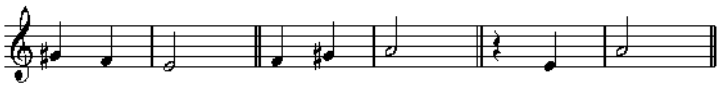


Приводимые схемы, безусловно, хрестоматийны. Однако последнее не исключает их важности в данном контексте, ибо мы акцентируем самые яркие «порождающие» типологии ладов. А, как известно, «действительно порождающими являются только такие модели жанра, конкретизированные на уровне определенного МТ (мелодического типа) или определенной «семьи» МТ. Только они существуют для народного сознания, будучи изначально слитыми с работающей же моделью (или несколькими моделями) МТ» [3.с.63]

Лад шуштэр, так же, как и лад сегях, бифункционален.



Шестая ступень звукоряда – тоника лада – по своему значению уступает третьей ступени – заключительному тону. Отсюда интонационная зона опевания заключительного тона функционально отодвигает на второй план тоническую зону опевания. Остановка на тонике образует половинные каденции, а на заключительном тоне – полные. В результате волнообразное мелодическое движение, присущее этому ладу, попеременно затрагивает названные ступени, балансируя между ними и выделяя характерный интервал увеличенной секунды. В число типовых интонационных оборотов шуштэр входит поступенное нисхождение от тоники к заключительному тону, опевание последнего в рамках нижней большой терции, а также квартовый скачок с захватом обоих функционально значимых ступеней.



Заключение.

Ладовая система азербайджанской народной музыки сформировалась в результате длительного процесса развития музыкальной культуры Азербайджана. Каждый лад,

имея свою смысловую и эмоциональную окраску, обладает только ему присущей интонационной «аурой». Каждый азербайджанский лад имеет свои определенные каденционные обороты. Тонические заключительные каденции играют в процессе кристаллизации тематизма фольклорной формы основополагающую роль. Азербайджанские этномузыковеды подчеркивали, что заключительный каденционный оборот – это прежде всего ладоинтонационная микроформула. Она отличается спецификой проявления национального начала, выраженного в основных признаках интонационного и ладового строения. В итоге внутри каждого ладового наклонения образуется система типических структур – интонационные модели-индикаторы определенного лада. Интонационные модели составляют фундамент народной музыки, выполняя важную функцию в ладоинтонационном процессе, они становятся основой создания различных жанров азербайджанского фольклора.

Взаимосвязь тетрахордов часто определяют структурные отношения в форме. Так, опевание тоники, то есть опора на основной тетрахорд, организует экспозицию[1], начало формы. Расширение диапазона, взаимоотношение тетрахордов связано и со структурным развитием.

Жанровая разнородность опирается на типологические модели азербайджанской ладовой системы. Таким образом, реалии ладовых типологий являются наджанровыми. Различные жанровые модификации опираются на стабильный костяк, структура которого сформировалась в течение многих веков.

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[1] Употребление слова «экспозиция» связано, безусловно, не с аналогией по отношению к формообразующим принципам европейского симфонизма, а определяет конкретный тип изложения.

SCENOGRAPHY AS A MEDIUM FOR PROMOTION AND SUSTAINABILITY OF CULTURE: AN APPRAISAL OF ODODO'S *HARD CHOICE* IN PERFORMANCE

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ABSTRACT

The concern for the promotion and preservation of indigenous cultures in the face of the corrosive globalization that threatens them, has become a global phenomenon engaging the attention of scholars, policy, and non-policy makers alike. Various approaches have been adopted in various places to ensure the preservation and promotion of the tangible and intangible aspects of indigenous cultures. This paper recognizes scenography as one of such powerful media for promoting and preserving cultural expressions; especially films whose content and material carry cultural elements. Scenography is one of the most effective visual aspects of the theatre that the audience encounters first upon entrance into the theatre to experience a live performance. A well-designed play makes statement on the location, period and experiences of the culture being dramatized thereby promoting the culture and intensifying it to people of different age brackets that are witnessing the performance. Using Sunnie Ododo's *Hard Choice* staged in 2017, by the 100 level students of University of Abuja as a microcosm, this paper discusses how scenography goes beyond mere aestheticism to create and aid cultural awareness. It exposes the creative strategy and design techniques deployed to negotiate the interpretation of Ododo's *Hard Choice.* In this regard, the paper employed descriptive method which include descriptive analysis, participant observation, coupled with consultations from cast and technical crew members as primary sources of information, while the secondary sources rely on relevant journals, articles, published textbooks and internet. Moreso, representation and presentational design concept postulated by Ododo (2020) was also romanticized in foregrounding the theoretical framework. Conclusion was made that theatre is a veritable means of promoting and sustaining African values and culture through effective and functional scenographic considerations.

Key Words: Scenography, Promotion, Culture, Sustainability, Hard Choice, and Performance.

SEPARATION TECHNIQUES: A SUSTAINABLE APPROACH

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ABSTRACT

Separation techniques is being utilized by humans since thousands of years. Separation techniques are an integral part of chemical insdustries. Separation techniques are involved in synthesis, separation, and purification of products in chemical industries. Separation methods can be single type or may be combination different techniques. The separation techniques depends upon the processes, quality and quantity of the product to be manufactured. The conventional methods of separation are distillation, crystallization, adsorption, membrane processes, drying, absorption, stripping, extraction, chromatographic, super critical fluid extraction (SCFE), gas separation, surfactant based separtion, centrifugal separation, ion exchange techniques, electrophoresis. The modern process industries requires novel and energy efficient membrane separation techniques, like osmosis, reverse osmosis, dialysis, ultrafiltration, microfiltration and nanofiltration. The interface separates the feed in to two phases in membrane based separation. The membrane separation techniques can be classified in to homogeneous, heterogeneous, symmetric, asymmetric, charged and neutral. The chemical industries are considered as one of the major contributor in polluting the environment. The separation techniques ultimately led to pollute air, water and land. The separation method should have low operating pressure and temperature, non-toxic, non-flammable, high purity, cheap, easily recoverable and wide range of applicability. The separation technique is an energy intensive process. The separation techniques should be energy efficient, ecofriendly and economical, to make it a sustainable process. It is more important in today's energy deficient world, to make our process industry sustainable.

Key words: separation, chemical, energy, sustainable, world

TECHNIQUES FOR ELECTRICITY GENERATION CONTROL OF FREQUENCY AND POWER

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ABSTRACT

In Modern era it is very difficult to maintain the constancy of frequency and corresponding power due to large demand of electricity, most of techniques using from past decades to solve such variation problems. An interconnected area causes the deviation of frequencies of all the areas and also of the powers. This paper PI and Artificial Intelligence (Fuzzy Technique) has been used to solve the power and frequency variation problem. PI techniques are the traditional technique, whenever Artificial Intelligence (Fuzzy Technique) is an innovative technique that enhances conventional system design with engineering expertise and help to circumvent the need for rigorous mathematical modeling. Thermal generating system has been taken for electric power generation and simulink model of thermal generating system has been controlled by Artificial Intelligence (Fuzzy Technique), PI techchniques. In thermal system coal is pulverized and fed into a boiler where it is mixed with forced air and combusted. The comparative results shows that the Artificial Intelligence (Fuzzy Technique) gives good, effective and efficient results with respect to the PI techniques by providing constant supply scientifically.

Keywords: Traditional Technique, Artificial Intelligence, Generating Unit, Power Generation, Thermal Sources.

INSTABILITY ANALYSIS OF CLAMPED-PINNED PIPES CONVEYING FLUID UNDER THERMAL LOAD

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ABSTRACT

In this study, the instability of clamped-pinned pipes conveying fluid under thermal loads is studied. The equation of motion is derived for the pipe with the effects of linear stress–temperature case. A numerical modal analysis is realized in the fluid-structure interaction configuration where the equations are discretized with finite element method. The first natural frequencies and critical fluid velocity are calculated by using a program developed on Matlab. The advantage of Matlab language by using standard functions is to present the first eigen-modes of the system aspect interaction fluid-structure for different parameters in complex planes. The results are compared with those predicted by numerical methods. Several examples were processed to determine the influence of the fluid velocity, thermal loads, mass ratio, length, and elastic foundation by Winkler-type on the first three natural frequencies of clamped-pinned pipes carrying hot fluid. The study showed that the increase in temperature negatively affected the instability of the system, as the critical fluid velocity decreased regularly and corresponded to the decrease in the frequencies. Some conclusions are tired on the effect of the thermal loads on the instability of pipes conveying fluid. The frequencies of the system hot fluid-structure depend on the physical and geometrical parameters.

Keywords: Pipe conveying fluid, Thermal loads, Critical fluid velocity, Frequency, static instability, FEM.

Introduction

Many academics have studied the effect of fluid flow on the dynamic behavior and stability of the pipe conveying fluid with experimental and numerical methods [1-4]. Païdoussis was the first to address stability and instabilities topics [5]. It has been established that a system is stable for fluid flow velocities less than a certain value. The disappearance of the first mode corresponds to the reaching of the first critical velocity as called static critical velocity, which corresponds to instability static (buckling); then followed by another critical velocity what researchers call by dynamic instability (flutter). The values of the static critical velocities are varying according to the boundary conditions, and with physic-geometric parameters. The static critical velocity of the simply supported pipes is π [5-8]; raise its value to reach 1.43π for clomped-pinned pipes [5, 9-11]. Studies showed that the critical velocity is 2π for

clomped-clomped pipe [5, 12-14]. Studies and research showed that the values mentioned above changed according to other effects mainly in the geometrical parameters and physical parameters. Dahmane in his studies entitled numerical study of post-buckling of clamped-pinned pipe carrying fluid under different parameters, shown that elastic foundation with Winkler model increases the rigidity of the system and consequently the natural frequencies and the static critical velocity [11]. The studies show that length has significant effect on the rigidity which lowers the frequencies of the system according to the flow velocity and consequently quickly reaches the first critical velocity of buckling, where the buckling critical velocity drops from 1.43 π (L = 1m) to 1.19 π

THE EFFECT OF THREE-DISC ARTHROPLASTY REPLACEMENT ON THE VON MISES STRESS AND STRAIN DISTRIBUTION IN THE SPINE: ANALYZED BY THE FINITE ELEMENT METHOD

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ABSTRACT

Total disc replacement (TDR) has been recommended to reduce pain of presumed discogenic origin while preserving spinal motion to reduce the likelihood of accelerated adjacent level degeneration that has been reported after lumbar arthrodesis surgery. One of the objectives of TDR implanted for degenerative disc disease is to allow replication of the natural biomechanics of a healthy intervertebral disc under physiologic loads. The three lumbar discs (Model-I, Model-II, and Model-III) were implanted to minimize stresses and elastic strains at the stage of disc D2 between the two lumbar segments in a three-dimensional nonlinear finite element model (FEM) verified from Th1 to S1 (L5-L4). In other words, at the level of the lumbar pedicle, we implanted a posterior attachment system (6 screws + 2 rods) to preserve the spine's continuity and avoid slippage (S1-L5, L5 -L4). Each implanted model was subjected to a total of 134 N of compression load P1 and two bending moments (P2, P3). ANSYS WORKBENCHE version 16.2 was used to perform mesh and geometry analysis on both the intact and implanted models. The numerical results show that the three types of disc prostheses (Model-I, Model-II and Model-III) showed lower levels of Von Mises stresses at the level of the D2 intervertebral disc, the cortical and spongy bone of the vertebra (L5, L4) as determined with the model intact. The current finite element model could be valuable for engineers and surgeons seeking to optimize TDR designs.

Keywords: Spine; Von Mises Stress-Strain; Total disc replacement

STUDY OF THE DIFFUSION OF CHLORINE IONS IN CONCRETE

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ABSTRACT

Self-consolidating concrete is a new material that has seen its development in recent years. It is characterized by its fluidity in the fresh state as well as its installation by the sole effect of own weight and without requiring vibration. It differs from vibrated concrete by a high volume of paste and a low volume of aggregate.

The objective of this present work is the study of the durability of self-consolidating sand concretes based on pozzolanic cement to the penetration of chlorine ions. A first study (BSAP) was based on the characterization in the fresh state and in the hardened state of BSAPs. The characterization in the fresh state was limited to the tests recommended by the AFGC and the characterization in the hardened state was limited to the simple compressive strength of the cubic concrete specimens (7x7x7 cm3). The diffusion of chlorine ions to test the durability of to A second study was limited to self-compacting sand concretes vis-à-vis the corrosion induced by chlorine ions. A comparative study between the results of the physical characteristics, The first experimental results presented concern the characteristics in the fresh state (AFGC recommendations) and in the hardened state (compressive strength) of all proposed formulations. The test results related to characteristics relating to the physico-chemical field, such as open porosity and the coefficient capillary absorption and the diffusion coefficient of chlorine ions were also presented.

Key words: Self-consolidating sand concrete, mechanical resistance, durability, diffusion of chlorine ions, natural pozzolan.

STUDY OF THE MECHANICAL BEHAVIOR OF THICK STRUCTURES TAKING INTO ACCOUNT THE EFFECT OF THE MICROSTRUCTURE (POROSITE) IN A FUNCTIONALLY GRADUATED MATERIAL

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ABSTRACT

In this work, we numerically study the statistical and dynamic properties of the beam process in a gradient, using shear stress theory and a wave propagation analyzer. More specifically, when manufacturing graduated functional materials, pores may appear. This theory shows the effect of bending and shear components and the latter is obtained by dividing the transverse displacement into bending and shear parts.It is assumed that by a simple law of distribution of the volume fractions of the components, that is to say that the properties of the material must be classified in the direction of the thickness according to this law of force; But to get the porosity for all material properties, the mixing rule must be changed. We use Hamilton's principle to derive The equations governing the propagation of waves in the functionally graded beam The analytical dispersion relation of the functionally graded beam is obtained by solving an eigenvalue problem. The effects of the volume fraction distributions, the depth of beam, the number of wave and the porosity on wave propagation in functionally graded beam are discussed in details. It can be concluded that the present theory is not only accurate but also simple in predicting the wave propagation characteristics in the functionally graded beam.

Key words: Wave propagation; functionally graduated beam; porosity; higher order shear strain beam theories.

SIMULATION AND REALIZATION OF THE DIFFERENT MACHINING CYCLES ON A CNC MILLING MACHINE: USE OF R PARAMETERS

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ABSTRACT

The machining or production of mechanical parts under numerical control now extends to all sectors of the materials processing industry. The MOCN is also a good contribution, as it eliminates tedious and repetitive tasks in many cases. Knowledge of these machines and how to use them has become necessary for technicians and control operators.

This results in a large number of different functions and codes, which can cause difficulties in the preparation of part programs.

This work is intended to simulate and realize all milling cycles on CNC milling machines. In order to achieve our objective, which is dedicated to the realization of the simulation programs for the machining of each cycle using the SINUMERIK (820M) software on the EMCO milling machine.

Keywords: CNC Milling, machining Cycle, MOCN, FAO.

SELECTIVE CATALYST REDUCTION FOR NOX REMOVAL FROM EXHAUST OF ELECTRICAL POWER-PLANTS

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ABSTRACT

NOx or nitrogenous pollutants directly harm human health and the environment and cause the production of photochemical smog, particulate matter, acid rain and impaired vision. NOx management with different methods, helps the appropriate use of different industries without harming the environment. Boilers in power plants generate about 40% of NOx emissions from fixed sources. One of these methods, which has various applications in industry and has a high efficiency in NOx removal, is the selective catalyst reduction (SCR) method. The largest application of SCR technology is in power plants, especially coal-fired power plants. In the SCR process, a catalyst facilitates the chemical reaction between NOx and ammonia to produce diatomic nitrogen and water. The ammonia-air or ammonia-vapor mixture is injected into the exhaust gases containing NOx. The gases pass through the catalyst and NOx is reduced there. The catalyst enhances the reaction, but is not consumed by it. The basic principle of SCR is the reduction of NOx to nitrogen by the reaction of NOx and ammonia in the catalyst bed. In a gas turbine or combined cycle, the catalyst is usually placed after the super-heater in the HRSG, where the temperature is in the range suitable for the performance of the base metals. In this article, the function and nature of the SCR method, its types, its location in the power generation process and a summary of its construction costs in the power plant are described.

Keywords: catalyst – air pollution - coal-fired power plants - NOx management

СИНТЕЗ СУПЕР – ПЛАСТИФИКАТОРА НА ОСНОВЕ ПОЛИФЕНОЛА И ИССЛЕДОВАНИЕ ИХ В КАЧЕСТВЕ ПЛАСТИФИЦИРУЮЩИХ ДОБАВОК В БЕТОННЫХ СМЕСЯХ

SYNTHESIS OF A SUPER - PLASTIFICATOR BASED ON POLYPHENOL AND THEIR RESEARCH AS PLASTIFYING ADDITIVES IN CONCRETE MIXES

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В настоящее время в производстве бетона широко используются эффективные органические продукты супер-пластификаторы, применяемые для улучшения комплексных свойств в бетонных и железоюетонных изделиях [1-3].

Добавки бетона с полифункциональными группами соединений положительно влияют не на одно, а на несколько свойств бетона.

Целью научно-исследовательской работы является синтез новых соединений и их исследование в качестве пластифицирующих добавок в бетонных смесях для получения высокопрочного бетона.

Нами синтезированы натриевые соли сульфокислот полифеноса (ПАВ) путем полимеризации фенола с последующим сульфированием концентрированной H_2SO_4, нейтрализацией раствором едкого натрия. Подробно изучено влияние различных факторов на выход полифенола. В результате этих исследований найдены оптимальные условия, обеспечивающие максимальный выход (92-96%) целевых продуктов.

Установлено, что поверхностно-активные вещества (ПАВ) являются диффлокулянтами цемента, повышая тем самым эффективность его использования. ПАВ пластифицирует бетонные и растворные смеси, что способствует уменьшению расхода воды и цемента при изготовлении бетонов.

Названные добавки (ПАВ) вводились при затвердении цемента после предварительного растворения их в воде.

Состав цементно-песчаного раствора был принят 1:3 водоцементное отношение (в/ц) 0,64-0,68. Расплав стандартного конуса на встряхивающем столике в пределах 120-180 см. Показано, что добавки (ПАВ) способствуют повышению подвижности смесей и снижению водоцементного отношения в пределах до 10%, а прочноть возрастает на 22-30%.

Натриевая соль сульфокислоты полифенола (ПАВ) вводились в цементные песчаные растворы. В качестве вяжущего используется портландцемент Гарадагского цементного завода, а заполнителем служит речной песок Мингечаурского месторождения, характеризующийся модулем крупности 1,8.

Ключевые слова: супер-пластификатор, полифенол, железобетонные изделия, полимеризация, серная кислота, едкий натрия

ABSTRACT

Currently, effective organic super-plasticizers are widely used in the production of concrete, which are used to improve the complex properties in concrete and reinforced concrete products [1-3].

Concrete additions with polyfunctional groups of compounds have a positive effect not on one, but on several properties of concrete.

The purpose of the research work is the synthesis of new compounds and their study as plasticizing additives in concrete mixtures to obtain high-strength concrete.

We synthesized sodium salts of polyphenos sulfonic acids (surfactants) by polymerization of phenol followed by sulfonation with concentrated H_2SO_4, neutralization with sodium hydroxide solution. The influence of various factors on the polyphenol yield has been studied in detail. As a result of these studies, optimal conditions have been found that provide the maximum yield (92-96%) of the target products.

It was found that surfactants (surfactants) are diffflocculants of cement, thereby increasing the efficiency of its use. Surfactant plasticizes concrete and mortar mixtures, which helps to reduce the consumption of water and cement in the manufacture of concrete.

These additives (surfactants) were introduced during the hardening of the cement after their preliminary dissolution in water.

The composition of the cement-sand mortar was adopted 1: 3 water-cement ratio (w / c) 0.64-0.68. The melt of a standard cone on a shaking table is within 120-180 cm. It is shown that additives (surfactants) contribute to an increase in the mobility of mixtures and a decrease in the water-cement ratio within the range of up to 10%, and the strength increases by 22-30%.

The sodium salt of polyphenol sulfonic acid (surfactant) was introduced into cement sand mortars. Portland cement of the Garadagh cement plant is used as a binder, and river sand of the Mingechaur deposit, characterized by a grain size modulus of 1.8, is used as a filler.

Key words: super-plasticizer, polyphenol, reinforced concrete products, polymerization, sulfuric acid, sodium hydroxide

ERİYİK YIĞMA MODELLEMEYLE ÜRETİLEN PLA PARÇALARA UYGULANAN TAVLAMA İŞLEMİNİN MEKANİK ÖZELLİKLERE ETKİSİ

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ÖZET

Eriyik yığma modelleme (EYM), hızla büyüyen 3B baskı teknolojisi metodudur. EYM ekipmanında baskı malzemelerinin çoğu Akrilonitril Bütadien Stiren (ABS) veya Polilaktik Asit (PLA) ile sınırlıdır. Dünyada artan eğilim, normal plastiği biyolojik bazlı ve doğada parçalanabilen bir polimer olan PLA gibi çevreci polimerlerle değiştirme yönündedir. 3B baskıda, filaman hızlı bir şekilde ısıtılır, ekstrüde edilir ve daha sonra hızla soğutulur. Plastik malzemelerin ısı iletim katsayısı düşük olduğundan, eşit olmayan şekilde ısınır ve soğur, bu nedenle basılan parça içinde dâhili gerilmeler oluşur. Mekanik özelliklerinin bilinmesi, üretim sonrası baskı yönü, tavlamanın çekme sertliği ve mukavemeti üzerindeki etkisi açısından önemlidir. Özellikle yük taşıması beklenen PLA baskılı ürünlerin çekme dayanım değerlerinin bilinmesi gerekmektedir. Örneğin biyomekanik alanında bir kalça protezinde kullanılması planlanan PLA baskılı çivinin çekme dayanımının iyileştirilmesi oldukça önemlidir. PLA malzemenin filaman halindeki çekme dayanımının %100 doluluk oranı ile basılması halinde bile baskı sonrası bir miktar zayıfladığı görülmektedir ki bu istenmeyen bir durumdur. Bu çalışmada ürünün nihai olarak kullanılmaya başlanmasından önce tavlama işlemine tabi tutulmasının katmanlı imalatın özelliklerinden kaynaklanan çekme dayanım değerindeki zayıflama problemi çözüme kavuşturulmuştur. Üretimi tamamlanmış parçalara tavlama işlemi yapılarak iç gerilimin ortadan kaldırılabilir, çekme mukavemeti ve gerinim özelliklerinin iyileştirile bilirliğini ortaya koymak amaçlanmıştır. ASTM 638 Tip IV standardına göre basılan PLA numuneleri hem tavlama yapılmadan hem de tavlamadan sonra çekme testlerine tabi tutulmuştur. Elde edilen sonuçlara göre, mekanik özelliklerin baskı yönüne ve numunenin üretim sonrası tavlanmasına güçlü bir şekilde bağlı olduğunu göstermektedir. Tavlama işlemi, artık gerilim giderme ve katmanlar arası bağı artırma yoluyla parçanın çekme dayanımında tavlama işlemi yapılmamış numunelere oranla ortalama %51 iyileşme sağlandığı tespit edilmiştir. Bu çalışma özellikle son kullanıcılara ürettikleri PLA parçalara ısıl işlem yapılmasının olumlu etkilerini gösteren bir referans olacaktır.

Anahtar kelimeler: Eriyik Yığma Modelleme, PLA, Mekanik Özellikler, 3B Baskı, Eklemeli İmalat

THE EFFECT OF ANNEALING PROCESS APPLIED TO PLA PARTS MANUFACTURED BY FUSED DEPOSITION MODELING ON MECHANICAL PROPERTIES

ABSTRACT

Fused deposition modelling (FDM) is a rapidly growing 3D printing technology method. Most printing materials in FDM equipment are limited to Acrylonitrile Butadiene Styrene (ABS) or Polylactic Acid (PLA). The increasing trend in the world is to replace normal plastic with environmentally friendly polymers such as PLA, which is a bio-based and biodegradable polymer. In 3D printing, the filament is rapidly heated, extruded, and then rapidly cooled. Since plastic materials have a low thermal conductivity coefficient, they heat and cool unevenly, so internal stresses occur within the printed part. Knowing the mechanical properties is important in terms of the printing direction after production, the effect of annealing on the tensile hardness and strength. It is necessary to know the tensile strength values of PLA printed products, which are expected to carry loads. For example, it is very important to improve the tensile strength of the PLA printed nail, which is planned to be used in a hip prosthesis in the field of biomechanics. It is seen that the tensile strength of PLA material in filament weakens a little after printing even when it is printed with 100% fill rate, which is an undesirable situation. In this study, the problem of weakening in the tensile strength value caused by the properties of additive manufacturing due to the annealing process before the product is finally used has been resolved. It is aimed to show that internal stress can be eliminated and tensile strength and strain properties can be improved by annealing the finished parts. PLA samples printed according to ASTM 638 Type IV standard were subjected to tensile tests both before and after annealing. The results show that the mechanical properties are strongly dependent on the printing direction and the post-production annealing of the sample. It was determined that an average of 51% improvement was achieved in the tensile strength of the part, compared to the samples without annealing, by annealing, residual stress relief and increasing interlayer bonding. This study will be a reference, especially for end users, showing the positive effects of heat treatment on PLA parts they produce.

Keywords: Fused Deposition Modeling, PLA, Mechanical Properties, 3D Printing, Additive Manufacturing

GİRİŞ

Pratik 3B baskıyı tercih eden kullanıcılar, baskıların fiziksel ve mekanik özelliklerinin iyileştirilmesini beklemektedir. Bazı özel malzemelerin fiziksel ve mekanik özellikleri yüksektir ancak bunlar genellikle hem pahalıdır hem de 3B yazıcıda basılması zordur. Yaygın kullanılan filamanlar için özellikle PLA ve ABS ile baskıda kendi sınırlılıkları olan yazdırma ayarlarını değiştirerek belirli bir aşamaya kadar baskı özelliklerini iyileştirme yoluna gidilmektedir. Bunların yanında 3B baskıların tavlama işlemi yapılması da mekanik özellikleri iyileştirmenin başka bir yoludur. Tavlama, belirli bir nesnenin sertliğini, gerilme mukavemetini ve ısı direncini geliştirmek için sıcaklığı artırma işlemidir. Metal veya enjekte plastik parçalar oluştururken iyi bilinen bir prosedür olmasının yanında 3B baskılarda ise ısıl işlem daha az bilinmektedir ve literatürde az sayıda çalışmaya rastlanmaktadır [1-8].

Yaygın olarak kullanılan 3B baskı malzemelerinin çoğu polimerlerdir, yani uzun ve tekrarlayan moleküler zincirlerdir. Polimerlerin amorf ve yarı kristal olmak üzere iki tür moleküler yapısı vardır. Kesin bir ayrım çizgisi olmamakla birlikte moleküllerin çeşitli düzenleme seviyeleri olabilir. Kristal yapılar genellikle daha sert ve daha katıdır, diğer taraftan amorf polimerler daha

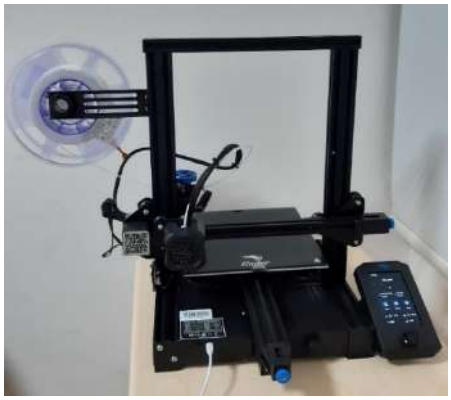
elastik ve esnektir. Bir eriyik yığma ile üretim yapan yazıcı sisteminde nozul içindeki plastik polimer ısıtıldığında yapısının şekilsiz olması muhtemeldir. Plastik daha sonra hızla oda sıcaklığına kadar soğutulur, bu nedenle yapısı aynı kalır. 3B baskılı bir parça çoğunlukla amorf olduğundan, ısıl direnci, sıkılığı ve gerilme mukavemeti, organize moleküler zincirlere sahip kristal malzemelerden daha düşüktür. Baskıların niteliklerini iyileştirmek için moleküler zincirlerini yeniden düzenleyerek onları daha düzenli, yani kristalin polimerlere daha benzer hale getirilmesi gerekir. Daha yüksek bir düzenleme seviyesine ısıtma ile veya daha kesin olarak doğru cam geçiş sıcaklığına gelinerek ulaşılabilir. Kristal malzemeler ısıtılırsa, belirli bir noktada sadece sıvılaşırlar. Ancak erime noktası ile cam geçiş sıcaklığı arasında bir fark vardır. Amorf polimerlerin kesin bir erime noktası yoktur. Hemen sıvılaşmak yerine yavaş yavaş yumuşarlar. Tamamen katı hal ile sıvı hal arasındaki bu aralığa cam geçiş sıcaklığı denir. Amorf polimerlerin yarı kristal yapıya dönüştürülmesi polimerlerin içinde kristallerin oluşumu ancak sıcaklık cam geçişine ulaştığında meydana gelebilir, bununla birlikte aynı zamanda erime noktasının altında kalır. Amorf polimerler için erime noktaları, cam geçişin sona erdiği zamandır. Bu noktada moleküler yapı parçalanır ve moleküller serbestçe hareket etmeye başlar [9].

Plastik tavlamanın arkasındaki teknoloji yeni olmamakla birlikte plastik enjeksiyonla kalıplanmış plastik nesnelerin üretiminde zaten kullanılmaktadır. Tavlama, kalıplanmış parçalardaki iç gerilimi azaltmak ve bu parçaları daha güçlü ve bükülmeye daha az eğilimli hale getirmek için kullanılır. Bu çalışmada, PLA polimer numunesi 3B yazıcı ile basılmış ve ısıyla tavlama işleminden sonra mekanik çekme testlerine tabi tutularak mekanik özellikleri üzerindeki etkisi araştırılmıştır.

MATERTAL VE METOD

2.1. Kullanılan 3B Yazıcı

Bu çalışma kapsamında Şekil 1'de görüldüğü gibi açık kaynak kodlu Creality3D Ender 3B yazıcı kullanılmıştır. İşleme alanı 220x220x250 mm'dir. Isıtma tablası ve PLA için soğutma fanları mevcuttur. Kendi kontrol paneli sayesinde usb disk üzerinden veri yüklemesi yapılarak bilgisayardan bağımsız çalışabilmektedir.



Şekil 1. Çalışmada kullanılan Creality Ender-3 V2 3B yazıcı

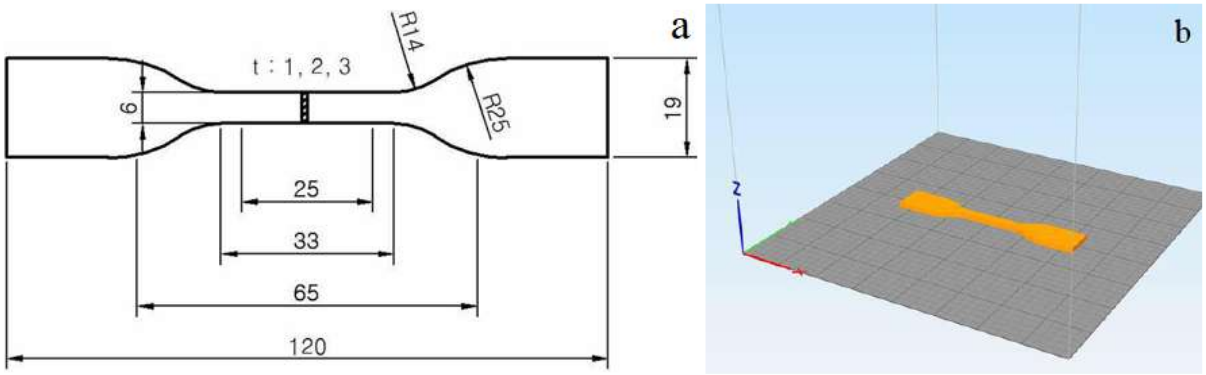
2.2. Deney Koşulları ve Malzeme

Çalışma kapsamında açık kaynak kodlu yazıcı için baskı alma şartları Tablo 1'de verilmiştir. Tüm deneyler boyunca parametreler sabit tutularak aynı baskı özelliklerine sahip olacak şekilde basılmıştır. Tüm numuneler %100 doluluk oranı ile aynı parametrelerde basılmıştır. Çekme testleri için Şekil 2.a'da görüldüğü gibi ASTM 638 Tip IV'e göre standart numune ölçülerinde Solidworks programında katı model olarak çizilerek. stl formatında kaydedilmiştir. Bu veri

dilimleme programına aktarılıp Şekil 2.b'de görüldüğü gibi G kodlarına dönüştürülerek 3B yazıcıya girdi olarak tanımlanmıştır.

Tablo 1. Baskı alma şartları

Parametre	Değer
Ekstruder sıcaklığı	210 °C
Tabla sıcaklığı	60 °C
Filaman	1.75 mm PLA +
Nozul çapı	0.4 mm
Katman yüksekliği	0.25 mm
Dolgu oranı	%100



Şekil 2. Çekme test numuneleri a) Standart ASTM 638 Tip IV numune boyutları b) .stl formatında dilimleme programı görünümü [10]

Bu araştırmada numuneleri basmak için termoplastik erime sıcaklığı 180 °C olan PLA polimer malzemeden yapılmış filament, Creality Ender-3 V2 3B yazıcı kullanıldı.

2.3. Numunelerin Baskı Sonrası Tavlanması

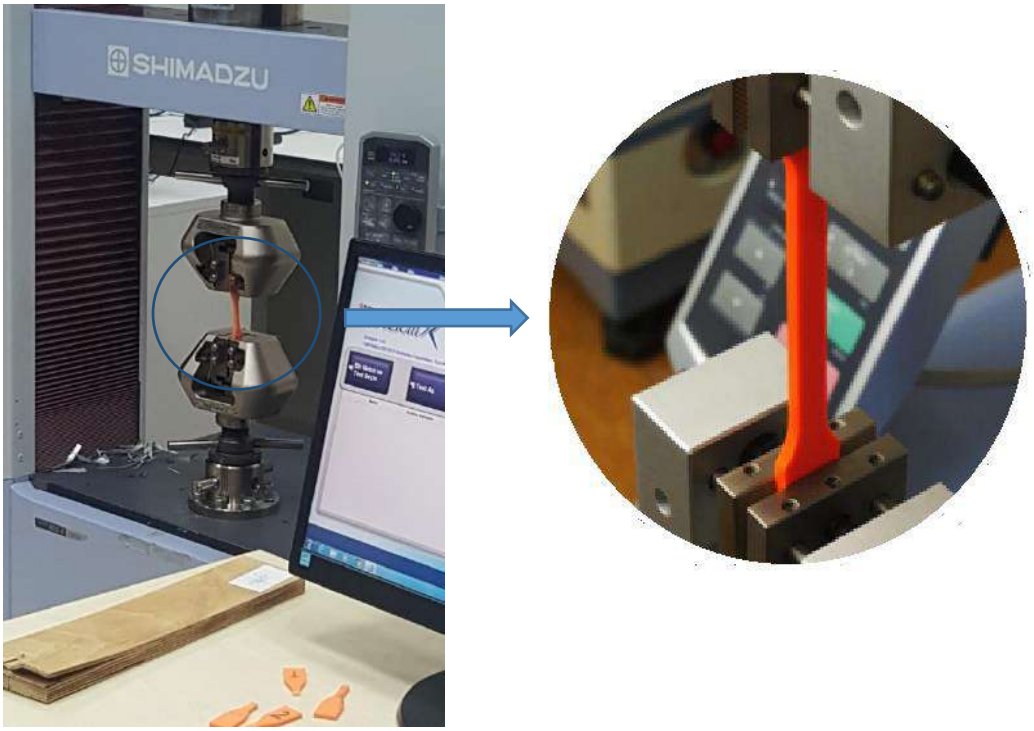
Tavlama işlemi, numunelerin bir tavlama fırınına bir tepsi içerisinde yerleştirilmesi ve ardından numunelerin Şekil 3'de gösterildiği gibi kontrollü bir oranda tavlama sıcaklığına kadar ısıtılmasından oluşmaktadır. 85 °C tavlama sıcaklığına ulaştıktan sonra parçalar bu sıcaklıkta 1 saat bekletilmelerinin ardından ortam sıcaklığına kadar soğutulmuştur. 3B baskı işlemi sırasında, işlemin doğası gereği bir sonraki katman biriktirilmeden önce her malzeme katmanının soğumasına izin verilir. Bir sonraki katmanın imalatı için bir önceki katmanın yeterince soğutulması gerekmektedir. Genellikle bu durum biriken katmanlar ve homojen olmayan malzeme özellikleri arasında anizotropiye ve kusurlu bağlanmaya yol açar. Katmanlar arasındaki bağlanmayı iyileştirerek hem daha homojen hem de daha sağlam bir malzeme oluşturmak amacıyla mekanik özelliklerde iyileşme sağlayan bir tavlama ısıl işlemi gerçekleştirilmiştir.



Şekil 3. Çekme test numunelerin 85 °C'de tavlanması

2.4. Çekme Testi

Numuneler 100 kN yük hücresi ile donatılmış Shimadzu Autograph AGS-X markalı (Şekil 4) tek eksenli çekme deney düzeneği kullanılarak test edildi. EYM kullanılarak PLA filamanından 3B olarak basılmış ASTM 638 Tip IV numuneleri üzerinde oda sıcaklığında Şekil 4'de görüldüğü gibi çekme testleri yapılmıştır. 2 mm/dak'lık sabit bir yer değiştirme hızı kullanılmıştır. 5 adet numune tavlama yapılmadan (ham halde), diğer 5 adedi ise tavlama sonrası olmak üzere toplamda 10 adet numune test edildi.



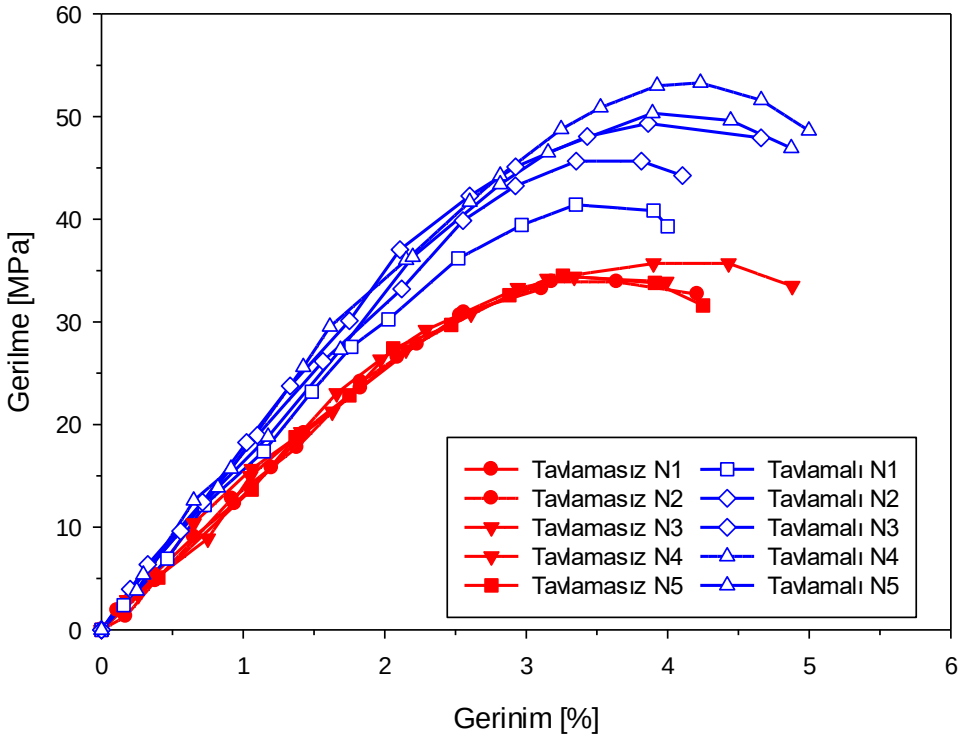
Şekil 4. Çekme testlerinin yapılması

3. SONUÇLAR VE TARTIŞMA

3.1. Çekme Testlerinin Karşılaştırılması

Tüm basılmış numuneler, nispeten yüksek elastik modülü ile tamamen kopmuş bir şekilde test edildi. Tavlanmış numunelerin tümü, nispeten daha yüksek bir elastik modül ve önemli ölçüde geliştirilmiş maksimum çekme dayanımı ile benzer şekilde davrandı. Tavlama yapılmamış numunelerden elde edilen çekme dayanımı değerleri Şekil 5'de görüldüğü gibi (kırmızı çizgiler) 34,5 ile 36,34 MPa arasındadır. Ortalama çekme dayanımı 35,42 MPa'dır. Şekil 5'den

görülebileceği gibi tavlama yapılmamış numunelerin çekme deneyinden elde edilen gerilme-gerinim eğrileri hemen hemen çakışık denilebilecek kadar birbirine yakındır. Bu durum aynı parametrelerle basılan numunelerin özdeş olduğunu göstermektedir. Tavlama yapılan numunelerin çekme dayanım değerleri ise Şekil 5'de görüldüğü gibi (mavi çizgiler) 42,5 ile 54 MPa arasında değişmektedir. 5 adet numunenin aritmetik ortalaması 52,21 MPa'dır. Tavlama yapılmamış numunelere göre çekme dayanımı değerinde ve elastisite modülünde artış görülmektedir (Şekil 5). Tavlamalı numunelerin tavlama yapılmamış numunelere göre gerilme-gerinim eğrilerinin birbirinden daha ayrık olduğu görülmektedir. Bu durum tavlama işleminin basit bir fırında, bir tepsi içerisinde yapılmış olmasından ve her bir numunenin fırın rezistanslarına olan mesafesi eşit tutulamaması nedeniyle numuneler üzerinde yerel sıcaklık farkları meydana gelmesinden kaynaklanmış olabilir. Isıl işlemin tavlama için imal edilmiş profesyonel fırınlarda ve bir tepsi yerine numunelerin asılarak herhangi bir yüzeyi metal malzemelere temas etmeden eş sıcaklığa maruz tutulması ile bu sorun giderilebilir. Sonuçta tavlanmış numuneler, basılı numunelere kıyasla nihai çekme dayanımı değerlerinde ortalama %51 artış sergilemiştir.



Şekil 5. Tavlama yapılmamış ve tavlama yapılmış numunelerin çekme deneyi sonuçları

5. SONUÇLAR

3B yazıcıda bir taraftan eriyerek oluşturulan katman, diğer taraftan hızla soğumaya maruz kalmaktadır. Bu nedenle katmanların birbiri arasındaki bağ nispeten zayıf kalmaktadır. Plastik enjeksiyon makinesinde ürünlerin yüksek basınç etkisinde basılması, boşlukların çok daha az olması ve daha homojen ısı dağılımı nedeniyle üretilen parçanın daha mukavemetli olmasını sağlar. Çentik etkileri hemen hemen yok denilecek kadar azdır. Katmanlı üretimde ise birden fazla katmandan meydana gelen ve basınç etkisi olmadan üretilmesi mukavemet açısından bir dezavantaj oluşturmaktadır. 3B yazıcıdan çıkan numuneler herhangi bir ısıl işlemden geçirilmeden bir boyutta yönlenmiş ağaç gövdesinin yapısı gibi lifli bir özelliğe sahiptir. Tavlamanın amacı; katmanlar arası bağı güçlendirerek bu lifli yapının her bir lifinin birbiri ile bağının arttırılması sağlanmıştır. Deneysel çalışmalar, tavlanmış nesnelerin çekme testi sonuçlarında ortalama %51 artış sağlayabildiğini göstermektedir. Tavlama işleminin tek dezavantajı, doğru yapılmazsa, çarpık bir nesne ile sonuçlanabilmektedir. Ancak, doğru

tavlama süreci ve parametreleri seçilirse bu önlenebilmektedir. Isıl tavlama işleminin maksimum çekme dayanımı üzerinde önemli bir etkiye sahip olduğu tespit edilmiştir. Tavlama yapılarak artık gerilim giderme ve katmanlar arası bağı artırma açısından mekanik özelliklerinde iyileştirme işlemi başarı ile gerçekleştirilmiştir.

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FABRICATION OF CARBON BLACK AND VAPOR GROWN CARBON NANOFIBER FILLED NANOCOMPOSITES AND INVESTIGATION OF THEIR SENSING PROPERTIES AS A FUNCTION OF FILLER ASPECT RATIO AND TEST SPEED

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ÖZET

Son zamanlarda esnek elektronikler üstün özelliklerinden dolayı daha fazla dikkat çekmektedir. Giyilebilir elektronikler, TVler, monitörler ve ekranlar esnek elektroniklerin bazı yaygın uygulamalarındandır. Gelen sinyali elektriksel veriye dönüştüren sensörler, elektroniklerin özelleşmiş formlarından biridir ve çalışma mekanizmasına göre kapasitif, indüktif, optik, kimyasal, piezoelektrik ve piezorezistif olarak sınıflandırılabilmektedir. Tekrar edilebilirliği ve stabilitesi daha iyi olan ve çalışma mekanizması kompleks olmayan direnç değişimi esasına bağlı olarak çalışan piezorezistif sensörler en çok kullanılan polimerik sensör türlerinden biridir. Piezodirenç germe, bükme, basma, sıcaklık değişimi, gaz veya kimyasala maruz kalma gibi deformasyon çeşitleri altında malzemenin elektriksel direncindeki değişimi ifade etmektedir. Deformasyona bağlı olarak elektriksel dirençteki değişimin ölçülmesi için malzemenin elektriksel özellik açısından yarı iletken ya da iletken olması gerekmektedir. Ayrıca, bu tip bir sistemde kullanılan malzemenin bükülebilir ve kolayca işlenebilir olması gerekmektedir. Metaller doğaları gereği elektriği iletirken, polimerler yalıtkan malzemelerdir ve elektrik iletebilmeleri için katkı malzemeleri ile karıştırılmaları gerekmektedir. Katkı malzemeleri genellikle metaller veya karbon esaslı iletken dolgulardır. Metallerin okside olma riski, yüksek yoğunluk ve ağırlık gibi dezavantajlarından dolayı karbon esaslı malzemelerin kullanımı her geçen gün artmaktadır. Bu çalışmada, nanoparçacıklar ve nanolifler elektriksel olarak yalıtkan polimer matrisin elektriksel iletkenliğini arttırmak için kullanılmıştır. Esneklik ve işlenilebilirlikleri gibi özelliklerinden dolayı stiren blok içeren termoplastik elastomerlerden biri polimerik matris olarak kullanılmıştır. Kompozitler çözeltiden dökme ve basınçla kalıplama yöntemi ile üretilmiştir. Dolguların aspek oranının ve test hızının elektromekanik özellikler üzerindeki etkisi incelenmiştir.

Anahtar Kelimeler: Piezodirenç, Polimerik Sensör, Piezorezistif Uzama Sensörü, Nanokompozit, Nanolif

ABSTRACT

Flexible electronics have been more noticeable due to their superior properties recently. Wearable electronics, TVs, monitors, and screens are some common applications of flexible electronics. Sensors that transform the input signal into the electrical response are one of the

specialized forms of electronics and they can be classified according to their working mechanisms such as capacitive, inductive, optical, chemical, piezoelectric, and piezoresistive. Piezoresistive sensors, that have good stability and repeatability, are one of the most used polymeric sensor types because of their simple working mechanism. The piezoresistance expresses the change in electrical resistance of the material under deformation such as stretching, bending, compression, temperature change, gas, or chemical exposure. In order to measure the change in electrical resistance depending on deformation, the materials must be semiconductive or conductive in terms of their electrical behavior. Besides, the material used in this type of system should be bendable and easily processable. While metals conduct electricity inherently, polymers are insulating materials and they should be mixed with some additives. These additives are generally metals and carbon based conductive fillers. Since metals have some disadvantages such as oxidation, high density, the usage of carbon based materials has increased recently. In the study, nanoparticles and nanofillers were used to increase the electrical conductivity of the electrically insulating polymer matrix. Because of their flexibility and processability, one of the thermoplastic elastomers with styrene block was used as the polymeric matrix. The composites were fabricated based on solution casting and compression molding. The effect of the aspect ratio of fillers and strain rate on electromechanical properties were investigated.

Keywords: Piezoresistivity, Polymeric Sensor, Piezoresistive Strain Sensor, Nanocomposite, Nanofiber

INTRODUCTION

Sensing performance of the polymer-based piezoresistive sensors is affected by various factors including matrix type, processing, testing conditions and filler type. As known, piezoresistance is obtained by the change in resistance under various conditions. The first step to fabricate the piezoresistive polymer based sensor is producing electrically conductive composites. It is carried out by addition of conductive fillers into the insulating matrix. Various types of fillers can be used for this aim such as particles and fibrous structures [1–5]. One of the most important properties of the fillers is the aspect ratio. Carbon black (CB) is a spherical particle with the aspect ratio around 1 and vapor grown carbon nanofibers (VGCNFs) are cylindrical, fibrous nanostructures with aspect ratio more than 100. Since percolation behavior is affected by aspect ratio of the filler, electromechanical properties can also change.

In this study, nanocomposites were prepared by using thermoplastic elastomeric matrix, CB and VGCNFs. The electrical and electromechanical properties were investigated based on filler aspect ratio.

MATERIALS and METHODS

For the preparation of nanocomposites CB, VGCNF, Poly[styrene-b-(ethylene-co-butylene)-b-styrene] (SEBS) (S/EB: 19/81) were used. Toluene was used as the solvent. Fillers and polymer solution were mixed, casted into the petri dish, dried and hot-pressed [6].

Electromechanical character was determined by a mechanical testing system (Devotrans DVT), a current source, and a nanovoltmeter. Four Cu leads were attahed on the nanocomposite film surface and film was mounted between the grips of the load frame. After the connection of sample to the current source and the voltmeter, mechanical cycling test was carried out under 5 and 50 mm/min test speed under 10% strain deformation. Resistance change was monitored as a function of deformation.

RESULTS

Piezoresistance was evaluated in terms of cyclic stability and cycle behavior. Fig.1 and 2 were given for the cyclic behavior of CB/SEBS and VGCNF/SEBS nanocomposites for 50 cycles under 5 and 50 mm/min. As can be seen from the graphs both fillers showed good cyclic stability. In both cases slower test speed led to better cyclic stability. That was probably caused by relaxation time. Under slower test speed, samples had more time to relax. However the sensitivity was higher for the higher test speed. When the samples were evaluated in terms of data quailty, CB filled samples showed more predictable reponse with less noise compared to VGCNF filled samples. On the other hand, VGCNF filled samples showed higher sensitivity that was probably caused by higher aspect ratio of VGCNFs.

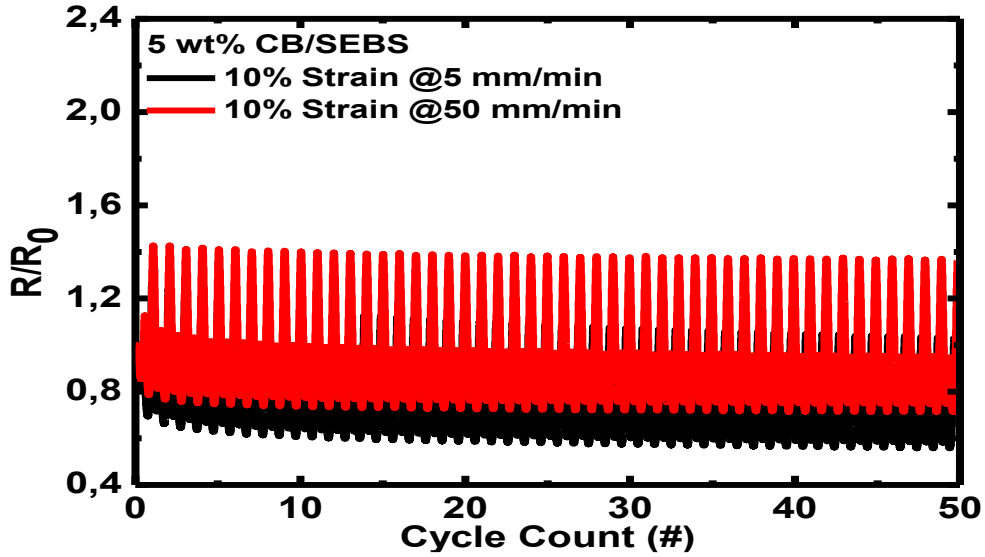

Figure 1. R/R0 values of 5 wt% CB/SEBS for 50 cycles under 10% strain at 5 and 50 mm/min

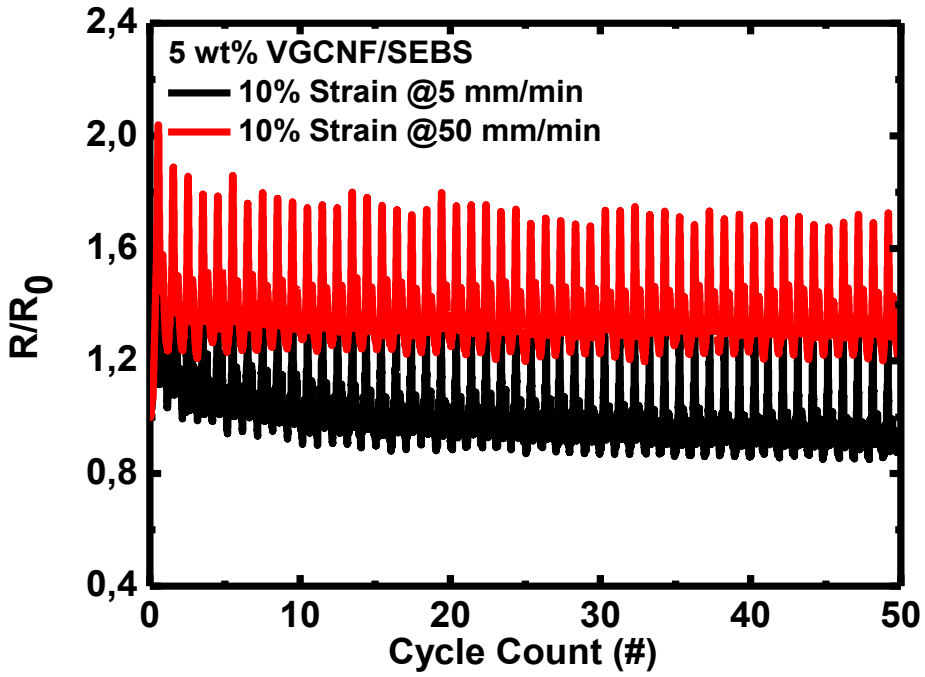

Figure 2. R/R0 values of 5 wt% VGCNF/SEBS for 50 cycles under 10% strain at 5 and 50 mm/min

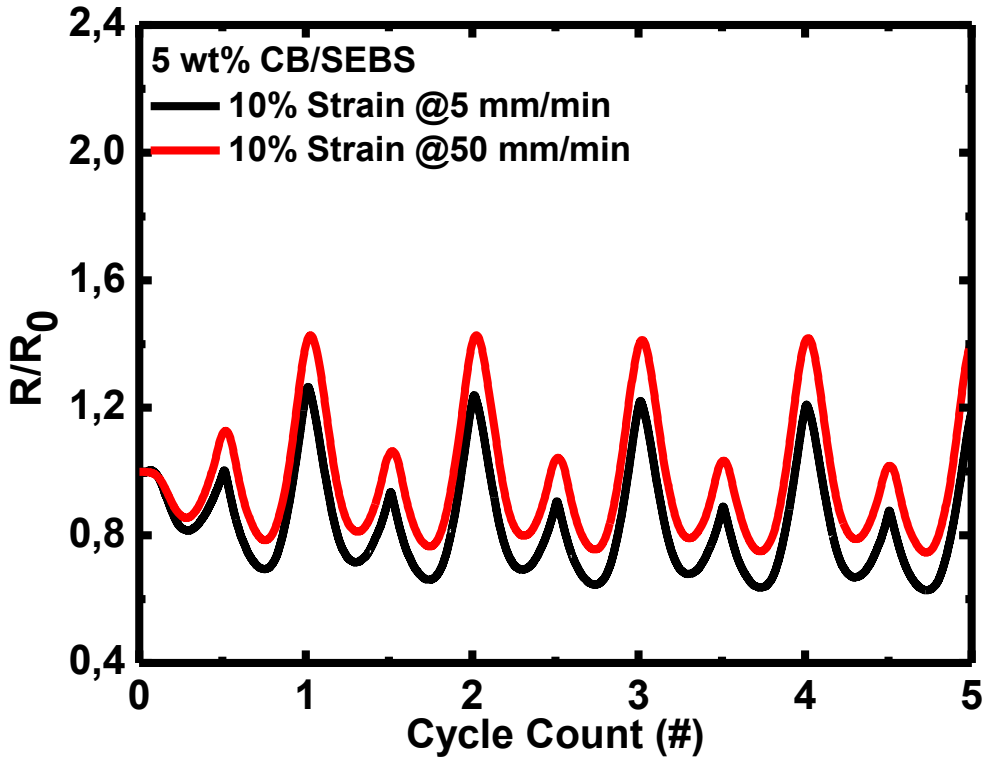

Figure 3. R/R0 values of 5 wt% CB/SEBS for 5 cycles under 10% strain at 5 and 50 mm/min

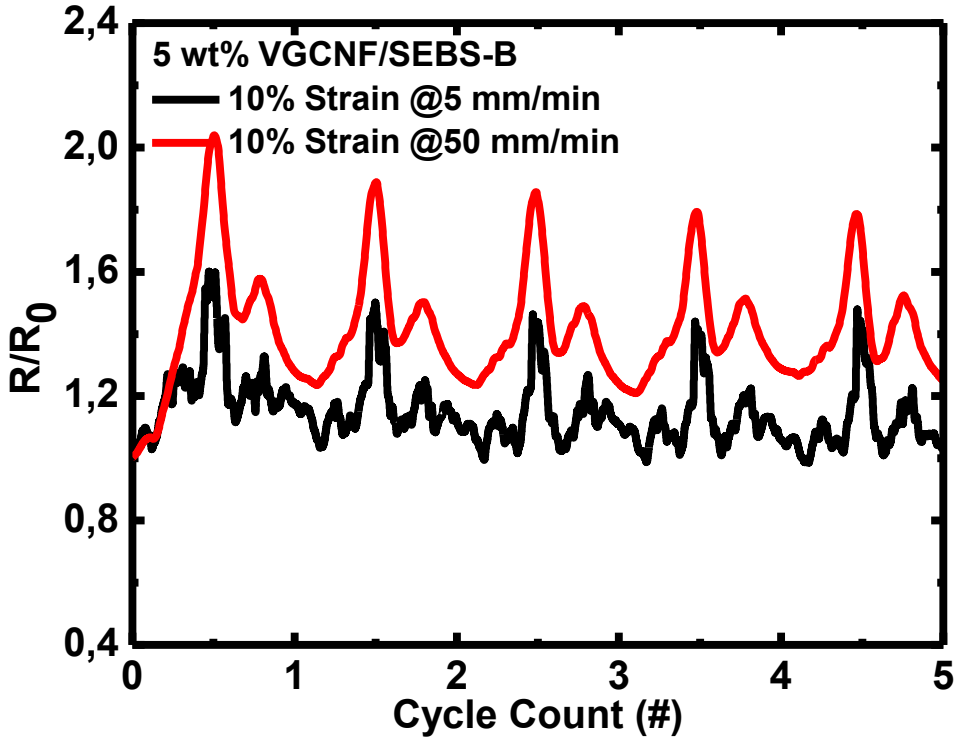

Figure 4. R/R0 values of 5 wt% VGCNF/SEBS for 5 cycles under 10% strain at 5 and 50 mm/min

CONCLUSIONS

In this study, CB and VGCNFs were used as the conductive fillers for the fabrication of flexible polymer sensors. Strain ratio was kept constant. Effects of test speed and filler type on sensing behavior were investigated. Both nanocomposites were found to show piezoresistive response and test speed was found significant in terms of sensitivity and quality of the data.

ACKNOWLEDGEMENT

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INVESTIGATION OF SYNERGISTIC EFFECTS OF HYBRID FILLERS ON SENSING PROPERTIES OF FLEXIBLE NANOCOMPOSITE STRAIN SENSORS

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ÖZET

Nanokompozitler bileşenlerinden en az birisi nano boyutta olan malzemelerdir. Polimer esaslı kompozitlerde nano bileşen genellikle dolgu malzemeleridir. Nanodolgular, nano parçacık, nano tüp, nano kablo, nano lif, nano iğne gibi farklı formlarda olabilmektedir. Nano dolguların yüzey alanı mikro boyuttaki dolgulara kıyasla daha fazla olduğu için, hedeflenen malzeme özellikleri daha düşük konsantrasyonlarda elde edilebilmektedir. Dolgu türüne ve dolgunun özelliklerine bağlı olarak nanokompozitler ambalaj, otomotiv, tekstil ve elektronikler gibi farklı uygulamalarda kullanılabilmektedir. Son yıllarda mobil uygulamaların yaygınlaşması ile taşınabilir ve giyilebilir elektroniklere olan ihtiyaç da artmaktadır. Polimer esaslı piezorezistif uzama sensörleri, dirençteki değişimi deformasyonun fonksiyonu olarak görüntülemek için kullanılmaktadır. Yüksek performanslı uzama sensörlerinin üretilmesi için, yüksek rezilyans ve uzayabilirliğe/esnekliğe sahip malzemeler gereklidir. Stiren etilen bütilen stiren (SEBS) blok kopolimeri termoplastik ve elastomerik özelliklere sahip en çok bilinen termoplastik elastomerlerden (TPE) birisidir. TPE'lerin elektromekanik özellikleri moleküler yapıya, moleküler ağırlığa ve morfolojik özelliklerine bağlı olarak ayarlanabilmektedir. Bununla beraber piezorezistif uzama sensörleri için elektriksel iletkenlik de gereklidir. Elektriksel iletkenliğin sağlanabilmesi için, polimer matrisin içine iletken dolgu malzemeleri ilave edilmektedir. Bu çalışmada elektriksel iletkenlik hibrit dolgular kullanılarak elde edilmiştir. Nanoparçacıkların ve nanoliflerin karışımları iki farklı termoplastik elastomer matrise eklenmiş ve homojen bir karışım elde etmek için, yüksek kayma hızına sahip karıştırıcı kullanılmıştır. Polimer matris türünün ve dolgu konsantrasyonunun algılama özelliklerine olan etkisi incelenmiştir.

Anahtar kelimeler: Piezodirenç, Esnek Elektronikler, Hibrit Sensör, Termoplastik Elastomer, Nanokompozit.

ABSTRACT

Nanocomposites are materials that consist of at least one nanosized material. Generally fillers are the nano components of the polymeric composites. The nanofiller can be in various forms such as nano particle, nano tube, nano wire, nano fiber, nano whisker and so on. Because nanofillers have relatively high surface area compared to micro-sized fillers, desired properties can be obtained at relatively lower filler concentrations. Depending on the filler type and filler properties, nanocomposites can be used for various applications including packaging, automotive, textiles, electronics and so on. In recent years with the increasing popularity in the mobile applications, the requirement to portable and wearable electronics has also increased. Polymer-based piezoresistive strain sensors are materials used for monitoring the resistance

change as a function of deformation. In order to fabricate high-performance strain sensors, materials with high resilience and stretchability are required. Poly[styrene-b-(ethylene-co-butylene)-b-styrene] (SEBS) block copolymer is one of the well-known thermoplastic elastomers (TPE), which has thermoplastic and elastomeric properties. The electromechanical properties can be tuned depending on the molecular structure, molecular weight, and morphology of TPE. On the other hand, electrical conductivity is also necessary for piezoresistive strain sensors. In order to provide electrical conductivity, electrically conductive filler materials can be added into the polymer matrix. In this study, the electrical conductivity was provided by using hybrid fillers. The mixture of nanoparticles and nanofibers were added to two different thermoplastic elastomer matrixes and in order to obtain homogenous dispersion, high shear mixer was used. The effect of polymer matrix type and filler concentration on sensing properties were investigated.

Keywords: Piezoresistance, Flexible Electronics, Hybrid Sensor, Thermoplastic Elastomer, Nanocomposite

INTRODUCTION

Electrical conductivity in polymer composites can be obtained by various ways. Generally single fillers are used to form conductive network [1–3]. However recently, various nanofiller are mixed to obtain hybrid composites [4,5]. Hybrid composites have various advantages in terms of percolation concentration, cost and processing conditions. In the case of addition of fibrous nano filler into the nanoparticles, percolation concentration was reported to decrease [6]. Lower percolation concentration has many advantages for piezoresistive sensors such as lower viscosity, lower cost and higher resillience. In this study, hybrid fillers were used for the fabrication of conductive flexible electronics. In order to investigate the type of the polymer, two different polymers were used. The effect of polymer matrix type and filler concentration on sensing properties were investigated.

MATERIALS and METHODS

The scope of the study was to design and fabricate hybrid polymer nanocomposites and polymer-based flexible strain sensors. For this aim SEBS-A (S/EB: 13/87) and SEBS-B (S/EB: 19/81) were used with CB and VGCNF mixture. Fillers and polymer solutions were mixed with toluene, casted into the petri dish, dried and films were prepared by compression molding [6].

Hybrid composites were located between the grips of the mechanical testing system and connected to to the current source and the voltmeter. Mechanical cycling test was carried out under 5 mm/min test speed up to 5% strain deformation. During cycling resistance changed and that was recorded.

RESULTS

Piezoresistance test of the samples was performed for 50 cycles (Fig. 1, 2). As can be seen from the results both polymers showed piezoresistive sensing behavior. SEBS-B hybrid composite showed better cyclic stability and higher sensitivity compared to SEBS-A hybrid composite. In order to understand the mechanism, 5 cycles of the test were given in Fig. 3 and 4. As obvious from the outcomes, SEBS-B based composite showed cleaner and more stable response. That was probably caused by the polymer morphology and higher styrene ratio led to more stable cycling behavior.

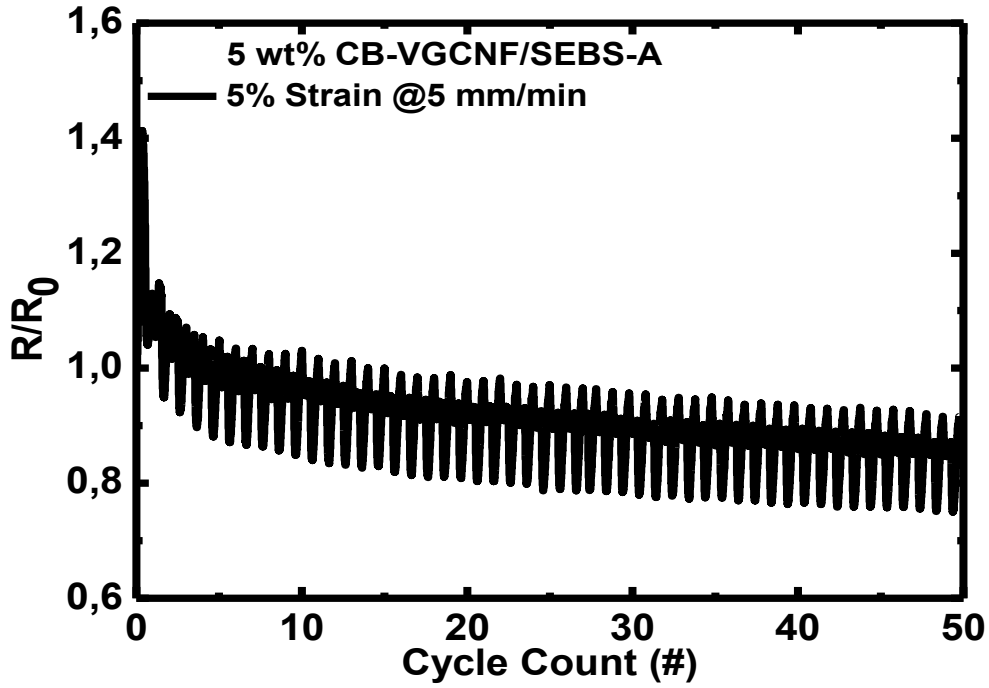

Figure 1. R/R_0 values of 5 wt% CB-VGCNF/SEBS-A for 50 cycles under 5% strain at 5 mm/min

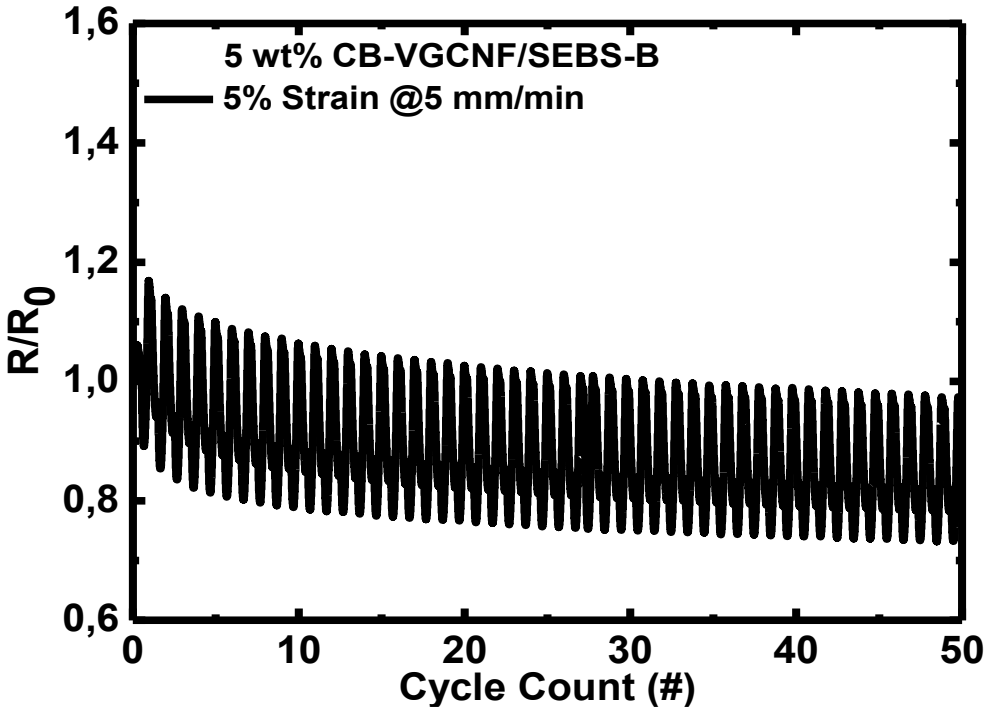

Figure 2. R/R_0 values of 5 wt% CB-VGCNF/SEBS-B for 50 cycles under 5% strain at 5 mm/min

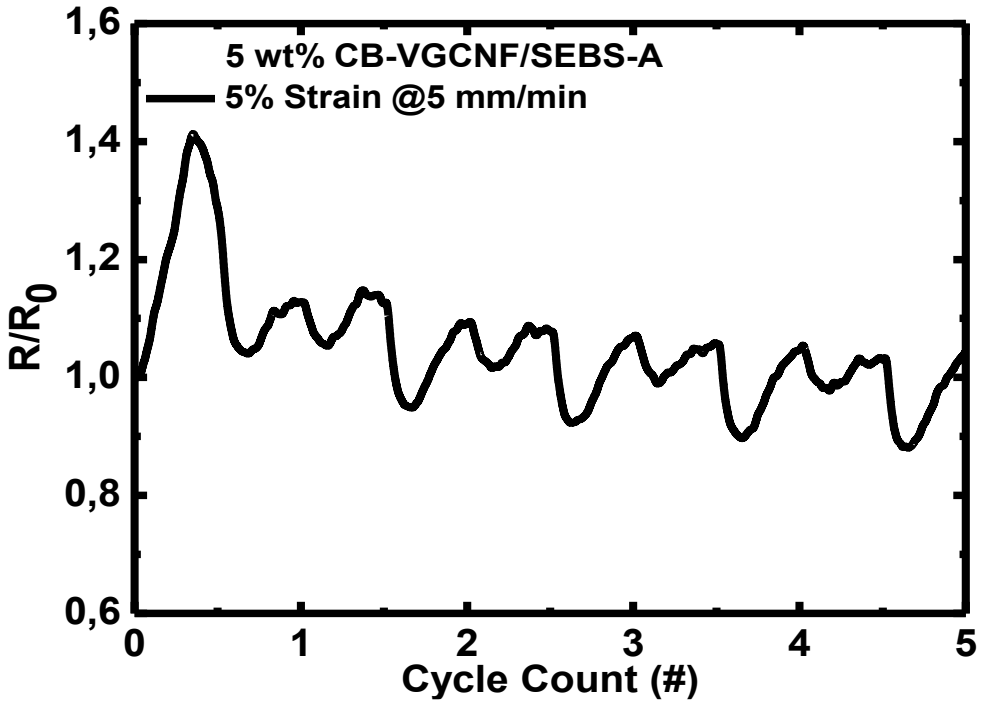

Figure 3. R/R_0 values of 5 wt% CB-VGCNF/SEBS-A for 5 cycles under 5% strain at 5 mm/min

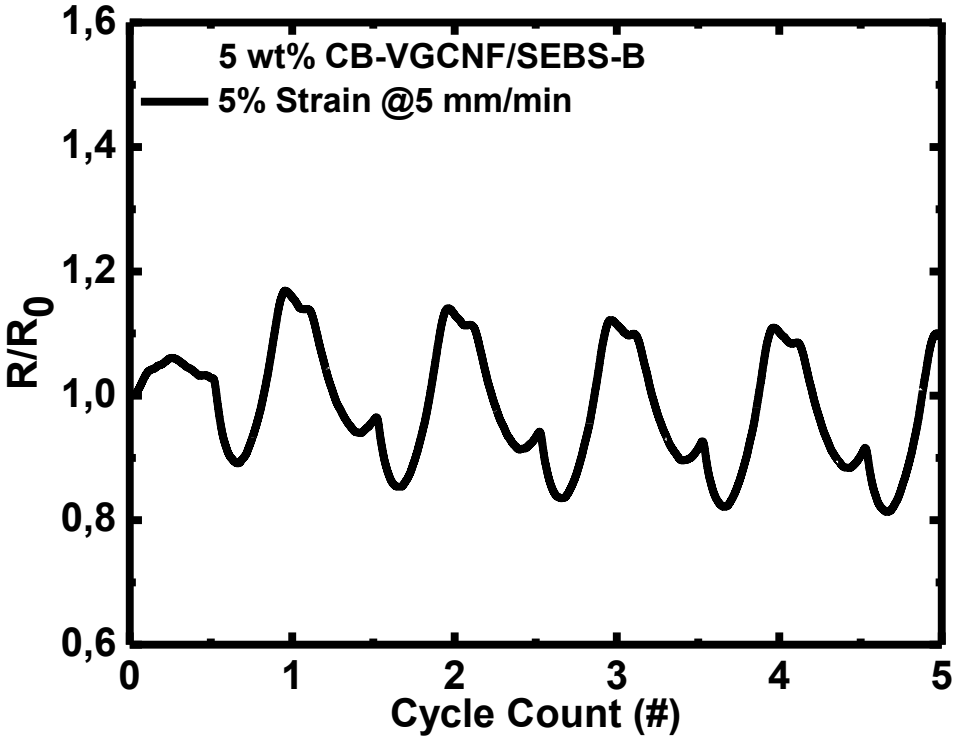

Figure 4. R/R_0 values of 5 wt% CB-VGCNF/SEBS-B for 5 cycles under 5% strain at 5 mm/min

CONCLUSIONS

In this study, hybrid flexible nanocomposites were prepared and strain sensing performance of these composites was investigated. Two different SEBS matrixes were used to understand the effect of polymer type on sensing behavior. In the testing process, deformation ratio and test speed were constant. Both nanocomposites were found to show piezoresistive response and sensing behavior was affected by polymer type.

ACKNOWLEDGEMENT

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EFFECT OF VEHICLE BRAKE PRESSURE ON WEAR RATE

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ABSTRACT

Brake system is used to slow down or stop the vehicles. The brake system consists of caliper, brake lining and hydraulic fluid elements. Depending on the wear rate of the lining used in the brake system, it is changed after a certain kilometer. The wear of the lining changes depending on the use of the brake system during the movement of the vehicle. The pressure and continuity of the force applied to the brake pedal on the brake lining are effective in the wear of the brake lining. Brake linings should comply with the test conditions specified in the standards such as friction coefficient and wear rate. In TSE 555 and TSE 9076 lining standards, the wear rate of the lining must be between certain values depending on the brake pressure. Another factor affecting the wear rate of the lining is the materials used in the lining content. As a result of using the brake system to slow down the vehicle during the use of the vehicle, the wear rate of the lining that rubs against the disc surface is desired to be low. In order to increase the wear resistance of the lining, materials that will increase the wear resistance and stabilize the friction coefficient are used in the lining content. Another factor affecting brake lining wear is the environment. In order to determine the effect of the lining against environmental conditions, pure water, salt water, brake fluid and hydraulic fluid tests are applied and compared with the standards. In this study, the effect of the pressure ratio applied by the brake lining to the disc surface during the deceleration or stopping of the vehicle on the amount of wear of the brake lining was investigated. Three different pressures were applied to the lining at 0.4 MPa, 0.7 MPa and 1 MPa pressures and the wear rates were determined. Obtained results were compared with standard values.

Keywords: Vehicle, Brake System, Brake Lining, Wear

1. INTRODUCTION

New technologies are used in today's vehicles to ensure human safety. These technologies are constantly being renewed. The aim here is to protect the health of the living in the vehicle in any adverse situation. The most important of the vital parts in vehicles is the braking system. This system is a safety system that allows vehicles to slow down or stop safely. The principle of operation in the brake system; It is the conversion of the kinetic energy of the vehicle in motion into the heat energy released as a result of the friction of the pads against the disc. The most important criteria for the performance of the system to be high efficiency; It is to provide minimum wear and high and stable friction coefficient on the disc-pad interface [1, 2].

One of the most important elements in the brake system is the brake linings. It is the last part in the braking system of vehicles. It makes the vehicles stop with the pressure it puts on the discs. The main features expected from brake linings are; high temperature resistance, high thermal conductivity, stable friction performance, high wear resistance. Pads are generally considered as composite materials in the studies in the literature [2, 3]. The new material formed

by the combination of at least two different materials in macro dimensions is called composite material. Different powders, which can vary between 10 and 20, are generally used in linings [3, 4]. According to the tasks they have, the powders that make up the component; structural, binders, friction modifiers, fillers and lubricants [5, 6]. One of the factors affecting the performance of brake linings is; to ensure homogeneous mixing of these powders. The pressing pressure of the homogeneously distributed material is also an important factor for friction performance as it also affects the density [6-8].

Tribological properties of brake friction mechanisms; It can vary depending on environmental conditions, applied load and pressure, and the properties of the materials in its microstructure. However, when we look at the friction mechanisms in general, the common aim is a regular and sufficient friction coefficient, a low wear rate, low vibration and low noise characteristics, considering the user, despite various environmental and operating conditions. The materials that make up the brake friction mechanisms can be grouped under the headings of reinforcement materials, abrasives, solid lubricants, friction modifiers, fillers and adhesives [8].

In this study, the effect of the pressure ratio applied by the pad to the disc surface during the deceleration or stopping of the vehicle on the amount of wear of the pad was investigated. Three different pressures were applied to the lining at 0.4 MPa, 0.7 MPa and 1 MPa pressures and the wear rates were determined. Obtained results were compared with standard values.

2. MATERIALS AND METHOD

Asbestos-free materials are used in the production of sample linings. The literature was used to determine these materials. Each material that makes up the lining has a purpose of use. Phenolic resin as binding material, steel wool as reinforcement material, cashew, brass shavings and copper shavings as friction modifier, alumina as an abrasive, graphite as solid lubricant and barite as filling material are used in the lining content.

The preparation of the mixtures of the samples was carried out in the laboratory environment and the mass ratio was taken as the basis. The mass % mixing ratio of three samples with the same content is shown in Table 1. Before the production phase of the samples, the determined mass ratios were measured with a precision balance and made ready for the mixture. These rates are indicated in Table 1. In order to ensure that the resulting mixtures are homogeneous, they were mixed in a powder mixing device at 90 rpm for 10 minutes. The homogeneous mixture obtained was completed by compression for 2 minutes at 100 bar pressure in the cold pressing process. In order to increase the chemical bonding of the preformed samples, the hot pressing process was started. This process was carried out at 150°C under 130 bar pressure for 10 minutes.

Table 1. Mixing ratios of samples (% by mass)

Sample Code	**Ingredient**							
W	Phenolic resin	Steel wool	Copper particles	Alumina	Graphite	Brass particles	Cashew dust	Barite
	20	10	5	10	5	10	10	30

Friction test device was used to determine the friction coefficient-time characteristics of the produced samples. The device is fully computer-controlled and includes data acquisition software. With the friction test device, the friction coefficient-time, friction coefficient-temperature and temperature-time graphs of the samples can be created in the desired criteria.

In the experimental setup, a load cell was used to measure the friction force between the lining and the brake disc during rotation. In the experimental setup, the rotational force was measured

electronically. This measurement was carried out by taking into account the frictional force caused by the pressure applied to the brake lining during the rotation of the disc, taking into account the desire of the pad to rotate together with the disc. The inverter in the test setup is for the brake disc to be used at desired speeds and revolutions. The electric motor used to rotate the disc has a power of 7.5 kW. The transmission of the movement obtained from the engine is provided by using the transmission shaft. Two UCP 209 bearings are placed on the shaft to prevent oscillation. The circular motion transferred from the electric motor is provided by the inverter to rotate the disc in the range of 100-1400 rpm over the shaft. Thanks to the hydraulic system in the device, the desired pressure can be applied to the brake disc (Figure 1).

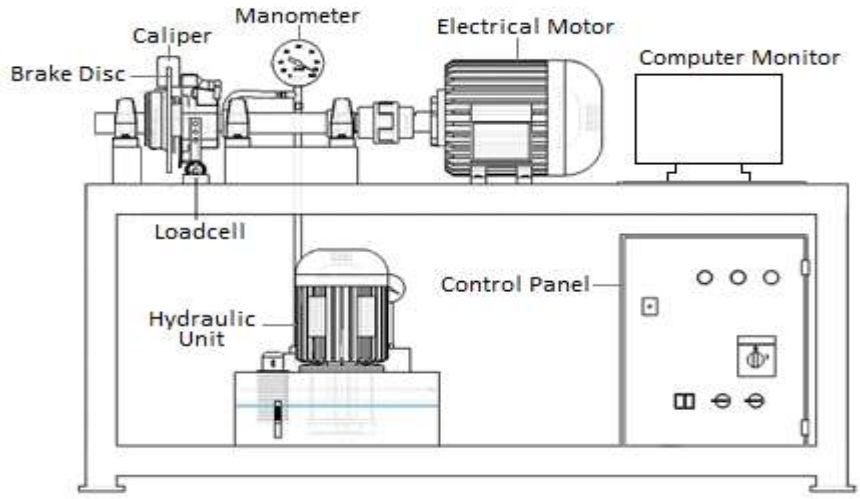

Figure 1. Brake lining test device

The infrared thermometer placed in the experimental setup ensures that the experiments can be carried out in accordance with the standards. This thermometer is capable of receiving data every second to determine the disc surface temperature and can operate in the range of -50 to 1000°C. The brake disc in the experimental setup was made of gray cast iron with a hardness of 116 HB (41.86 HRA) and a diameter of 280 mm.

The apparatus was prepared in such a way that the contact of the samples to the disc surface was at least 95%. The friction coefficient for each sample was recorded at 1 second intervals at a speed of 6 m/s. In the wear tests, the lining samples were calculated by making 3600 meters of road under pressure of 0.4 MPa, 0.7 MPa and 1 MPa. Testing of each sample was completed in 10 minutes. The obtained values were converted into friction coefficient-time-temperature graphs. At the end of each experiment, the sample pad was weighed on a precision balance and the mass loss was calculated. The mass loss found was calculated with the formula based on the mass loss given in TSE 9076 and the specific wear values were determined [9].

In the hardness measurement process, a steel ball tip was used as the penetrating tip. The hardness measurement was made on the wearing surfaces of the samples. Measurements were made by taking values from the middle and near the edge of the surface. Density measurement of each sample was determined by Archimedes principle in distilled water.

3. RESULTS AND DISCUSSION

In this study, three samples with the same content were produced to determine the effect of vehicle brake pressure on the wear rate. Produced samples were tested at pressures of 0.4 MPa, 0.7 MPa and 1 MPa. The sample to be tested at 0.4 MPa pressure is coded as W4, the sample to be tested at 0.7 MPa pressure is W7 and the sample to be tested at 1 MPa pressure is W10.

According to the studies in the literature, one of the most important features expected from brake linings is that the change in the friction coefficient is at a minimum level due to the increase in the interface temperature due to friction during braking [10]. Another feature expected from the pads is that the friction stability (%) should be as high as possible and close to 100, and the fluctuations of the obtained curve should be minimal [11].

Figure 2 shows the friction coefficient-specific wear change depending on the brake pressure, and figure 3 shows the temperature-specific wear change depending on the brake pressure. As the brake pressure increased, the friction coefficient increased. The disc surface temperature has increased due to the increase in brake pressure. This situation caused brake weakening in the friction coefficient.

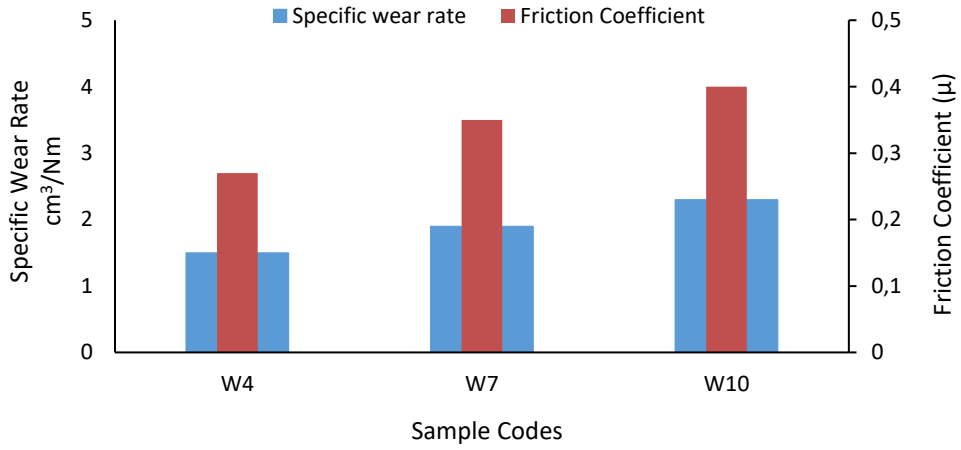

Figure 2. Specific wear rate-friction coefficient change of brake lining samples

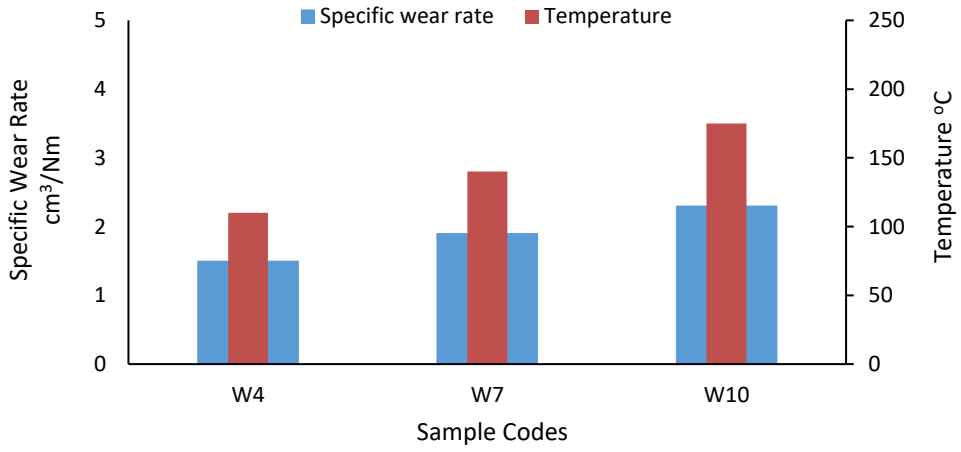

Figure 3. Specific wear rate-temperature change of brake lining samples

When the figures are examined, it is seen that the friction coefficient is at lower values at the beginning of the experiment. The reason for this lowness is that the applied pressure gradually affects the pad. Considering that the high pressure applied to the pad suddenly would cause damage on the pad, the pressure was applied gradually during the experiments. It can be seen that the friction coefficient gains stability by passing the acclimatization period of the pad and disc together with the increasing pressure.

The fluctuations in the friction coefficient curves are due to the constant change of temperature towards the inside of the contact areas on the disc surface during contact. This effect leads to continuous decreases and increases in the friction coefficient [12].

The priority feature expected in automotive brake linings is that the friction coefficient remains at the lowest level and remains stable even at high temperatures caused by friction during braking [13].

Table 2 contains the experimental data of the pad samples. Hardness, density, average friction coefficient, specific wear and surface roughness values are shown in the table. The increase in brake pressure increased the surface roughness.

Table 2. Experimental data of brake lining samples

Sample	Hardness (HRL)	Density (g/cm^3)	Average friction coefficient (μort)	Specific wear rate (cm^3/Nm)	Surface roughness
W4			0,27	$1,5x10^{-6}$	0,79
W7	92	1,94	0,35	$1,9x10^{-6}$	0,83
W10			0,40	$2,3x10^{-6}$	0,94

According to TSE 555 standard, brake lining friction coefficients; It is classified as 0.25-0.34 (E), 0.32-0.44 (F), 0.44-0.54 (G), 0.55 and above (H). According to the average friction coefficient results given in Table 2, it was seen that the samples conformed to the standard [14].

4. CONCLUSION

In this study, the effect of the pressure ratio applied by the pad to the disc surface during the deceleration or stopping of the vehicle on the amount of pad wear was investigated. Three different pressures at 0.4 MPa, 0.7 MPa and 1 MPa pressures were applied on the lining and wear rates were determined. The results are explained below,

- The increase in brake pressure increased the disc surface temperature.
- Disc surface temperature was lower at 0.4 MPa brake pressure.
- The highest friction coefficient was obtained at 1 MPa brake pressure.
- 0.7 MPa brake pressure has exhibited a more stable friction coefficient.
- Pad surface roughness increased due to the increase in brake pressure.
- As the brake pressure increased, the amount of wear of the lining increased.

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THE ROLE OF BRAKE PAD PRESSURE IN THE FRICTION COEFFICIENT

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ABSTRACT

Vehicle brake pads are produced by mixing more than one powder material with different properties such as friction adjuster, abrasive, binder and filling material by cold and hot pressing method. The materials used in the lining mixture structurally show different properties in vehicle driving conditions. The lining used in the vehicle brake system performs the task of slowing down or stopping the vehicle by rubbing against the rotating disc surface during braking. The lining is under the influence of the brake pressure applied to the disc surface during friction. The applied pressure changes depending on the vehicle speed. In the standards, the friction coefficient ratios of the lining are made according to certain classifications. In the literature, there are different studies on vehicle brake pads. Studies on different materials used in linings and their ratios have increased in recent years. The lining used in the vehicle brake system exhibits different properties under different operating conditions. The most important feature of the brake pad is that it stops or slows the vehicle as soon as possible under different operating conditions. In this study, three different pressures of 500 kPa, 800 kPa and 1100 kPa were applied to the brake pad to create different working conditions. The effect of applied pressure changes on the friction coefficient, which is the most important effect for slowing down or stopping the vehicle, has been determined. The results obtained were compared with the friction coefficient ratios specified in TSE 555 and TSE 9076 standards. The friction coefficient and temperature changes were investigated depending on the pressure change of the lining. The effect of disc surface temperature on brake pad performance was determined.

Keywords: Brake pad, Friction, Tribology, Composite Materials

1. INTRODUCTION

The brake pad, which is an element of the automotive brake system, converts kinetic energy into heat energy during friction [1]. Function of brakes; absorbing the energy of motion, converting it to heat and spreading this heat to the atmosphere. Continuous or prolonged exposure of brake pads to extreme temperatures will cause damage to the pads [2]. Many properties such as regular friction coefficient, low wear rate, low noise, vibration-free and thermal deformation resistance are required from the brake pad. It should also provide comfort and safe driving under harsh environmental and driving conditions [3].

Especially with the developing technology, while the speed, size and weight of the vehicles have increased, on the contrary, the dimensions of the brake systems used in these vehicles have decreased. Therefore, the amount of energy per unit area has increased and the operating temperatures have exceeded the limits of the components in the pad material used, and the surface area required for the transfer of the generated heat has decreased [4].

Pads should be able to repeat their performance in a wide range of speeds, pressures and temperatures under all conditions and regardless of reuse. It should be resistant to oxidation, cracking and thermal fatigue resistance due to the temperature increase during friction. It should

have sufficient strength against the applied pressure and shear stress during use, it should be easy to manufacture and suitable for continuous production of the same quality, and the heat transmission should be low [5-8]. In order to provide all these features, most patented pad formulations have been developed using materials with different properties [5, 9].

When determining friction materials, it is desirable to exhibit high friction coefficient and good wear resistance. However, it is expected to maintain a constant friction coefficient value at high temperatures.

In general, studies on lining materials have focused on providing the desired properties by changing the composition. In addition, it has been seen by the studies that the material properties of the brake pads vary greatly depending on the production parameters and grain sizes. Even if the lining compositions are the same, the linings produced with different production parameters may exhibit different properties. Therefore, in the design of a lining material, the composition should be examined and investigated as a whole together with the production.

In this study, three different pressures of 500 kPa, 800 kPa and 1100 kPa were applied to the lining to create different operating conditions. The effect of applied pressure changes on the friction coefficient, which is the most important effect for slowing down or stopping the vehicle, has been determined. The results obtained were compared with the friction coefficient ratios specified in TSE 555 and TSE 9076 standards [10, 11]. The friction coefficient and temperature changes were investigated depending on the pressure change of the lining. The effect of disc surface temperature on pad performance was determined.

2. MATERIALS AND METHOD

The samples produced are linings with phenolic binders, and they are included in the lining group produced by pressing according to the production method. In the production of these pads, asbestos-free reinforcing materials and other specified components have been selected to prevent thermal degradation at high temperatures and to strengthen the mechanical and tribological properties of the pad. Mass ratio is taken as basis for ease of calculation in determining material ratios during production. In order to ensure the homogeneity of the mixtures prepared at the rates determined in Table 1, they were mixed in the mixer at 90 rpm for 10 minutes. Compression (preforming) was done in a 25.4 mm diameter mold at 100 kPa pressure. Then, the mixture was baked at 180°C in a mold at 150 kPa pressure, ventilated at 180 s intervals, for 10 minutes. It is described in detail in the authors' work [12].

Table 1. Mixing ratios of samples (% by mass)

Ingredient	**C**
Phenolic resin	20
Steel wool	15
Copper particles	5
Alumina	10
Graphite	5
Brass particles	5
Cashew dust	10
Barite	30

The materials and percentages used in the production of linings were mixed in the compositions given in Table 1. The prepared samples were subjected to friction, abrasion, hardness and density tests at different braking pressures.

In the determination of the friction coefficient-temperature-time characteristics of the samples, the experimental set that can transfer the friction coefficient, brake force, hydraulic system pressure, lining surface temperature values given in Figure 1 to the computer environment during the experiment was used. In the experimental setup, a load cell was used to measure the friction force between the lining and the brake disc during rotation. There is an inverter in order to use the brake disc in the experimental setup at the desired speed and revolutions. In order to carry out the experiments in accordance with the standards, an infrared thermometer, which can receive data every second, was placed in the experimental setup to determine the disc surface temperature. A brake disc made of gray cast iron with a hardness of 116 HB (41.86 HRA) and a diameter of 280 mm was used in the experiment. It is described in detail in the authors' work [12, 13].

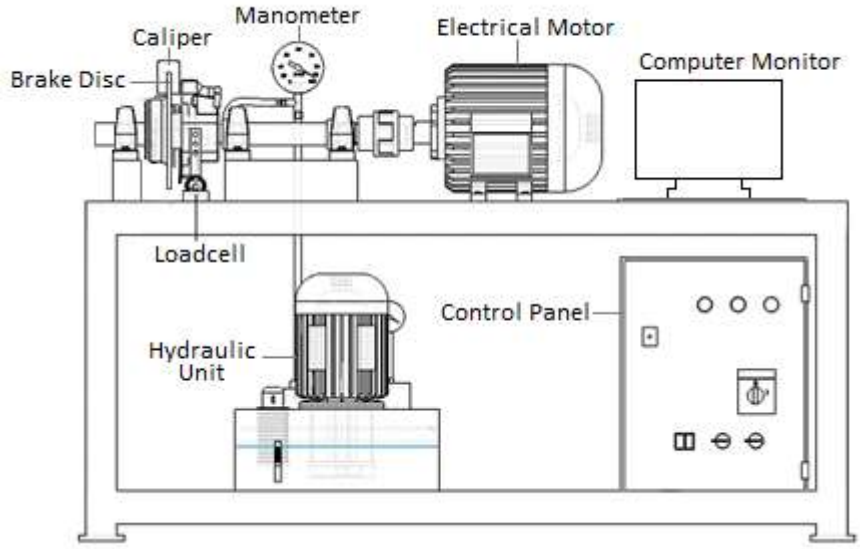

Figure 1. Brake pad test device

The pads produced were operated at a speed of 3 m/s under 200 kPa pressure until 95% of the sample surface came into contact with the disc surface in order to ensure the overlapping of the friction surfaces. The experiments were carried out at 500 kPa, 800 kPa and 1100 kPa at three different pressures and at a speed of 6 m/s.

Temperature and friction coefficient were recorded every second during the test. These values were converted into friction coefficient-temperature-time graphs. At the end of the experiment, each sample was weighed on a sensitive balance and the mass loss was found. The specific wear values were determined by calculating the mass loss based on the formula given in TSE 9076 [10].

3. RESULTS AND DISCUSSION

In this study, three different pressures of 500 kPa, 800 kPa and 1100 kPa were applied to the brake pad to create different working conditions. The effect of applied pressure changes on the friction coefficient, which is the most important effect for slowing down or stopping the vehicle, has been determined. The results obtained were compared with the friction coefficient ratios specified in TSE 9076 and TSE 555 standards [10, 11]. The friction coefficient and temperature changes were investigated depending on the pressure change of the lining. The effect of disc surface temperature on brake pad performance was determined.

Figure 2, figure 3 and figure 4 show the friction coefficient temperature time graph of the lining at 500 kPa, 800 kPa and 1100 kPa braking pressures.

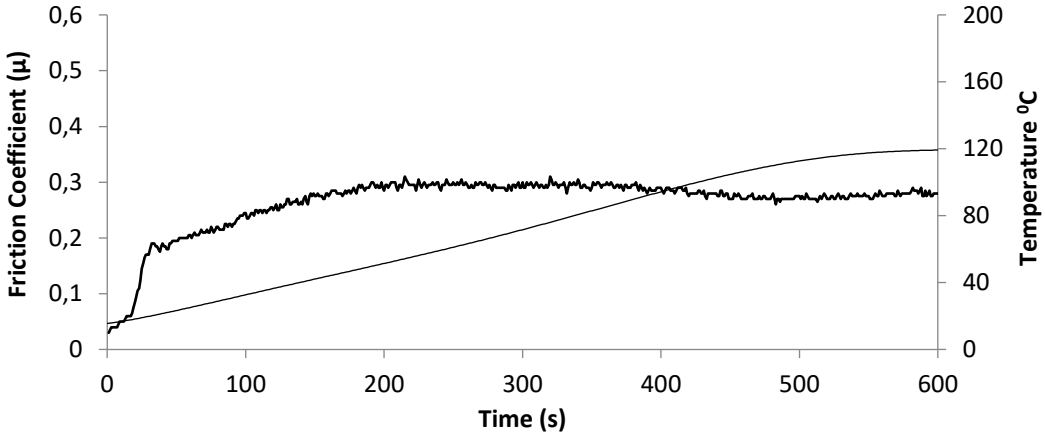

Figure 2. Friction coefficient-temperature-time graph of C5 pad sample at 500 kPa pressure

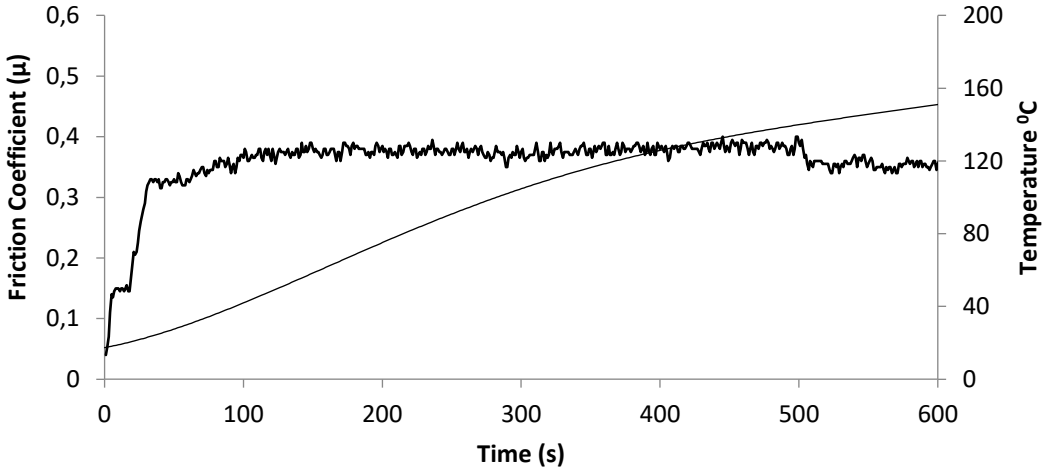

Figure 3. Friction coefficient-temperature-time graph of C8 pad sample at 800 kPa pressure

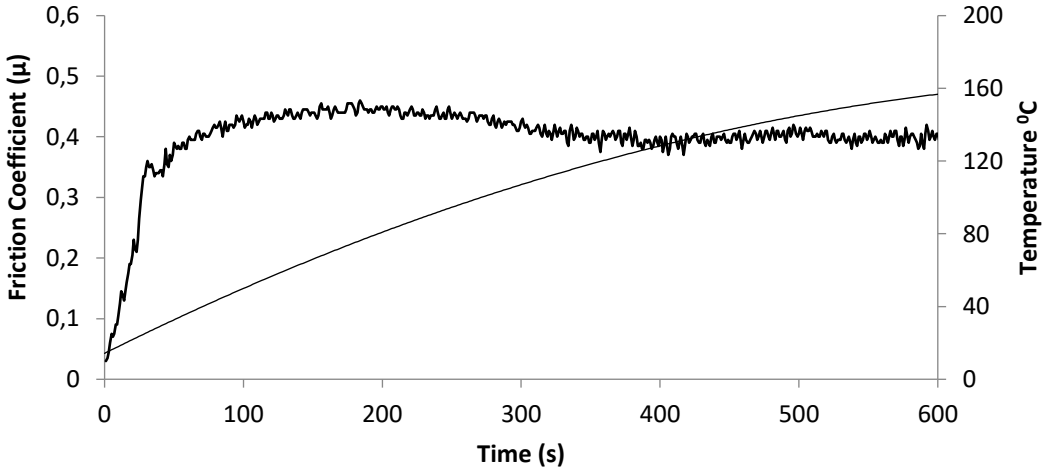

Figure 4. Friction coefficient-temperature-time graph of C11 pad sample at 1100 kPa pressure

When the figures are examined, the C11 sample operating at 1100 kPa brake pressure gave the highest friction coefficient. C5 coded pad sample operating at 800 kPa braking pressure gave the lowest friction coefficient value. When Figure 3 and Figure 4 are examined, the friction coefficient increased up to the 50th second and continued stably after this time. When the studies in the literature are examined, the change in the friction coefficient is appropriate [14]. When Figure 2 is examined, the friction coefficient increased up to the 200th second and continued stably after this time. This situation can be interpreted as the slow temperature increase as a result of low braking pressure and the friction coefficient not being affected by the temperature increase. In the lining tests, the friction coefficient is expected to increase for a certain period of time depending on the braking pressure applied to the lining. Then, it is expected that the friction coefficient will continue to be stable due to the increased temperature due to friction [15]. As the braking pressure increased, the friction coefficient and temperature increased. In all experiments, the friction coefficient and temperature increased as the braking pressure increased. The increase in brake pressure increased the disc surface temperature. The increase in disc surface temperature negatively affected the increase in friction coefficient. Under driving conditions, this will result in a longer stopping distance of the vehicle.

The friction properties of the lining samples and their physical properties such as hardness, density and surface roughness are given in Table 2.

Table 2. Experimental data of brake pad samples

Sample	Hardness (HRL)	Density (g/cm^3)	Average friction coefficient (μort)	Specific wear rate (cm^3/Nm)	Surface roughness
C5			0,35	$1,4x10^{-6}$	0,85
C8	98	2,03	0,38	$1,9x10^{-6}$	0,92
C11			0,44	$2,4x10^{-6}$	1,05

In the performance tests with the same contents but at different braking pressures, the highest wear was observed in the C11 pad sample, where the highest brake pressure was applied. The least wear was observed in the C5 pad sample, where the brake pressure was the lowest. As the pressure applied to the lining increased, the amount of wear increased proportionally. Wear is between the values specified in TSE 9076 standards [10]. It has been observed that braking pressure is an important factor for a longer pad life and longer use. As the braking pressure increases, the pad is worn more. This situation caused an increase in the surface roughness of the lining. When the surface roughness of the pads is examined, it is seen that the surface of the C11 coded pad, which is applied the highest braking pressure, is rougher. High braking pressure caused more wear of the pad surface, and it was determined that the materials used in the pad content played an effective role in the surface roughness.

4. CONCLUSION

In this study, three different pressures, 500 kPa, 800 kPa and 1100 kPa, were applied to the brake pad to create different operating conditions. The effect of applied pressure changes on the friction coefficient, which is the most important effect in slowing down or stopping the vehicle, has been determined. Brake pressure has affected the stopping distance of the vehicle.

As the braking pressure increased, the brake disc surface temperature also increased. Due to the increase in the surface temperature of the brake disc, the friction coefficient, which is effective in stopping or slowing down the vehicle, has been adversely affected. As the brake pressure increased, the amount of wear increased. The amount of increase is between the standard values. It has been observed that the contact area of the pad with high surface roughness with the disc surface is larger. As the surface roughness increased, the friction coefficient increased and the wear resistance decreased. As the braking pressure increased, the friction force increased. The increase in brake pressure decreased the wear resistance.

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CW511L PİRİNÇ ALAŞIMININ İŞLENMESİNDE YÜZEY PÜRÜZLÜLÜĞÜ VE TAKIM AŞINMASININ DENEYSEL OLARAK İNCELENMESİ

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ÖZET

Bu çalışmada, cıvata, somun, dişli parçaları ve armatür parçaların üretimlerinde sıklıkla kullanılan koronozyona karşı direnç gösteren ve termal iletkenliği yüksek CW511L pirinç alaşımının karbür kesici takımlarla farklı kesme parametrelerindeki işlenebilirliği araştırılmıştır. Tornalama deneyleri; dört farklı kesme hızı (100, 200, 300, 400 m/dak), sabit ilerleme (0,4 mm/dev), sabit kesme derinliği (1,5 mm) ve kuru kesme şartlarında CNC torna tezgahında gerçekleştirilmiştir. Deneyler sonrasında yüzey pürüzlülüğü (Ra, Rz), yanak aşınması (Vb) ve kesici takımın kesme bölgesinde oluşan sıcaklık (Ct) değişimleri incelenmiştir. Kesme hızının artması ile yüzey pürüzlülüğü değerlerinin düştüğü görülmüştür. Aynı şekilde artan kesme hızıyla birlikte kesici takımda yanak aşınması değerinin düştüğü görülmüştür. Sonuç olarak, kesme hızı artması ile hem yüzey pürüzlülüğünde %4,3 oranında, hem de takım aşınmasında %59,3 oranında iyileşmeler gözlemlenmiştir.

Anahtar Kelimeler: CW511L, Yüzey Pürüzlülüğü, Yanak Aşınması, Kesme Bölgesi Sıcaklığı

EXPERIMENTAL INVESTIGATION OF SURFACE ROUGHNESS AND TOOL WEAR IN MACHINING OF CW511L BRASS ALLOY

ABSTRACT

In this study, the machinability of CW511L brass alloy with high thermal conductivity and corrosion resistance, which is frequently used in the production of bolts, nuts, gear parts and armature parts, with carbide cutting tools at different cutting parameters was investigated. Turning experiments; Carbide cutting tools, four different cutting speeds (100, 200, 300, 400 m/min), constant feed (0.4 mm/rev), constant cutting depth (1.5 mm) and dry cutting conditions were carried out on a CNC lathe. After the experiments, surface roughness (Ra, Rz), flank wear (Vb) and temperature changes in the cutting zone of the cutting tool (Ct) were investigated. It was observed that the surface roughness values decreased with the increase of cutting speed. Likewise, it was observed that the flank wear value of the cutting tool decreased with increasing cutting speed. As a result, it was observed that improvements in both surface roughness by 4.3% and tool wear by 59.3% with increasing cutting speed.

Keywords: CW511L, Surface Roughness, Flank Wear, Cutting Zone Temperature

1. GİRİŞ

Talaşlı imalat sanayisinde yüzey pürüzlülüğü ve kesici takım üretilen parçaların kalitesinin doğrudan belirlenmesinde önemli bir rol oynamaktadır. Bu sebeple doğru kesici takım ve işleme parametrelerinin belirlenmesi iyi bir yüzey kalitesi ve uzun bir kesici takım ömrü elde edilmesinde önemli ölçütlerdir. Yanlış kesici takım ve işleme parametrelerinin seçilmesi üretilen ürünün kalitesini önemli ölçüde etkileyen aşınma direnci, yüzey pürüzlülüğü, sürtünme, yorulma direnci, ısı iletimi gibi özellikleri etkilemektedir. Ürün kalitesinde oluşacak bu gibi durumlar ürün maliyeti ve üretim süresi üzerinde ciddi artışların yaşanmasına sebep olmaktadır. Dolayısıyla doğru kesici takım ve işleme parametrelerin belirlenmesi ürün kalitesinin ve üretim verimliliğinin yüksek olmasında en önemli kriterlerin başında gelmektedir [1-3].

Pirinç alaşımları süneklilik, kolay dövülebilirlik, kolay işlenebilirlik, yüksek korozyon direnci, yüksek darbe dayanımı, güneş ışığı karşısında renk değiştirmeme, kıvılcım çıkarmama, uygun maliyet, iyi mukavemet özellikleri, yüksek termal ve elektriksel iletkenlik özelliklerine sahiptirler. Pirinç alaşımlar genel olarak somun, cıvata, musluk, conta, vana, su sayaçlarında, dişli parçalarında, debriyaj diskleri vb. ürünlerin üretiminde sıklıkla kullanılmaktadır [4–5].

Literatürde, Özbek ve Saruhan [6], AISI D2 soğuk iş takım çeliğinin CVD ve PVD kaplı karbür takımlarla farklı kesme ortamlarında tornalanmasında, kesme ortamı (kuru ve MQL), kesici takım türü ve kesme hızlarının (60, 90 ve 120 m/dak) takım aşınması, kesme sıcaklığı ve yüzey pürüzlülüğü üzerine etkilerini araştırmışlardır. Çalışma sonucunda her iki kesici takım türü ve kesme ortamı için artan kesme hızı ile birlikte takım aşınması, kesme sıcaklığı ve yüzey pürüzlülüğünün de arttığı tespit edilmiştir. Karabatak ve Kara [7], AISI D2 soğuk iş takım çeliğinin kaplamasız seramik takımlarla tornalanmasında kesme parametrelerinin yüzey pürüzlülüğü üzerine etkilerini araştırmışlar ve optimum işleme parametrelerini tespit etmişlerdir. Deneyler, 0,08, 0,16 ve 0,24 mm/dev olmak üzere üç farklı ilerleme hızı, 0,25, 0,50 ve 0,75 mm olmak üzere üç farklı kesme derinliği ve 50, 100 ve 150 m/dak olmak üzere üç farklı kesme hızı kullanılarak gerçekleştirilmiştir. Deneyler sonucunda kesme hızının 100 m/dak, ilerleme hızının 0,08 mm/dev ve kesme derinliğinin 0,25 mm olduğu parametrelerde yüzey pürüzlülüğünün en iyi sonucu verdiği görülmüştür. Varyans analizi (ANOVA) ile kesme paremetlerinin yüzey pürüzlülüğüne etkilerine bakılmış olup ilerleme hızının %77,88, kesme hızının %14,12 ve kesme derinliğinin %6,89 oranında etkili olduğu görülmüştür. Özbek ve arkadaşları [8], AISI P20 kalıp çeliğinin üç farklı ilerleme hızı (0,1, 0,15 ve 0,2 mm/dev) ve üç farklı kesme hızlarında (100, 150 ve 200 m/dak) işlenmesi üzerine yaptıkları çalışmada, kesme hızı ve ilerleme hızının artması ile kesme sıcaklığının arttığını rapor etmişlerdir. Bununla birlikte, yüzey pürüzlülüğü üzerinde %97,24 oran ile en etkili parametrenin ilerleme hızı olduğu, artan ilerleme hızı ile birlikte yüzey pürüzlülüğünün büyük oranda arttığı ve artan kesme hızıyla yüzey pürüzlülüğünün nispeten iyileştiği bildirilmiştir. bir başka çalışmada Özbek ve arkadaşları [9], AISI 304 östenitik paslanmaz çeliğin kaplamalı tungsten karbür takımlarla soğutma sıvısı kullanılarak 0,1, 0,15 ve 0,2 mm/dev ilerleme hızlarında ve 180, 240 ve 300 m/dak kesme hızlarında tornalanmasında kesme parametrelerinin yanak aşınması ve yüzey pürüzlülüğü üzerine etkilerini araştırmışlardır. Çalışma sonucunda, yüzey pürüzlülüğünün artan kesme hızı ile azaldığı, artan ilerleme hızı ile ise arttığı tespit edilmiştir. Bununla birlikte kesme hızı ve ilerleme hızının artması ile yanak aşınmasının da arttığı bildirilmiştir. Kara ve Öztürk [10], DIN 1.2738 kalıp çeliğinin 2 farklı kesici takımla sert tornalanmasında kesme parametrelerinin yüzey pürüzlülüğü ve kesici takım aşınması üzerine etkilerini araştırmışlardır. Sert torlanama deneyleri üç farklı kesme hızı (80, 160 ve 240 m/dak), üç farklı ilerleme hızı (0,1, 0,2 ve 0,3 mm/dev) ve sabit kesme derinliğinde (1 mm) gerçekleştirilmiştir. En düşük yüzey pürüzlülük değerlerini 160 m/dak kesme hızında ve 0,1

mm/dev ilerleme hızında elde etmişlerdir. En düşük takım aşınması 80 m/dak kesme hızında ve 0,1 mm/dev ilerleme hızında elde etmişlerdir. Yapmış oldukları ANOVA analiz sonuçlarına göre, yüzey pürüzlülüğü üzerinde %91,20 oran ile ve kesici takım aşınması üzerinde %52,70 oran ile kesme hızının daha etkili olduğu tespit edilmiştir. Özbek [11] yaptığı çalışmada, 1.2343 sıcak iş takım çeliğinin üç farklı ilerleme hızı (0,15, 0,18 ve 0,21 mm/dev) ve üç farklı kesme hızı (200, 240 ve 280 m/dak) ile tornalanmasında, artan ilerleme hızı ile yüzey pürüzlülüğünün arttığını, orta ve yüksek ilerleme hızında artan kesme hızıyla yüzey pürüzlülüğünün azaldığı tespit etmiştir. Deneyler sonucunda, ilerleme hızı ve kesme hızındaki değişimin kesici takım aşınması üzerinde belirgin bir etkisi görülmemekle birlikte çoğunlukla kesme hızındaki artışla yanak aşınması da artmıştır. Toulfatzis ve arkadaşları [12], dört farklı kurşunsuz pirinç alaşımının (CW510L, CW511L, C27450 ve CW614N) işlenmesinde, optimum kesme parametrelerini belirlemek için bir çalışma yapmışlardır. Deneyler Taguchi L16 deney tasarımına göre dört farklı kesme hızları (1500, 1750, 2000 ve 2250 rpm), dört farklı ilerleme hızları (150, 200, 250 ve 500 mm/dak) ve dört farklı kesme derinliği (0,50, 1, 1,50, 2 mm) kullanılarak gerçekleştirilmiştir. Yapmış oldukları ANOVA analizi ile yüzey pürüzlülüğü üzerinde en etkin parametrenin %55,31 oran ile ilerleme hızı olduğunu tespit etmişlerdir. En iyi yüzey pürüzlülüğü değerleri için optimum işleme parametreleri olarak, kesme hızı için 1750 rpm, kesme derinliği için 0,50 mm ve ilerleme hızı için ise 150 mm/dak olduğu rapor edilmiştir. İncelenen literatür çalışmaları doğrultusunda bu çalışmada, CW511L malzemesinin karbür kesici takımlarla tornalanmasında yüzey pürüzlülüğü, takım aşınması ve kesme bölgesi sıcaklığı değişimleri incelenmiştir. Ayrıca yapılan deneyler tez çalışmasının ön deneyleridir.

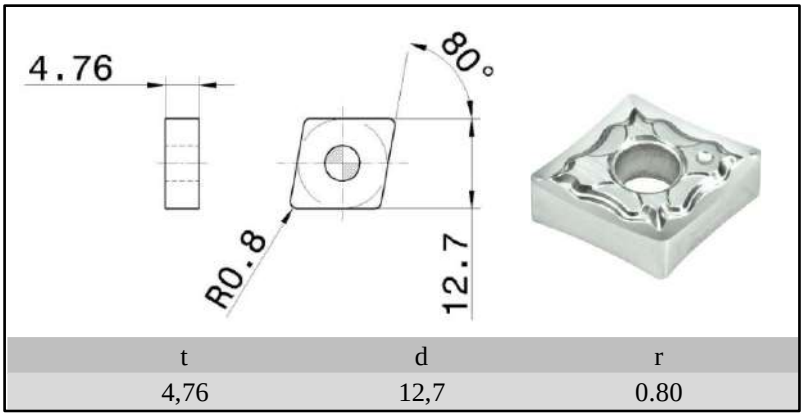
2. MATERYAL VE METOT

Bu çalışmada, korozyon direnci, termal ve elektrik iletkenliği yüksek pirinç alaşımı CW511L (CuZn38As) malzemesi kullanılmıştır. Tornalama deneyleri 250 mm boyunda ve Ø80 mm çapında CW511L malzemesi iki alın yüzeyinden punta delikleri açılarak gerçekleştirilmiştir. CW511L pirinç alaşımının kimyasal bileşenleri Tablo 1'de verilmiştir.

Tablo 1. CW511L pirinç alaşımının kimyasal bileşenleri

Element	Cu	Zn	Pb	Fe	Ni	Al	As	Sn
%	61.5	37.7	0.2	0.1	0.3	0.05	0.05	0.1

Tornalama deneyleri için 7,5 kW gücünde Accuway JT-150 marka CNC torna tezgâhı kullanılmıştır. Deneylerde kesici takım olarak TaeguTec marka CNMG 120408 K10 karbür takım kullanılmıştır. CNMG 120408 MT K10 karbür kesici takım boyutları Şekil 1'de verilmiştir.



t	d	r
4,76	12,7	0.80

Şekil 1. CNMG 120408 MT K10 kesici takım boyutları [13].

Tornalama deneyleri kuru kesme ortamında 0,4 mm/dev ilerleme hızı, 1,5 mm kesme derinliği ve 100, 200, 300 ve 400 m/dak olmak üzere dört farklı kesme hızında 10000 mm^3 talaş kaldırılarak gerçekleştirilmiştir. Tornalama deneyleri esnasında kesme bölgesinde oluşan sıcaklık OPTRIS marka PI 450 termal kamera ile ölçülmüştür (Şekil 2). Termal kamera kesme esnasında kesici takımla hareket edilebilmesi için tarete sabitlenmiştir. Tüm tornalama deneyleri esnasında kesici takımın uç kısmında belirlenen alandaki en yüksek sıcaklık ölçülmüştür.



Şekil 2. OPTRIS marka PI 450 termal kamera [14].

Her bir deney sonrasında Mahr PS10 profilometre cihazı ile 5 farklı noktadan ortalama yüzey pürüzlülüğü (Ra) ve en yüksek 5 girinti ve 5 çıkıntının ortalaması (Rz) ölçümleri gerçekleştirilmiştir. Yüzey pürüzlülüğü ölçümünde kullanılan Mahr PS10 profilometre Şekil 3'te verilmiştir.



Şekil 3. Mahr PS10 profilometre cihazı [15].

Kesici takımların aşınma miktarlarının belirlenmesi için Şekil 4'te verilen Dino-Lite 2.0 dijital mikroskop kullanılmıştır.



Şekil 4. Dino-Lite 2.0 mikroskop [16].

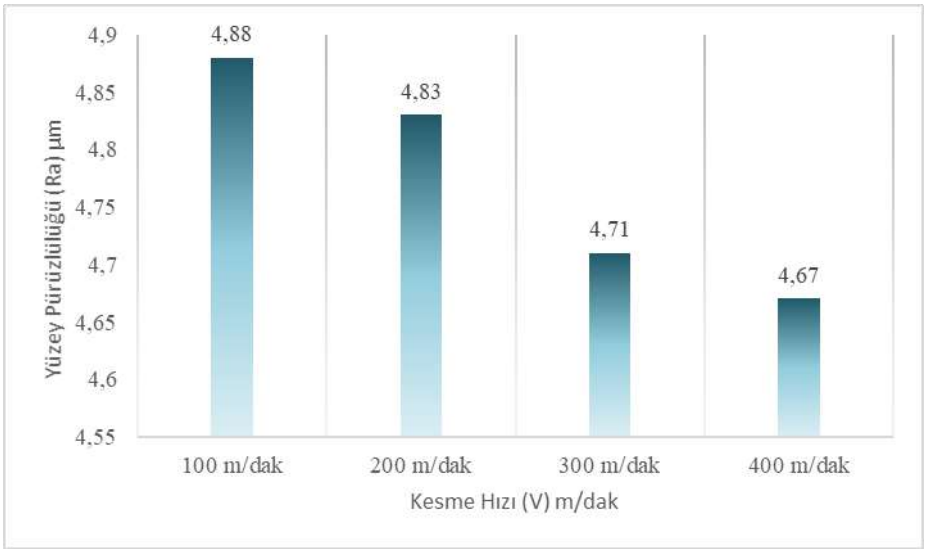
3. DENEYSEL BULGULAR

Yapılan deneyler sonucunda kesme hızına bağlı olarak yüzey pürüzlülüğü, kesici takım aşınması ve kesme bölgesinde oluşan sıcaklık değerleri Tablo 2'de verilmiştir.

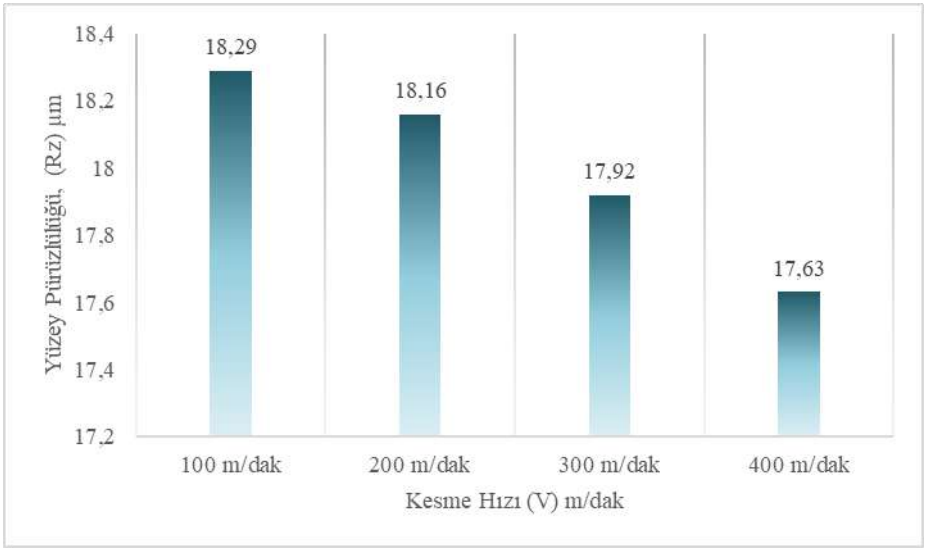
Tablo 2. Kesme hızına bağlı yüzey pürüzlülüğü, kesici takım aşınması ve kesme bölgesinde oluşan sıcaklık değerleri.

Malzeme	Kesme Derinliği	Talaş Hacmi	Kesme hızı	İlerleme	Yüzey Pürüzlülüğü		Takım Aşınması	Kesme Bölgesi Sıcaklığı
	(mm)	(mm^3)	(V) m/dak	(f) mm/dev	Ra (µm)	Rz (µm)	Vb (mm)	Ct (°C)
CW511L	1,5	10000	100	0,4	4,88	18,29	0,123	168,9
			200		4,83	18,16	0,106	165,5
			300		4,71	17,92	0,085	158,9
			400		4,67	17,63	0,05	155,4

Karbür kesici takımlarla dört farklı kesme hızında gerçekleştirilen deneyler sonrasında elde edilen Ra ve Rz yüzey pürüzlülük değerlerindeki değişimler Şekil 5 ve Şekil 6'da verilmiştir. Yapılan çalışma sonucunda Ra değerleri 4,88- 4,67 µm aralığında ölçülmüştür. En yüksek Ra değeri 100 m/dak'lık kesme hızında 4,88 µm'dir. En düşük Ra değeri 400 m/dak'lık kesme hızında 4,67 µm'dir. Rz değerleri 18,29- 17,63 µm aralığında ölçülmüştür. En yüksek Rz değeri 100 m/dak'lık kesme hızında 18,29 µm'dir. En düşük Rz değeri 400 m/dak'lık kesme hızında 17,63 µm'dir. Kesme hızının artmasıyla Ra'da %4,30 Rz'de %3,60 oranında düşüş gözlenmiştir. Yapılan deneyler sonucunda genel olarak kesme hızının artmasıyla yüzey pürüzlülük değerlerinin azaldığı görülmüştür. Artan kesme hızı ile yüzey pürüzlülüğünde belirgin bir farklılık görülmemekle birlikte kesme hızının artışının yüzey pürüzlülüğünü nispeten iyileştirdiği gözlemlenmiştir.

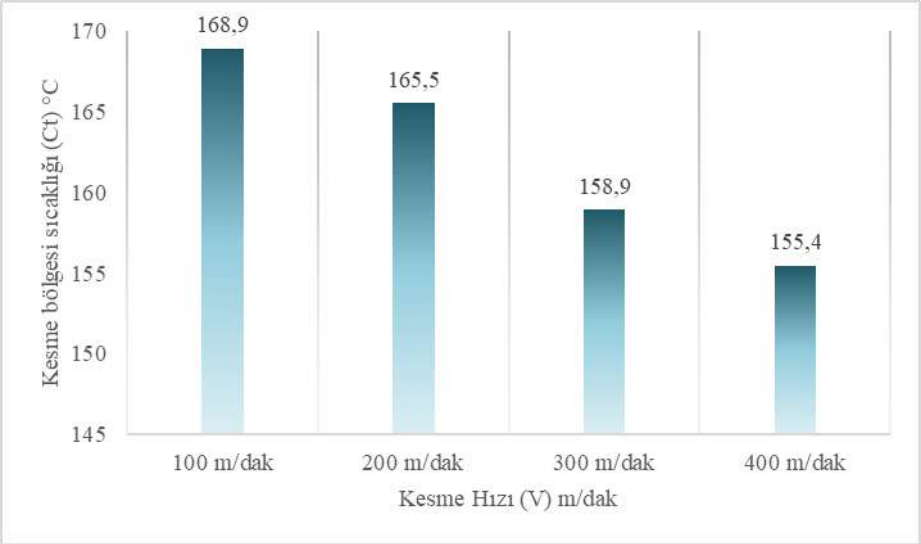


Şekil 5. Yüzey pürüzlülüğünün (Ra) değişimi.

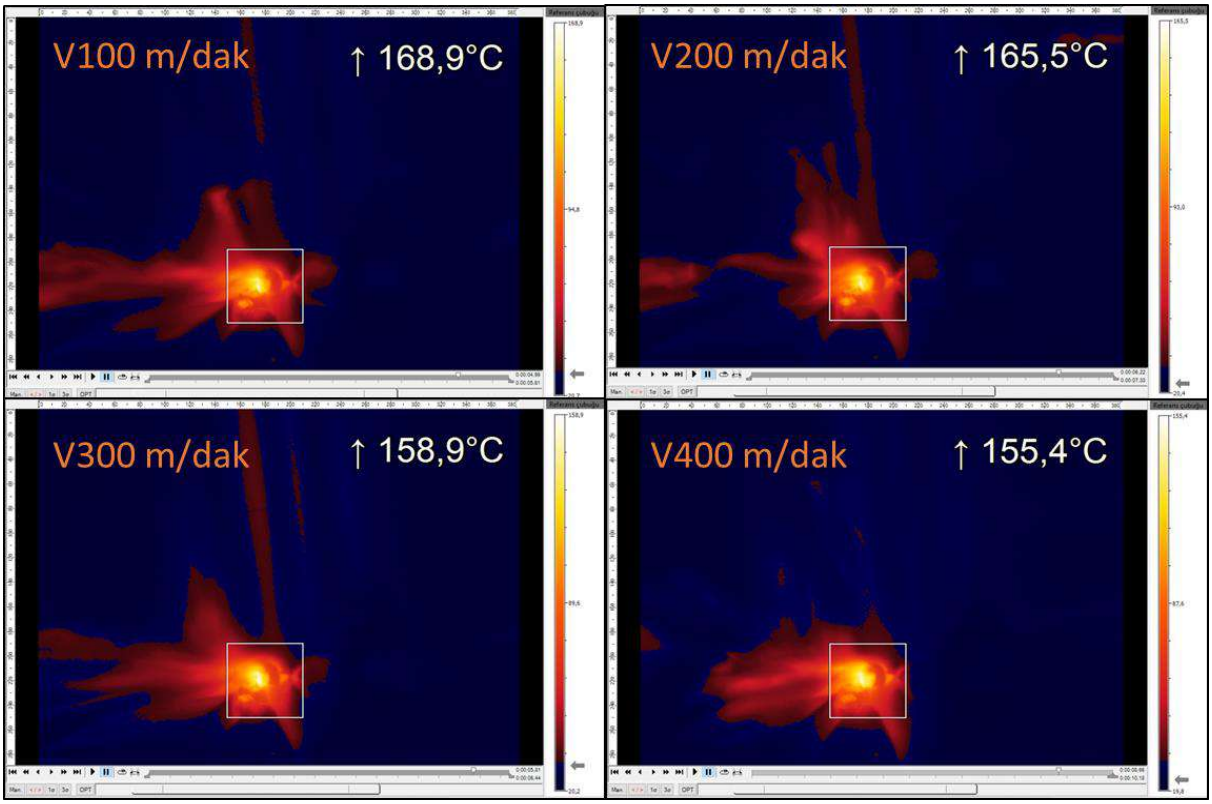


Şekil 6. Yüzey pürüzlülüğünün (Rz) değişimi.

Şekil 7'de kesme hızına bağlı olarak kesme bölgesi sıcaklık değişimi ve Şekil 8'de termal kamera görüntüleri verilmiştir. Yapılan çalışma sonucunda Ct değerleri 168,9 – 155,4 °C aralığında ölçülmüştür. En yüksek Ct değeri 100 m/dak'lık kesme hızında 168,9 °C olarak ölçülmüştür. En düşük Ct değeri 400 m/dak'lık kesme hızında 155,4 °C 'dir. Artan kesme hızıyla birlikte kesme bölgesi sıcaklığında %7,99 düşüş gözlemlenmiştir. Artan kesme hızı ile kesme bölgesinden talaşın daha hızlı uzaklaşması nedeniyle daha düşük kesme bölgesi sıcaklıklarının elde edildiği düşünülmektedir.

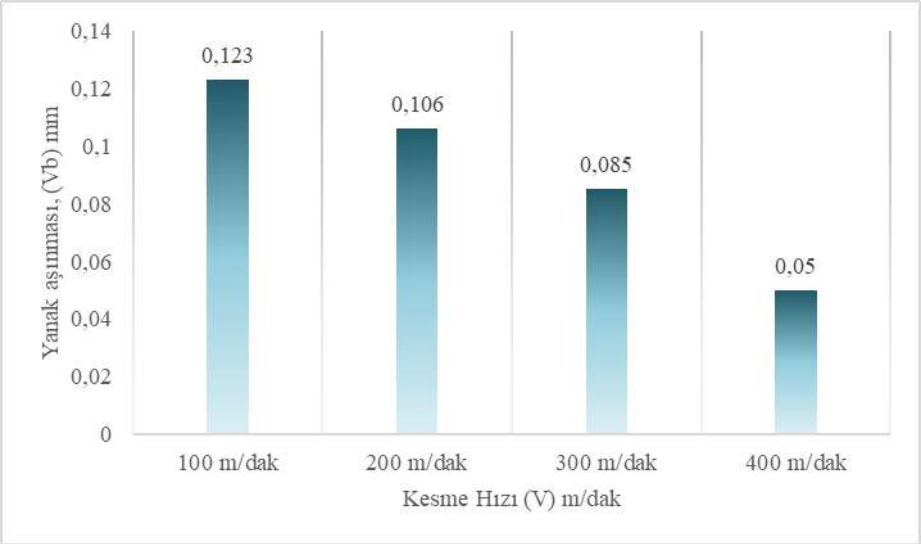


Şekil 7. Kesme bölgesi sıcaklığının değişimi.

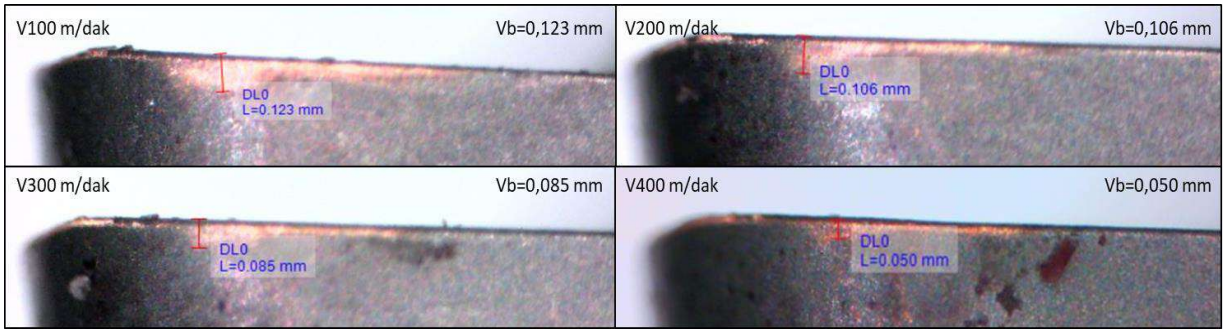


Şekil 8. Kesme bölgesi sıcaklık değişiminin termal görüntüsü.

Şekil 9'da kesme hızına bağlı olarak takım yanak aşınmasının değişimi grafiği ve Şekil 10'da kesici takımların aşınan kenarlarının fotoğrafları görülmektedir. Yapılan çalışma sonucunda Vb değerleri 0,123 – 0,050 mm aralığında ölçülmüştür. Şekil 9 incelendiğinde en yüksek Vb değerinin 100 m/dak'lık kesme hızında 0,123 mm olarak ölçüldüğü görülmektedir. En düşük Vb değeri 400 m/dak'lık kesme hızında 0,050 mm'dir. Artan kesme hızıyla birlikte kesici takımda yanak aşınması %59,3 oranda azalmıştır.



Şekil 9. Kesici takım yanak aşınması değişimi.



Şekil 10. Kesici takım yanak aşınması değişimi fotoğrafları.

4. SONUÇLAR

Bu çalışmada CW511L pirinç alaşımının farklı kesme hızlarında tornalanmasının yüzey pürüzlülüğü, kesici takım yanak aşınmasına ve kesme bölgesinde oluşan sıcaklığa etkileri incelenmiştir. Kesici takım olarak TaeguTec marka CNMG 120408 K10 karbür takımlar kullanılmıştır. Tornalama deneyleri; karbür kesici takımlarla, sabit kesme derinliği (1,5 mm), sabit ilerleme (0,4 mm/dev) ve dört farklı kesme hızında (100, 200, 300 ve 400 m/dak) gerçekleştirilmiştir. Deneylerde elde edilen sonuçlar aşağıdaki gibidir.

- Artan kesme hızıyla birlikte Ra'da %4,3 Rz'de %3,6 oranında azalma eğilimi görülmüştür. En yüksek Ra ve Rz değeri 100 m/dak kesme hızında 4,88 µm, 18,29 µm iken en düşük Ra ve Rz değeri 400 m/dak kesme hızında 4,67 µm, 17,63 µm'dir. Artan kesme hızının yüzey pürüzlülüğüne pozitif bir etkisi olduğu görülmüştür.

- Artan kesme hızıyla birlikte kesici takım yanak aşınması miktarında %59,3 oranında azalma olduğu görülmüştür. En yüksek Vb değeri 100 m/dak kesme hızında 0,123 mm iken en düşük Vb değeri 400 m/dak kesme hızında 0,050 mm'dir

- Artan kesme hızıyla birlikte kesme bölgesi sıcaklığının %7,9 oranında azaldığı görülmüştür. En yüksek Ct değeri 100 m/dak 168,9 °C iken en düşük Ct değeri 400 m/dak kesme hızında 155,4 °C'dır.

5. TEŞEKKÜR

2021.06.05.1216 kodlu çalışmanın gerçekleşmesinde maddi imkan sağlayan Düzce Üniversitesi Bilimsel Araştırma Projeleri (BAP) birimine katkılarından dolayı teşekkür ederiz.

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BENZİLİDEN-BENZENAMİN TÜREVİ BİLEŞİKLERİN MİKRODALGA YÖNTEMİYLE SENTEZİ

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ÖZET

Aldehit ve ketonların kondenzasyon tepkimesiyle oluşan Schiff bazları ilk kez 1864 yılında Alman kimyager Hugo Schiff tarafından sentezlenmiş olup bu bileşikler biyolojik olarak aktif birçok molekülün sentezi için önem taşımaktadırlar. Bu bileşikler ve türevleri azot içeren heterohalkalı bileşiklerin sentezi için de önemli ara ürünler olarak bilinirler. Genel olarak anti-fungal, antiviral, antimikrobiyel, antibakteriyel, antiinflamatuar, antikanserojen, antihelmintik gibi çeşitli özelliklere sahiptirler. Biyolojik etkilerinin yanında bu bileşiklerden boya teknolojisinde, elektronikte, ilaç sanayisinde, tıpta ve tarım alanında sıklıkla yararlanılmaktadır. Schiff bazları genellikle organik bir çözücü içinde ve asidik koşullardaki ısıl işlemler neticesinde sentezlenirler. Son zamanlarda ise bunların sentezi için infrared, ultrasound, grinding ve mikrodalga yöntemlerinin kullanıldığı literatürden bilinmektedir. Literatürde yapılan çalışmalar incelendiğinde çözücü ve katalizör kullanılmadan gerçekleştirilen tepkime yöntemlerinden biri olan mikrodalga sentez yöntemine olan ilginin arttığı görülebilir. Mikrodalgalar, tepkimeleri hızlandırmasının yanı sıra verimi de arttırarak daha yüksek saflıkta ürün eldesini sağlar. Schiff bazlarının sentezinin mikrodalga yöntemiyle çözücü ve katalizör kullanılmadan gerçekleştirilmesi klasik sentezlere göre tepkime koşullarını kolaylaştırır ve maliyeti düşürür.

Bu çalışmada, aldehit ve farklı amin bileşikleri kullanılarak benziliden-benzenamin türevi Schiff bazı bileşikleri mikrodalga sentez yöntemi kullanılarak elde edildi. Tepkimeler çözücü ve katalizör kullanılmadan kısa sürede ve yüksek verimle gerçekleştirildi. Elde edilen bileşiklerin yapıları ^{1}H NMR ve ^{13}C NMR spektroskopisi yöntemleri kullanılarak aydınlatıldı.

Anahtar Kelimeler: Schiff bazı, benziliden, benzenamin, mikrodalga, biyoaktivite,

SYNTHESIS OF BENZYLYDENE-BENZENAMINE DERIVATIVE COMPOUNDS BY MICROWAVE METHOD

ABSTRACT

Schiff bases, formed by the condensation reaction of aldehydes and ketones, were synthesized for the first time in 1864 by the German chemist Hugo Schiff, and these compounds are important for the synthesis of many biologically active molecules. These compounds and their derivatives are also known as important intermediates for the synthesis of nitrogen-containing heterocyclic compounds. In general, they have various properties such as anti-fungal, antiviral, antimicrobial, antibacterial, anti-inflammatory, anticarcinogenic, anthelmintic. Besides their biological effects, these compounds are frequently used in paint technology, electronics, pharmaceutical industry, medicine and agriculture. Schiff bases are generally synthesized as a result of heat treatment in an organic solvent and under acidic conditions. Recently, it is known

from the literature that infrared, ultrasound, grinding and microwave methods are used for their synthesis. When the studies in the literature are examined, it can be seen that the interest in the microwave synthesis method, which is one of the reaction methods without using solvents and catalysts, has increased. Microwaves not only accelerate the reactions, but also increase the efficiency and provide higher purity products. The synthesis of Schiff bases by microwave method without the use of solvent and catalyst simplifies the reaction conditions and reduces the cost compared to classical synthesis.

In this study, benzylidene-benzenamine derivative Schiff base compounds were obtained by using microwave synthesis method by using aldehyde and different amine compounds. The reactions were carried out in a short time and with high efficiency without using solvents and catalysts. The structures of the obtained compounds were elucidated using ^{1}H NMR and ^{13}C NMR spectroscopy methods.

Keywords: Schiff base, benzylidene, benzenamine, microwave, bioactivity

THE FATTY ACID SCANNING IN COMMERCIAL BITTER GOURD AND MARIGOLD OILS AND ANTIBACTERIAL ACTIVITY

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ÖZET

Mikroorganizmaların antibiyotik direnci son iki yılda covid-19 pandemisi ile yeni bir boyut kazanmış olabilir. Covid-19 enfeksiyonu hem doğuştan gelen hem de adaptif antibakteriyel konak savunmasını bozduğundan, *Streptococcus pneumoniae*, *Staphylococcus aureus* gibi bakteriler, ikincil bakteriyel pnömonilere neden olmak için fiziksel ve immünolojik bir bariyerin bu geçici uzlaşmasını kullanır ve ciddi hastalıklara yol açabilir. Aynı zamanda, Covid ile ilgili olsun ya da olmasın tüm viral enfeksiyonların ölümcül doğası, bakteriyel süperenfeksiyonlarla ilişkilendirilmiştir.

Son yıllarda insanların doğal bitkilere olan ilgisi artmış ve başta bulaşıcı hastalıklar olmak üzere birçok hastalığa karşı tedavi amaçlı bitkisel yağlar kullanılmıştır. Bu nedenle piyasada satılan bitkisel yağlara büyük ilgi vardır. Ancak etiketlerinde içerikleri ile ilgili bilgiler yazılmamaktadır. Bu çalışmada, ticari olarak temin edilebilen iki bitkisel yağın içerik analizi ve antibakteriyel etkisi araştırılmıştır.

İnsanlarda cilt hastalıklarından yanıklara ve enfeksiyonlara kadar birçok hastalığın tedavisinde ticari olarak kullanılan acı kabak (*Momordica charantia* L.) ve kadife çiçeği (*Calendula officinalis* L.) tohum yağları birçok firma adı altında satılmaktadır. Bu bitkilerin yağ içerik analizleri bilimsel araştırmalarla detaylı olarak raporlanmış ve özellikle spor beslenmesinde ve obeziteye karşı tedavilerde kullanılan konjuge linolenik asit açısından zengin oldukları kanıtlanmıştır. Ticari olarak temin edilebilen bu yağların içeriği ilk kez bu çalışma ile kontrol edilmiştir. Bu çalışmada aynısefa ve kudrret narı olarak satılan iki firmanın ürün içeriği ve antimikrobiyal özellikleri araştırılmıştır.

Anahtar kelimeler: *Momordica charantia*, *Calendula officinalis,* antimikrobiyal aktivite, ticari yağlar

ABSTRACT

Antibiotic resistance of microorganisms may have gained a new dimension with the covid-19 pandemic in the last two years. Because infection by Covid-19 impairs both innate and adaptive antibacterial host defenses, bacteria such as *Streptococcus pneumoniae*, *Staphylococcus aureus* use this temporary compromise of a physical and immunological barrier to cause secondary bacterial pneumonia and can lead to serious illness. At the same time, the fatal nature of all viral infections, whether or not Covid-related, has been associated with bacterial superinfections.

In recent years, people's interest has increased in natural plants and they have used plant oils for treatment purposes against many diseases, especially infectious diseases. For this reason, there is a great interest in herbal oils sold in the market. However, information about their contents is not written on their labels. In this study, the content analysis and antibacterial effect of two commercially available vegetable oils were investigated.

Bitter gourd (*Momordica charantia* L.) and marigold (*Calendula officinalis* L.) seed oils, which are commercially used in the treatment of many diseases from skin diseases to burns and infections among humans, are sold under many company names. The oil content analyzes of these plants have been reported in detail with scientific research and it has been proven that they are rich in conjugated linolenic acid, which is used especially in sports nutrition and treatments against obesity. The content of these commercially available oils was controlled by this study for the first time. In this study, the product content and antimicrobial properties of two companies sold as bitter gourd and marigold oil were investigated.

Keywords: *Momordica charantia*, *Calendula officinalis,* antimicrobial activity, commercial oils

INTRODUCTION

Fats are one of the basic elements that must be taken into our body in the daily diet. They are powerful energy stores that provide the absorption of vitamins and minerals entering our body and maintaining body temperature. They may contain varying amounts of components such as mono, diacylglycerols, sterols, phosphatides, cerebrosides, color and fragrance substances (Willis et al., 2002). However, due to many reasons such as production conditions, improper consumption or chemical changes in the production stages, oils can also cause some diseases such as obesity and cancer in the human body (Erdoğan Eliuz, 2020).

Antibiotic resistance of microorganisms may have gained a new dimension with the covid-19 pandemic in the last two years. Because infection by Covid-19 impairs both innate and adaptive antibacterial host defenses, bacteria such as *Streptococcus pneumoniae*, *Staphylococcus aureus* infect people faster. At the same time, the fatal nature of all viral infections, whether or not Covid-related, has been associated with bacterial superinfections (Clancy et al., 2021). Therefore, people's interest has increased in natural plants and they have used plant oils for treatment purposes against many diseases, especially infectious diseases. Among them, Bitter Gourd and Marigold plants, which we use in screening, are used in the treatment of many diseases such as infection, pain and burns among people (Şekeroğlu and Gezici, 2020).

Calendula officinalis is a member of the Asteraceae family and is cultivated especially in parks and gardens due to its attractive appearance. In our country, it is known with names such as "*aynısefa, altıncık, kadifeçiçeği, tıbbi nergiz"*. Calendula seed is a plant rich in fatty acids and has chemical components such as triterpene saponosides, triterpene esters, phenolic compounds, carotenoids and volatile compounds (Çeçen 2009). *Momordica charantia* L., known as bitter gourd, karela, balsam pear or balsam apple, bitter gourd, is a tropical fruit belonging to the Cucurbitaceae family. In Turkey, it is known with names such as "*kudret narı, acı kabak, acı kavun, acı hıyar, acı dülek, balsam armudu"*. It is included in the Momordica genus fruit group and has a thin body and a delicate structure. It is an annual, fruit 10-20 cm long, rough, ivy structure, yellow or red in summer blooming plant. Its homeland is India, however, it is produced in many parts of the world. In Turkey, it is grown in the Marmara and Aegean Regions. Bitter melon seeds are very rich in oil and protein content (Akihisa et al., 2007; Şavşatli et al., 2018).

In our study, content analysis and antimicrobial activity of commercial bitter gourd and marigold oils were performed.

MATERIALS AND METHODS

Preparation of the cold-pressed oil and analysis

Calendula officinalis (Lokman Sema Sultan) and *Momordica charantia* (Karden) were purchased from the herbal market, Mersin/Turkey. Gas chromatography (GC) was used to identify the fatty acid compositions of bitter gourd and marigold oil. Plant fatty acids were subjected to the preparation of methyl esters before GC analysis. Therefore, 6 mL of 0.5 N methanolic NaOH was added to 0.5 g of plant fatty acid, and the mixture was heated in a reflux water bath for 5-10 minutes. At the end of the period, the BF3-methanol complex was added, followed by the addition of 5 mL of heptane. At the end of the formed phase separation, the upper phase containing Na_2SO_4 containing fatty acids was taken to ideal sample apparatuses and prepared for GC. The GC-FID analysis was carried out on an Agilent gas chromatograph equipped with a flame ionization detector (FID). The separation was achieved using an HP Innowax capillary column (30 m x 0.25 mm x 0.25 μm film thickness) and helium as carrier gas. The temperature of column was 40 ºC with 5 min initial hold, and to 140 °C at 10 °C/min, and then to 250 °C after 10 min; injection mode 1 μL, 280 ºC, split 100:1. The results were compared with Fatty Acid Methyl Esters (FAME) standard (Sigma-Aldrich-supelco) (Erdoğan Eliuz et al., 2021).

Antimicrobial analysis

The antimicrobial properties of the oils were determined. For antimicrobial property: well dilution techniques were used to determine the antimicrobial activities of the oils. The standard types of microorganisms to be examined were: *Klebsiella pneumoniae*, *Escherichia coli* (ATCC 25923), *Enterococcus faecalis* (ATCC 29212), *Pseudomonas aeruginosa* (ATCC 25853), *Staphylococcus aureus* (ATCC 25813), *Bacillus subtilis* (ATCC 6633), *Candida parapsilosis* (ATCC 22019), *Candida glabrata* (ATCC 4322). These microorganisms are incubated one day in Nutrient Broth (bacteria) and Sabouraud dextrose broth (yeasts) medium. Bacteria (~10^4 CFU) and fungal (~10^5 CFU) density are adjusted according to McFarland. Growing cultures are then seeded on Mueller Hinton agar plates by the spread method. The 6 mm wells are drilled in the middle of the Petri dishes. Oils (15μL) were added to the wells. At the end of the 24-hour incubation, the zones formed are measured.

RESULTS and DISCUSSION

The components of fatty acid of *C. officinalis* and *M. charantia* with their retention time (Rt) and relative abundance (%) were listed in Table 1. The *C. officinalis* was abundant in methyl linoleate (53.34%), cis-9-oleic acid methylester (32.65%), palmitic acid (6.04%), stearic acid (4.29%), methyl-cis-11-eicosanoate (1.64%), while the major FAs in *M. charantia* oil were methyl linoleate (57.24%), cis-9-oleic acid methylester (27.24%), palmitic acid (6.51%), stearic acid (3.84%), ligniseric acid (1.32%), decosadienoic acid (1.11%).

The results of the chemical composition of *C. officinalis* in this report compared with previous reports and it was found that they are essentially different. Linoleic (78.82%) and oleic acids (10.67%) were the main fatty acids of *C. officinalis* extracted in laboratory conditions (Erdoğan Eliuz 2020). Ashwlayan et al., (2018) reported that oleic acid was in the range of 68–73% and linoleic acid of 9.6-11.8% in *C. officinalis*. By contrast, both fatty acids were not detected in commercial *C. officinalis* in this work.

For *M. charantia* oil, in Zubair's study (2018), stearic acid and eleostearic acid were the most abundant fatty acids making up 37.60% and 39.16%, respectively. Palmitic acid (2.36%),

oleic acid (8.71%), and linoleic acid 0.67% were the smaller amount in the oil. In another study, Ghaffar et al. (2017) showed that stearic acid (66.57%) and oleic acid (9.76%) were abundant in *M. charantia* oil. In our study, we did not detect oleic acid, eleostearic acid, and linoleic in commercial *M. charantia*.

Table 1. Chemical composition of *C. officinalis and M. charantia*

Fatty acid	***C. officinalis***		***M. charantia***	
	Rt	Ra	Rt	Ra
Miristic acid	19.746	**0.157**	-	-
Palmitic acid	23.118	**6.04**	23.053	**6.51**
Palmitoleic acid	24.148	**0.145**	-	-
Margaric acid	24.672	**0.070**	-	-
Stearic acid	26.336	**4.29**	26.193	**3.84**
Cis-9-oleic acid methylester	27.295	**32.65**	27.158	**27.24**
Methyl linoleate	28.714	**53.34**	28.561	**57.24**
Arachidic acid	-	-	29.134	**0.21**
N6 gama linolenic acid	29.536	**0.09**	-	-
Methyl-cis-11-eicosanoate	30.078	**1.64**	30.047	**0.36**
Behenic acid	31.945	**0.59**	31.907	**0.85**
N3 cis-11,14,17-eicotrienoic acid	32.870	**0.13**	-	-
Decosadienoic acid	-	-	34.449	**1.11**
Ligniseric acid	34.665	**0.24**	34.635	**1.32**

The antimicrobial activity of *C. officinalis* and *M. charantia* against *K. pneumoniae*, *E. coli*, *E. faecalis*, *P. aeruginosa*, *S. aureus*, *B. subtilis*, *C. parapsilosis*, *C. glabrata* were shown in Table 2. No antimicrobial activity was determined for both oils (IZ=0).

Table 2. IZ (mm) of *C. officinalis and M. charantia* against the pathogens

	IZ (mm)		
	C. officinalis	***M. charantia***	**Antibiotic**
K. pneumoniae	0	0	10.7±0.11
E. coli	0	0	7.7±0.2
E. faecalis	0	0	8.1±0.1
P. aeruginosa	0	0	12.1±0.01
S. aureus	0	0	9.0±0.01
B. subtilis	0	0	13.7±0.01
C. albicans	0	0	7.9±0.01
C. parapsilosis	0	0	9.2±0.02
C. glabrata	0	0	11±0.01

As positive control, ampicillin for bacteria and fluconazole for yeast **(**16 µg.ml^{-1}).

Erdoğan Eliuz (2020) showed that oil of *C. officinalis* was strong natural agent against many pathogens such *as E. coli, B. subtilis, S. aureus, E. fecalis, C. albicans,* and *C. parapsilosis*. The bioactive components such as proteins, seed oil, tannins of *M. charantia* showed antimicrobial activity against many pathogens including *Helicobacter pylori* (Gupta et al., 2011; Villarreal-La Torre et al., 2020).

CONCLUSION

In the study, the content analyzes of commercial *C. officinalis* and *M. charantia* fatty acids were similar to each other in terms of basic substances. Cis-9-oleic acid methyl ester and methyl linoleate were detected at high rates in both plants. The fatty acids of both plants were not active against bacteria, which may be due to their essential components. As a result, although oleic acid and linoleic acid are natural antimicrobial agents, it has been shown that Cis-9-oleic acid methyl ester and methyl linoleate fatty acids should not effective against microorganisms.

As a result;

* Cis-9-oleic acid methyl ester and methyl linoleate are esterification products. The esterification reaction may occur due to storage or early harvesting. It affects the quality.

* The contents of commercial oils should be written on their labels for food safety

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LİFLİ BETONARME KESİTLERİN KARŞILIKLI ETKİ DİYAGRAMLARI

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ÖZET

Betonarme kolon elemanlarda çelik lif oranının karşılıklı etkileşim diyagramı üzerindeki etkisi bu çalışmanın amacıdır. Çalışmayı destekleyici olması açısından taze beton deneyleri ve sertleşmiş beton deneyleri de gerçekleştirilmiştir. Çelik lif oranının karşılıklı etkileşim diyagramı üzerindeki etkisi 12 tane 100x100x1500 mm boyutlarında betonarme kolon numunesi ile elde edilmeye çalışılmıştır. Deney programında ana parametre olarak çelik lif oranı seçilmiştir. Bu amaçla test numuneleri üç gruba ayrılmıştır. Sertleşmiş beton deneyleri sonucunda dayanım sınıfı C 30 olarak belirlenen beton içerisindeki çelik lif oranları 0 kg/m³, 30 kg/m³, 60 kg/m³ tür. Deney numunelerinde enine ve boyuna donatı olarak 8 mm 'lik donatı kullanılmıştır. Betonarme kolonların boyutlandırılması ve donatılandırılması Türk Standardı temel alınarak yapılmıştır. Kolon numuneleri hazırlandıktan 28 gün sonra eksantrik olarak yüklenerek basınç deneyine tabi tutulmuştur. Bu deney sırasında kolonların çeşitli yerlerine LVDT bağlanarak kolonda meydana gelen deplasmanlar da ölçülebilmiştir. Eksantrik yüklenerek basınç deneyine tabi tutulan betonarme kolonların eksantrisiteye göre momentleri hesaplanmıştır. Karşılıklı etkileşim diyagramları çizilmesi için gerekli basit eğilme durumu için hesap da teorik olarak yapılmıştır. Böylece farklı çelik lif oranlarına göre karşılıklı etkileşim diyagramları çizilmiştir. Son olarak deneylerden elde edilen sonuçlar irdelenmiştir. Yapılan bu çalışma neticesinde beton içerisindeki çelik lif oranının artmasıyla kolonun taşıma gücünü arttığı belirlenmiştir fakat bu artış sürekli değildir. Şöyle ki, deney sonucuna göre en elverişli sonuçlar 30 kg/m³ çelik lif oranlı betonarme kolonlardan elde edilmiştir.

Anahtar Kelimeler: Karşılıklı etkileşim diyagramı, çelik lif oranı, eksantrik yükleme, yer değiştirme.

Abstract

The effect of steel fiber ratio on the interaction diagram of reinforced concrete column elements is the aim of this study. In order to support the study, fresh concrete tests and hardened concrete tests were also performed. The effect of steel fiber ratio on the interaction diagram was tried to be obtained with 12 100x100x1500 mm reinforced concrete column samples. Steel fiber ratio was chosen as the main parameter in the experimental program. For this purpose, the test samples were divided into three groups. As a result of the hardened concrete tests, the steel fiber content in the concrete, which is determined as strength class C 30, is 0 kg / m³, 30 kg / m³, 60 kg / m³. 8 mm reinforcement was used as transverse and longitudinal in test samples. Dimensioning and reinforcement of reinforced concrete columns are based on Turkish Standard. Column samples were loaded eccentrically 28 days after preparation and subjected to pressure test. During this experiment, displacements occurring in the column were also measured by LVDT binding to various locations of the columns. According to the eccentric load of the reinforced concrete columns subjected to pressure test moments were calculated. The calculation for the simple bending state required for the drawing of interaction diagrams was theoretically done. Thus, interaction diagrams were drawn according to different steel fiber ratios. Finally, the results obtained from the experiments were examined. As a result of this

study, it has been determined that the carrying capacity of the column increases with the increase of steel fiber content in concrete but this increase is not continuous. Namely, according to the test results, the most suitable results were obtained from reinforced concrete columns with steel fiber ratio of 30 kg / m³.

Keywords: Interaction diagram, steel fiber ratio, eccentric loading, displacement

GİRİŞ

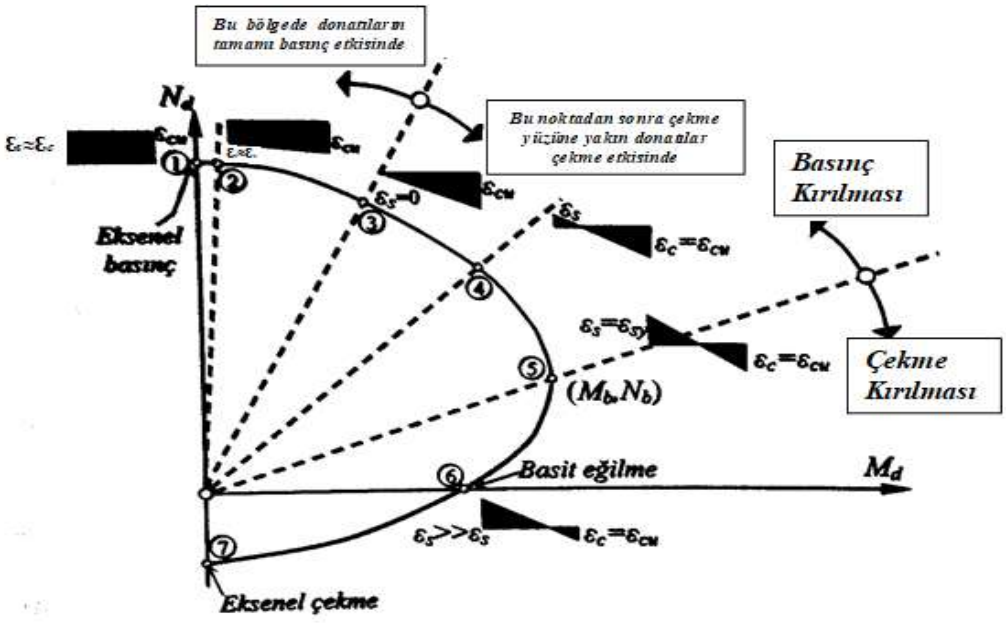
Beton kompozit bir yapı malzemesi olarak tanımlanmaktadır. İçeriğinde agrega, çimento, su ve bunun yanında gerekirse kimyasal ve mineral katkılardan oluşur. Hidrolik bağlayıcı olarak da anılan çimento, su ile reaksiyona girerek oluşturduğu hidratasyon ürünleri sayesinde agrega tanelerini birbirine bağlayarak bir arada tutma işlevi görmektedir. Agrega, betonun iskeletini teşkil eder, aynı zamanda çimento hamurunda meydana gelebilecek sünme, büzülme, şişme gibi hacimsel hareketleri en aza indireceği gibi, betonun mühendislik özelliklerini de olumlu şekilde etkiler. Kimyasal ve mineral katkı maddeleri gerek taze ve gerekse sertleşmiş beton özelliklerinin istenilen yönde değiştirilmesi amacıyla kullanılır. Bilinçli bir şekilde kullanılan katkı maddesi betonda önemli teknik ve ekonomik avantaj sağlayabilir (DSİ 2013). Lifli beton agrega, çimento, su ve liflerin karıştırılmasıyla oluşan betondur. Çelik, cam ve polipropilen sık kullanılan beton lifleridir. Lifli betonda sağlanması gereken önemli özellik liflerin beton içerisinde homojen olarak dağılmasıdır ve bu homojenliği muhafaza etmek esastır. Homojen dağılan lifler beton çatlaklarını önlemede ve çatlakların beton içerisinde ilerlemesinin önüne geçmekte ve bu sayede betonu daha sağlam hale getirmektedir. Ayrıca lifler betonun özellikle çekme ve eğilme dayanımını arttır. Betonarme, beton ve donatının birlikte çalışarak birbirlerinin eksiklerini kapatacak şekilde bir araya gelmesidir. Beton yüksek basınç dayanımına sahip olmasına karşın düşük çekme dayanımına sahiptir. Betonun bu kusurunu önlemek için içine yüksek çekme dayanımına sahip çelik çubuklar yerleştirilir. Karşılıklı etki diyagramı kesitin taşıyabileceği eğilme momenti ve normal kuvvetin eksen takımında gösterilerek oluşturulan diyagramdır. Karşılıklı etki diyagramları kesitlerin taşıma güçlerinin bulunmasında veya verilen bir kesitin analizinin yapılmasında en kolay uygulanan yöntemdir.

Bu çalışmada, çelik lif katkısız, 30 kg/m3 çelik lif katkılı ve 60 kg/m3 çelik lif katkılı betonlar üretilmiş ve 4 adet Ø 8'lik boyuna donatı ile 8 adet Ø 8'lik etriyelerle sarılmış betonarme kesitler (kolonlar) dökülmüştür. Betonarme kesitler üzerinde yapılan deneyler sonucunda normal kuvvet ve eğilme moment çiftleri belirlenmiştir. Bu bulgular sonucunda karşılıklı etkil diyagramları çizilmiştir.

ARAŞTIRMA VE BULGULAR

Çimento esaslı kompozitlerin çelik liflerle mikro düzeyde karşılaşılan ve mevcudiyeti neredeyse engellenemeyen çatlakların gerek köprüleme gerekse çatlak oluşumuna sebep olabilecek çekme gerilmelerini kontrol etmesi yoluyla çatlak gelişimi uzun yıllardır beton teknolojisinde kullanılmaktadır. Bu bağlamda çatlak gelişiminin kontrolü özellikle gevrek davranıştan sünek davranışa doğru zorlanan betonarme kesit davranışı için önerilebilir bir yol olarak ortaya çıkmaktadır. Özellikle, kolonlarda meydana gelebilecek kırılma çeşitleri ele alıdığında yedi kırılma şekli ortaya çıkar (Şekil 1). Eksenel basınç kırılması: Kesitin tamamı basınç etkisindedir ve beton ezilmektedir. Donatıdaki birim kısalma da betonun maksimum birim kısalmasına eşittir (Ɛs=Ɛcu). Moment değeri sıfırdır (M=0). Basınç kırılması: Kesitin tamamı yine basınç etkisindedir ve beton ezilmektedir. Donatıdaki birim kısalma komşu betonun birim kısalmasına eşittir(Ɛs=Ɛc). Momentin değeri sıfırdan farklıdır, ancak değeri çok küçüktür. Basınç kırılması: Bu noktadan sonra çekme yüzüne yakın donatıda çekme oluşmaya başlamakta. Tam bu noktada donatıdaki birim kısalma/uzama sıfırdır (Ɛs=0). Momentin değeri

2'ye göre biraz daha artmıştır. Basınç kırılması: Kesitte hem çekme hem de basınç oluşmuştur. Çekme yüzüne yakın donatıda çekme oluşmuş, ancak birim uzama akma dayanımına karşılık gelen uzamadan daha küçüktür (Ɛs<Ɛsy). Momentin değeri 3'e göre artmıştır. Dengeli kırılma: Çekme yüzüne yakın donatıda birim uzama akma birim uzamasına ulaşmış (Ɛs=Ɛsy) ve aynı anda betondaki birim kısalma da maksimum birim kısalmaya ulaşmıştır (Ɛc=Ɛcu). Moment en büyük değerine ulaşmıştır. Çekme kırılması: Önce çekme yüzüne yakın donatıdaki birim uzama, akma birim uzamasını aşmış (Ɛs>Ɛsy) daha sonra beton maksimum birim kısalmasına ulaşmıştır (Ɛc=Ɛcu). Eksenel kuvvetin değeri sıfırdır. Eksenel çekme kırılması: Kesitin tamamı çekme etkisindedir. Momentin değeri sıfırdır.



Şekil 1. Kolonlarda meydana gelebilecek kırılma çeşitleri (Doğangün 2008).

Bu çalışmada dört lifsiz kontrol numunesi olarak tasarlanan betonarme kolonların yanı sıra dört tane 30 kg/m^3, dört tane 60 kg/m^3 çelik lif içeren betonarme kolonlar üretilmiştir. Söz konusu betonarme kolonların donatıları enine ve boyuna 8 lik donatı kullanılırken, üretilen çelik lifli betonlar için ilgili standart ve yönetmelikler doğrultusunda tek eksenli basınç, yarmada çekme ve eğilme gibi bazı mekanik deneyler yapılmıştır. Tablo 1 de sunulan değerler üçer numunenin deney sonuçlarının ortalamasıdır.

Tablo 1. Betonarme kolonların imalatında kullanılan betonun bazı mekanik özellikleri

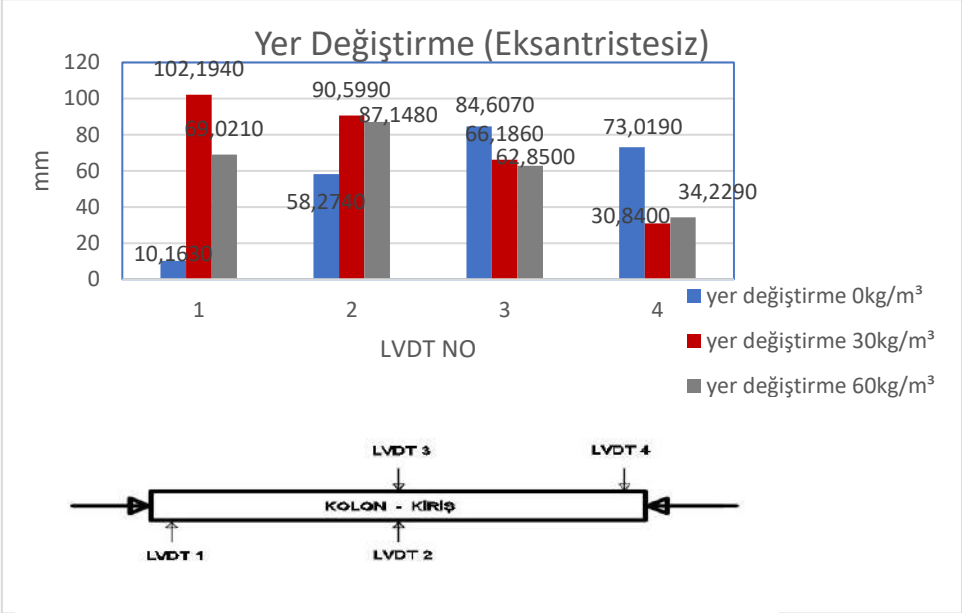
Beton Sınıfı C30/37	**Çelik Lif Katkısız Beton Basınç Dayanımı**	**30 kg/m^3 Çelik Lif Katkılı Beton Basınç Dayanımı**	**60 kg/m^3 Çelik Lif Katkılı Beton Basınç Dayanımı**
14. Günde	21.2	22.0	20.6
28. Günde	34.0	32.6	34.4
Beton Sınıfı C30/37	Çelik Lif Katkısız Beton Yarmada Çekme Dayanımı (MPa)	30 kg/m^3 Çelik Lif Katkılı Beton Yarmada Çekme Dayanımı (Mpa)	60 kg/m^3 Çelik Lif Katkılı Beton Yarmada Çekme Dayanımı (Mpa)
28. Günde	32,1	33,2	42,4
Beton Sınıfı C30/37	Çelik Lif Katkısız Beton Eğilme Dayanımı (kgf/cm^2)	30 kg/m3 Çelik Lif Katkılı Beton Eğilme Dayanımı (kgf/cm^2)	60 kg/m3 Çelik Lif Katkılı Beton Eğilme Dayanımı (kgf/cm^2)
7. Günde	437	421	428
14. Günde	538	522	535
28. Günde	602	595	598

Atatürk Üniversitesi, Mühendislik Fakültesi, İnşaat Mühendisliği Bölümü, Yapı, Malzeme ve Tatbiki Mekanik Laboratuvarında gerçekleştirilen deneylerde, laboratuvar şartları da göz önünde bulundurularak kolonlar 10x10x150 cm olacak şekilde tasarlanmıştır. Kolon deneylerinde çatlakların izlenmesi ve kolay ölçülebilirliğin sağlanması adın bütün numuneler kireçle boyanmış ve yan yüzeylerine kare bir ağ yapısı çizilmiştir (Şekil 2).

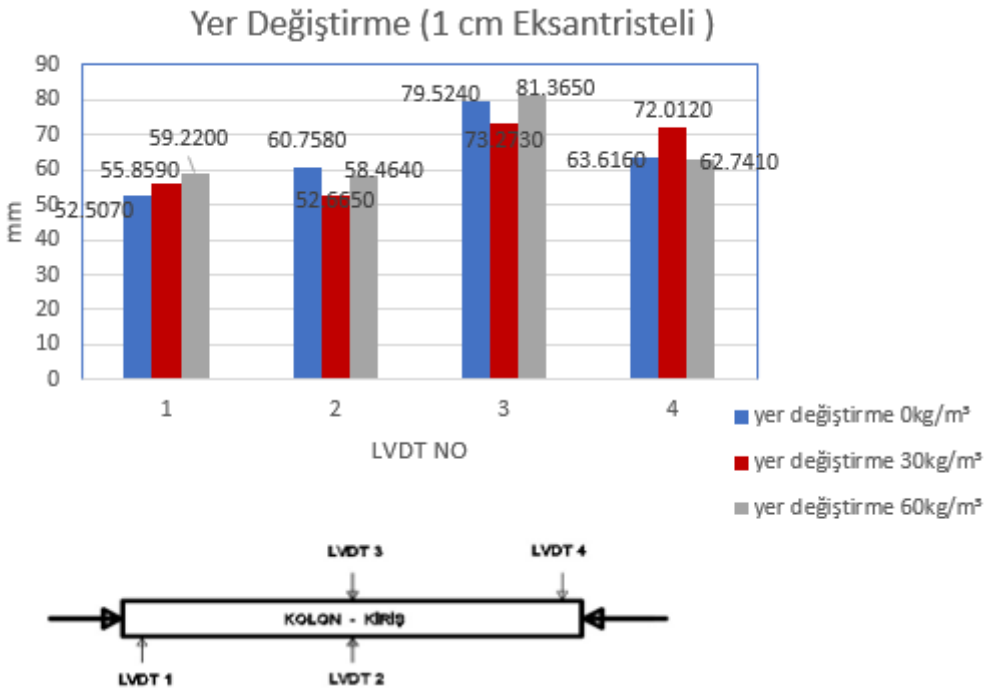


Şekil 2. Betonarme kolon deney ve ölçüm düzeneği

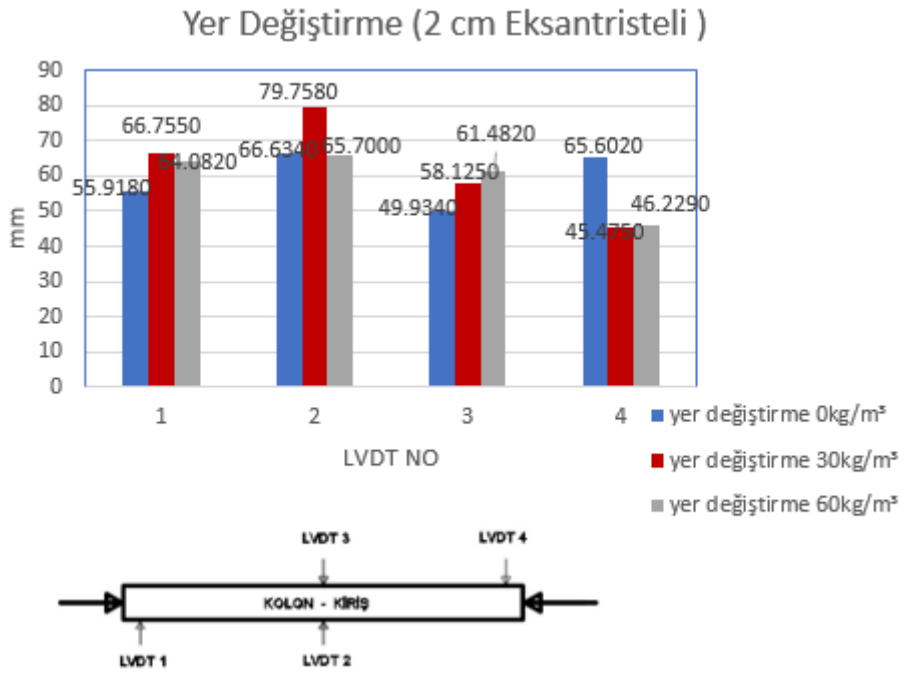
Yapılan deneyler sonucunda 4 adet LVDT bağlanarak bilgisayar ortamında elde edilen yer değiştirmeler eksantristesiz numuneler için Şekil 4, 1 cm eksantristeli numuneler için Şekil 5'de, 2 cm eksantristeli numuneler için Şekil 6 da, son olarak 3 cm eksantristeli numuneler için Şekil 7 de ve nihai test edilen kolon görselleri ise Şekil 8 de sunulmuştur.



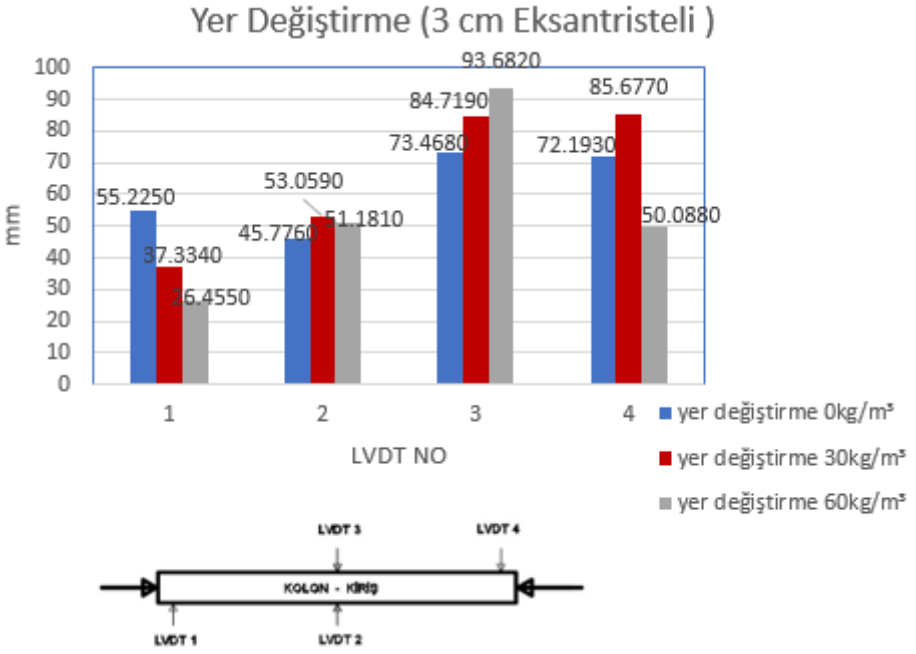
Şekil 4. Eksantristesiz numunelerin yer değiştirmesi



Şekil 5. 1 cm eksantristeli numunelerin yer değiştirmesi



Şekil 6. 2 cm eksantristeli numunelerin yer değiştirmesi

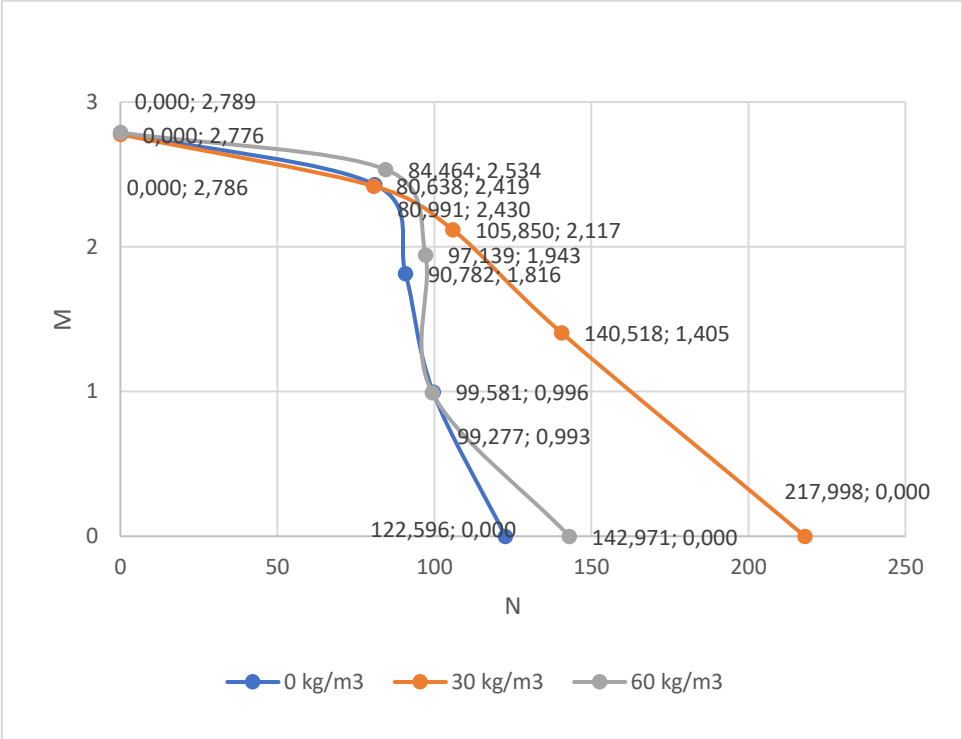


Şekil 7. 3 cm eksantristeli numunelerin yer değiştirmesi



Şekil 8. Deney sonrası betonarme kolonlar

Elde edilen ve yukarıda sunulan veriler ışığında 0 kg/m^3, 30 kg/m^3 ve 60 kg/m^3 lif katkılı numuneler için deneysel ve teorik olarak elde edilen M ve N değer çiftleri Şekil 9 da görülmektedir.



Şekil 9. Karşılıklı etkileşim diyagramı

SONUÇ

Betonarme kolon elemanlarda çelik lif oranının karşılıklı etkileşim diyagramına etkisinin araştırıldığı bu çalışmada 12 adet numune üzerinde deney yapılmıştır. Çalışmayı destekleyici olması açısından taze ve sertleşmiş beton deneyleri de yapılmış olup bu bilgiler ışığında aşağıdaki sonuçlara varılmıştır.

Taze beton üzerinde yapılan çökme testi neticesinde çelik lif katkısız betonun 15 cm çökmesi olduğu 30 kg/m^3 ile 60 kg/m^3 çelik lif katkılı betonun 14 cm çökmesinin olduğu görülmüştür. Deneyin sonucunda çelik lif katkısının betonun yerleşmesine olumsuz etkisinin olduğu düşünülebilmektedir. Net yargıya varabilmek için bu konu üzerinde daha çok çalışmanın yapılması uygun olacaktır. Sertleşmiş beton üzerinde yapılan beton basınç dayanımı testine göre 14 günlük sonuçlar katkısız, 30 kg/m^3 katkılı ve 60 kg/m^3 katkılı silindir numunelere göre sırasıyla 21.2, 22.0 ve 20.6 MPa çıkarken 28 günlük sonuçlar 34.0, 32.6 ve 34.4 MPa çıkmıştır. 14 günlük dayanımlara bakıldığında çelik lif katkısnın beton dayanımını azalttığı düşünülse de 28 günlük sonuçlara göre en yüksek dayanım 60 kg/m3 çelik lif katkılı numuneden elde edilmiştir. Dolayısıyla bu sayıdaki sonuçlarla kesin hüküm vermek söz konusu olmayacaktır. Sertleşmiş beton deneylerinden yarmada çekme dayanımı tayini yapılmış olup 28 günü sonunda yapılan bu deney neticesinde katkısız, 30 kg/m^3 katkılı ve 60 kg/m^3 katkılı silindir numunelerin sonuçları sırasıyla 32.1, 33,2 ve 42.4 MPa çıkmıştır. Çelik lifin beton içerisinde donatı gibi davranıp çekme dayanımını arttırdığı sonucuna varılmıştır. Sertleşmiş beton deneylerinden eğilme dayanımı tayini yapılmış olup 7, 14 ve 28 günlük sonuçlar katkısız, 30 kg/m^3 katkılı ve 60 kg/m^3 katkılı küp kiriş numuneler üzerinde bulunan sonuçlar sırasıyla 437, 421, 428; 538, 522, 535 ve 602, 595, 598 kgf/cm2' dir. Yer değştirme sonuçları genel olarak incelendiğinde maksimumyer değiştirme 1 nolu LVDT' de 102.194 mm olarak 30 kg/m^3 lük eksantristesiz yüklenen numunede, minimum yer değiştirme ise yine aynı 1 nolu LVDT' de 10.163 mm olarak 0 kg/m^3 lük eksantristesiz yüklenen numunede oluşmuştur. Kolonların karşılıklı etkileşim diyagramlarını çizebilmek için yapılan deneylerde; 0 kg/ m^3 lifli betonda 0, 1, 2, 3 cm eksantriste verilerek bulunan M –N değerleri sırasıyla 0.000, 122.596; 0.996, 99.581; 1.816, 90.782; 2.430, 80.991 kNm – kN' dur. Basit eğilme durumunda teorik olarak hesaplanan M – N değerleri ise 2.786, 0.000 kNm – kN' dur. 30 kg/ m^3 lifli betonda 0, 1, 2, 3 cm eksantriste verilerek bulunan M –N değerleri sırasıyla 0.000, 217.998; 1.405, 140.518; 2.117, 105.850; 2.419, 80.638 kNm – kN' dur. Basit eğilme durumunda teorik olarak hesaplanan M – N değerleri ise 2.776, 0.000 kNm – kN' dur. 60 kg/ m^3 lifli betonda 0, 1, 2, 3 cm eksantriste verilerek bulunan M –N değerleri sırasıyla 0.000, 142.971; 0.993, 99.277; 1.943, 97.139; 2.534, 84.464 kNm – kN' dur. Basit eğilme durumunda teorik olarak hesaplanan M – N değerleri ise 2.789, 0.000 kNm – kN' dur.

Çelik lif oranının kolon taşıma gücünü nasıl etkileyeceğinin araştırıldığı bu çalışmada; çelik lif katkılı numunelerden elde edilen değerlerin çelik lif katkısız numunelerden elde edilen değerlerden yüksek olduğu görülmektedir. Örneğin eksantristesiz yüklenen çelik lif katkısız numunede normal kuvvet 122.596 kN çıkarken bu değer 30 kg/m^3 çelik lif katkılı numunede 217.998 kN, 60 kg/m^3 çelik lif katkılı numunede ise 142.971 kN çıkmıştır. Bu sonuçlar üzerinden değerlendirme yapıldığında çelik lif katkısının taşıma gücüne olumlu katkısı olduğu söylenebilir. Fakat çelik lif oranı arttıkça taşıma gücü artar gibi bir öneride bulunulamaz. Keza 30 kg/m^3 çelik lif katkılı numunelerden elde edilen çok daha büyük çıktığından bu yargı yanlış olur. Hal böyle olunca çelik lif oranının betonarmenin diğer özelliklerini de etkilediği düşünülerek taşıma gücünü maksimum etkileyecek miktara göre bir dizi deney yapılması uygun olacaktır. Yapılan bu çalışma neticesinde 30 kg/m^3 çelik lif katkısı en iyi sonuçları vermiştir.

TEŞEKKÜR

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LAPLACE DENKLEMİ ÇÖZÜMÜNÜN RASTGELE YÜRÜYÜŞ METODU İLE ANALİZİ

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ÖZET

Mühendislik bilimlerinin birçoğunda zamandan bağımsız problemlerin çözümünde, kısmi diferansiyel denklemler karşımıza çıkmaktadır. Bu problemlerin tipine göre iki farklı matematiksel model uygulanır. Bu modeller deterministik ve olasılıksal olarak adlandırılır. Deterministik modellerde, giriş parametreleri ortalama değerleri ile verilir ve çözümlerin elde edilmesinde sonlu elemanlar, sonlu farklar gibi standart nümerik yaklaşımlar uygulanır. Olasılıksal modellerde ise diferansiyel denklem bir ya da daha çok rastgele değişken ile ele alınır. Giriş verilerinin rastgele seçilmesinin ardından genetik algoritmalar, yapay sinir ağları, Monte Carlo gibi metotlar yardımıyla çözüme ulaşılır.

Bu çalışmada iki boyutlu Laplace denkleminin çözümü, rastgele yürüyüş metodu kullanılarak analiz edilmiştir. Problem, kenarları mükemmel iletken olan ve elektrik potansiyel değerleri bilinen dikdörtgensel bölgedir. Öncelikle probleme ayrıklaştırma yapılarak, bilinmeyen potansiyellerin hangi noktalarda bulunacağı belirlenir. Daha sonra sonlu farklar metodu yardımıyla merkezi farklar kullanılarak diferansiyel denklem fark denklemlerine dönüştürülür. Ayrıklaştırılan her bir düğüm noktasından komşuluğunda bulunan dört düğüm noktasına eş olasılıkla gidildiği kabul edilerek, rastgele bir adım atılır. Bu adımlar, sınır bölgesine gelinceye kadar sürdürülür. Sınır bölgesine gelindiği anda yürüyüş sonlandırılır ve ilk düğümün potansiyeli, ulaşılan sınır bölgesindeki potansiyelin adım sayısına bölünmesiyle ifade edilir. Tüm düğüm noktaları için bu yürüyüşler tekrarlanarak bilinmeyen potansiyel ifadelerine ulaşılır.

Uygulanan metodun doğruluğun belirlemek için, problemin analitik çözümü de elde edilerek karşılaştırma yapılmıştır. Yüksek doğrulukla çözümün yakınsağı görülmüştür.

Anahtar Kelimeler: Rastgele Yürüyüş, Sonlu Farklar Metodu, Laplace Denklemi, Ayrıklaştırma

ANALYSIS OF LAPLACE EQUATION SOLUTION USING RANDOM WALK METHOD

ABSTRACT

In many engineering areas, partial differential equations are confronted in time independent problems solutions. Two different mathematical models are applied according to the type of the problem. These models are named as deterministic and probabilistic models. In deterministic models, input parameters are given as the mean values and in order to obtain solutions, standard numerical approximations are applied such as finite elements and finite difference method. In probabilistic models, differential equation is handled with one or more random variables. After selecting random input values, solution is obtained with the help of several methods such as genetic algorithms, neural networks and Monte Carlo methods.

In this study, two dimensional Laplace equation is analyzed using random walk method. Problem is a rectangular region with perfectly conducting sides with known electric potential values. Firstly, discretization process is applied to determine the nodes where electric potential values are to be found. After that, finite difference method with centered difference is used and differential equation is converted to difference equations. A random step is taken for each node to one of the four neighbor points assuming that each direction is equally probable. This process continues until passing the boundary region. After reaching boundary, process is ended and the potential value of the node where random walk starts is expressed by the potential of the boundary divided by total step number. These walks are repeated for all nodes and unknown potentials are obtained.

In order to find the correctness of the method, analytical solution of the problem is used for comparison. High correctness and convergence are observed.

Keywords: Random Walk, Finite Difference Method, Laplace Equation, Discretization

GİRİŞ

Mühendislik bilimlerinde kısmi diferansiyel denklemler en sık karşılaşılan problemlerden biridir. Akışkanlar mekaniği, ısı transferi, yük dağılımı, dalga yayılımı gibi problemlerde kısmi diferansiyel denklemlerin çözümüne ihtiyaç duyulur. Elektrik mühendisliğinde de Laplace denkleminin çözümü, yük hareketleri, elektrik potansiyel, elektrik alan ifadelerinin bulunmasında önemli bir yer tutar. Bu çözümler yapılırken, sonlu elemanlar (Al-Taweel vd 2021), sonlu farklar (Kahlaf ve Mhassin 2021), genetik algoritmalar (Albadarneh vd 2021) kullanılmıştır. Laplace denklemi oluşturulurken, geometri 2 boyutlu (Milewski 2020) ya da 3 boyutlu olabilmektedir (Wang vd 2021).

Diferansiyel denklem çözümlerinde kullanılan bir diğer teknik de Monte Carlo ve rastgele yürüyüş tekniklerdir (Talebi vd 2017). Bu teknikler kullanılarak geometri üzerinde rastgele örneklemeler yapılarak çözüler bulunmaya çalışılmıştır.

Bu çalışmada iki boyutlu Laplace denkleminin çözümü, rastgele yürüyüş metodu kullanılarak bulunmuş ve sonuçlar gerçek çözüm ile karşılaştırılmıştır.

ARAŞTIRMA VE BULGULAR

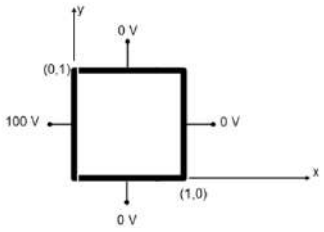
Laplace denkleminin iki boyutta kartezyen koordinatlarda yazıldığında

$$\frac{\partial^2 U}{\partial x^2}+\frac{\partial^2 U}{\partial y^2}=0 \quad (1)$$

elde edilir. Burada U, bilinmeyen potansiyel ifadesidir. Denklemin çözümünü elde etmek için sınır koşullarına ihtiyaç duyulur. Eğer sınırlarda potansiyelin değerleri belli ise Dirichlet, türevlerin değeri belli ise Neumann adını alır. Bu çalışmada, sınırlarda potansiyel değerleri belli olduğu için Dirichlet tipi sınır koşulları kullanılmıştır.

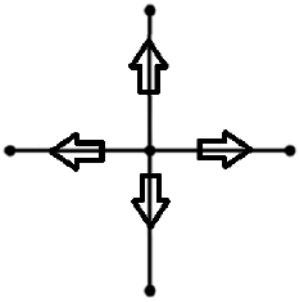
$$\begin{aligned} U &= a\,(Dirichlet) \\ \frac{\partial U}{\partial n} &= b\,(Neumann) \end{aligned} \quad (2)$$

Geometri, x-y düzleminde bulunan, kenarları iletken olan kapalı bir karesel bölgedir ve Şekil 1'de gösterilmiştir. Sınır potansiyelleri de şekil üzerinde verilmiştir.



Şekil 1. Problem Geometrisi

Problemin çözümü için geometri ayrıklaştırılarak küçük bölmelere bölünür. Daha sonra Şekil 2'de belirtildiği üzere düğüm noktaları elde edilir. Ardından rastgele yürüyüş metodu uygulanır. Bu metotta her bir düğümden, komşuluğundaki 4 noktaya p=0.25 olasılıkla gitmesi için bir rastgele yürüyüş başlatılır. Varılan düğümden de kendi komşuluğundaki 4 noktaya yine p=0.25 olasılıkla gitmesi için zorlanır. Bu yürüyüş, sınırlara ulaşıncaya kadar devam eder. Sınır bölgesine ulaşınca potansiyel kaydedilir. Çok sayıda yapılan rastgele yürüyüş sonrası, ilk başta yolculuğa başlanan düğümün potansiyeli, ulaşılan sınır bölgesinde potansiyellerin aritmetik ortalaması olarak ifade edilir.



Şekil 2. Ayrıklaştırma sonrası elde edilen düğüm noktası ve komşu düğümler

İlgili noktanın potansiyel ifadesi de, (3) ile belirtilmiştir.

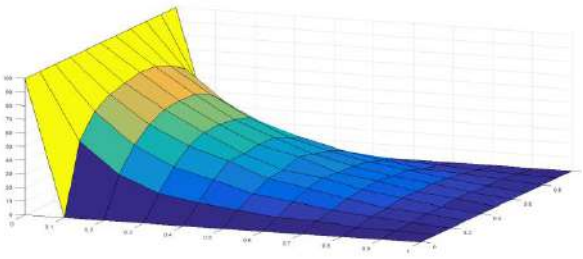
$$U(x,y) = \frac{1}{N} \sum_{n=1}^{M=2000} f(x_i^{'}, y_i^{'}) \qquad (3)$$

Yapılan simulasyonlarda, V_0=100 V, a=b=1 m olarak seçilmiştir. Rastgele yürüyüş için de her bir nokta için 2000 yürüyüş sayısı belirlenmiştir.

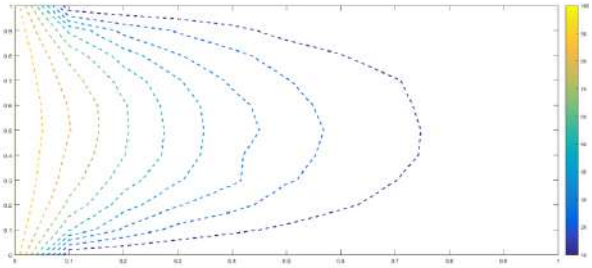
Problemin gerçek çözümü ise bir toplam ifadesi şeklinde (4) ile verilebilir.

$$U(x,y) = \frac{4V_0}{\pi} \sum_{n=odd}^{\infty} \frac{\sinh(n\pi(a-x)/b)}{n\sinh(n\pi a/b)} \sin(\frac{n\pi y}{b}) \qquad (4)$$

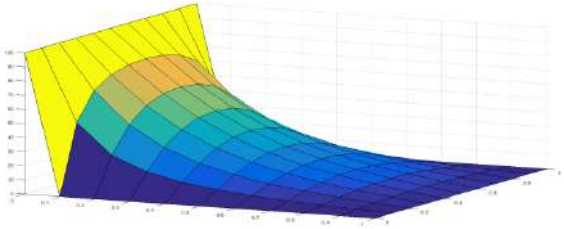
Parametreler yerine yazıldığında, toplam ifadesi ve rastgele yürüyüş yapılarak elde edilen grafikler Şekli 3'te sırasıyla verilmiştir.



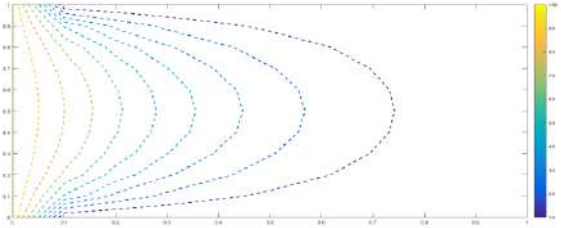
Şekil 3(a). Rastgele yürüyüş metodu kullanılarak elde edilen potansiyelin yüzey grafiği



Şekil 3(b). Rastgele yürüyüş metodu kullanılarak elde edilen potansiyelin kontur grafiği



Şekil 3(c). Toplam ifadesi kullanılarak yürüyüş metodu kullanılarak elde edilen potansiyelin yüzey grafiği



Şekil 3(d). Toplam ifadesi kullanılarak elde edilen potansiyelin kontur grafiği

Şekil 3(a) ve (b)'de sırasıyla rastgele yürüyüş metodu ile elde edilen yüzey potansiyel dağılımı ve kontur dağılımı verilmiştir. Şekil 3(c) ve (d)'de ise sırasıyla toplam ifadesi ile elde edilen yüzey potansiyel dağılımı ve kontur dağılımı verilmiştir. Değerlerin birbiri ile tutarlı olduğu görülmüştür.

Metodun doğruluğunu anlamak adına her bir potansiyel değer hesaplanırken yapılan bağıl hata değerleri, Tablo 1'de verilmiştir. Bu hata değerleri, rastgele yürüyüş sayıları arttırılarak azaltılabilir.

Tablo 1. Rastgele yürüyüş ve toplam ifadeleri ile elde edilen potansiyel değerlerinin bağıl hata değerleri

-0.0387	-0.0349	0.0431	0.0171	-0.0418	0.1463	-0.1452	0.3050	-0.1882
0.0084	0.0194	0.0167	-0.0677	0.0115	-0.0657	-0.0060	0.0036	0.1332
0.0150	0.0186	-0.0168	-0.0984	-0.0153	-0.1043	-0.0437	0.0980	-0.1225
0.0174	0.0025	-0.0093	0.0334	0.0755	-0.0777	-0.0415	-0.0688	0.0880
-0.0048	0.0085	0.0126	0.0329	-0.0660	0.0370	-0.0593	0.0434	-0.0816
-0.0040	-0.0098	0.0128	-0.0088	0.0233	0.0232	0.0200	-0.0759	0.0132
0.0150	-0.0119	-0.0168	0.0259	0.0065	0.0030	-0.0746	-0.0189	0.0704
0.0106	0.0117	0.0135	-0.0356	-0.0049	0.0286	0.1699	-0.0422	-0.1317
0.0124	0.0162	-0.0887	-0.0761	0.1788	0.0485	0.0679	0.0878	0.1317

SONUÇ

Sonuç olarak, bu çalışma ile rastgele yürüyüş metodunun Laplace denkleminin iki boyutlu çözümünde kullanılabileceği gösterilmiştir. Daha büyük geometrilere de kolayca uygulanabilen bu yöntem ile farklı tipte problemlerin çözümünün bulunması mümkündür.

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BİR TİCARET BLOKU İNŞAATININ CPM/PERT TEKNİĞİ İLE PROJE YÖNETİMİ VE ZAMAN MALİYET ANALİZİ ÜZERİNE BİR ÇALIŞMA

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ÖZET

Bu çalışmada bir inşaat projesi analiz edilmiş olup CPM/PERT tekniği ile proje yönetimi ve doğrusal programlama ile zaman-maliyet analizi üzerine çalışılmıştır. Öncelikle faaliyetler, faaliyetlerin süreleri ve öncül-ardıl ilişkileri belirlenmiş, MS Project yazılımıyla iş programı hazırlanmıştır. Sonrasında kritik yol ve kritik faaliyetler elde edilmiş, projenin 227 günde tamamlanacağı öngörülmüştür. Daha sonra QM for Windows yazılımı kullanılarak CPM ve PERT yöntemleri ile model çözülmüş ve benzer sonuçlara ulaşılmıştır. Ardından proje hızlandırma çalışmaları yapılmıştır. Projeyi maksimum kısaltma, projeyi belirli bir bütçe dahilinde maksimum kısaltma ve projeyi karlı olduğu sürece kısaltma modelleri oluşturulmuştur.

Oluşturulan doğrusal programlama modellerinin çıktıları Lingo yazılımı ile incelenmiştir. Projeyi maksimum kısaltma modelinde, kısaltma maliyeti(Crash) ₺760.000 olarak hesaplanmıştır. Ayrıca önceden 227 gün olan projenin tamamlanma süresinin kısaltma sonrası 122 güne ineceği görülmüştür. Projeyi belirli bir bütçe dahilinde maksimum kısaltma modelinde, projenin hızlandırılabilmesi amacıyla ₺500.000 değerinde bütçe ayrıldığı varsayılmıştır. Bu bütçe kullanılarak proje hızlandırılırsa projenin tamamlanma süresinin 134 gün olacağı elde edilmiştir. Projeyi karlı olduğu sürece kısaltma modelinde ise projenin kısaltma maliyetinin ₺281500 olduğu ve toplam proje süresinin 151 gün olacağı görülmüştür. Ayrıca projenin erken bitirilmesinden kaynaklı kazanç ₺288500 olarak hesaplanmıştır.

Çalışmanın sonunda, proje yönetimi anlayışı ile bir projenin başarıya ulaşabileceği görülmüştür. Ayrıca bazı maliyetlere katlanılarak projenin belirli seviyede kısaltılabileceği görülmüştür. Tüm çalışma göz önüne alındığında proje yönetiminin tüm sektörlerde özel bir yere sahip olduğu, proje yönetimi anlayışına sahip proje takımlarının projelerini başarıya ulaştırabilecekleri görülmüştür. Özellikle inşaat projeleri gibi hem zaman hem maliyet kısıtlarının ciddi boyutlara ulaştığı projelerde doğrusal programlama ile hem maliyet hem zaman konularında önemli değişimler meydana geleceği vurgulanmıştır.

Anahtar Kelimeler: Proje Yönetimi, CPM/PERT, Lineer Programlama ile Zaman-Maliyet Analizi, Proje Hızlandırma

A STUDY ON PROJECT MANAGEMENT AND TIME COST ANALYSIS OF A TRADING BLOCK CONSTRUCTION PROJECT WITH CPM/PERT TECHNIQUE

ABSTRACT

In this study, a construction project was analyzed and project management with CPM/PERT technique and time-cost analysis with linear programming were studied. First of all, the activities, the duration of the activities and the predecessor-successor relations were

determined, and the work program was prepared with the MS Project software. Afterwards, the critical path and critical activities were obtained, and it was predicted that the project would be completed in 227 days. Then, the model was solved with CPM and PERT methods using QM for Windows software and similar results were obtained. Then, project crashing studies were carried out. Models of maximum crashing of the project, maximum crashing of the project within a certain budget and shortening the project as long as it is profitable were created.

The outputs of the generated linear programming models were analyzed with Lingo software. In the maximum crashing model of the project, the cost of shortening was calculated as ₺760.000. In addition, it has been observed that the completion time of the project, which was 227 days before, will decrease to 122 days after the crashing. It is assumed that a budget of ₺500,000 has been allocated to crash the project in the model of maximum shortening of the project within a certain budget. If the project is crashed using this budget, it has been obtained that the completion time of the project will be 134 days. In the crashing model, as long as the project is profitable, the shortening cost of the project is ₺281500 and the total project duration will be 151 days. In addition, the profit due to the early completion of the project was calculated as ₺288500.

At the end of the study, it has been seen that a project can be successful with a project management approach. In addition, it has been seen that the project can be shortened to a certain extent by bearing some costs. Considering the whole study, it has been seen that project management has a special place in all sectors, and that project teams with a project management understanding can make their projects successful. It has been emphasized that significant changes will occur in both cost and time issues with linear programming, especially in projects where both time and cost constraints reach serious dimensions, such as construction projects.

Keywords: Project Management, CPM/PERT, Time-Cost Analysis with Linear Programming, Project Crashing

1. GİRİŞ

İnsan var olduğu günden itibaren belirli amaçlar uğruna yaşamını sürdürmektedir ve bu amaçlar çeşitli ihtiyaçları doğurmaktadır. Bu ihtiyaçlar sebebiyle insanlar proje üretmeye çok eski zamanlarda başlamışlardır. Örnek vermek gerekirse Antik Mısır Piramitleri ve Çin Seddi dünya üzerindeki ilk projelerden bazıları olarak kabul edilebilir. İki proje de incelendiğinde belirli amaçlar ve ihtiyaçlar doğrultusunda ortaya çıktıkları açıkça ortadadır.

Projenin doğuşu ilk insanların var olduğu günlere dayansa da proje yönetimi anlayışının ortaya çıkışı için yakın tarihi incelemek yeterli olacaktır. 1911 yılında Frederic Taylor' un çalışmaları ile ortaya çıkan proje yönetim anlayışı 1. Dünya Savaşı sırasında Henry Gantt' ın çalışmaları ile önemli bir hale gelmiştir. Henry Gantt'ın en önemli çalışması olarak kabul edilen Gantt Diagramı, 1950'li yıllara kadar proje yönetiminde uygulanan sayılı tekniklerden birisidir. 1950'li yıllarda ise proje yönetiminde sayısal metotları kullanarak öne çıkan yeni yaklaşımlar ortaya çıkmıştır. Gannt şemasından sonra ayrı ayrı CPM ve PERT teknikleri geliştirilmiştir. Bu tekniklerde proje ağları projeyi görsel olarak ortaya koyar ve öncel ve ardıl aktivite ilişkileri proje ağı üzerinde açıkça gözükür. Gannt şemasında bu ilişki belirgin değildir. Çok yağın kullanılan bu iki teknik zamanla birlikte anılmaya başlanmış ve CPM/PERT tekniği olarak literatüre yerleşmiştir. CPM ile PERT tekniğindeki en önemli fark CPM tekniğinde aktivite süreleri deterministik kabul edilir ve tek aktivite süresi vardır. PERT tekniğinde ise aktivite süreleri beta dağılımının üç parametresi olarak olasılıklı ifade edilir ve üç zaman tahmini vardır a=iyimser süre (herşey yolunda gittiğinde gerçekleşmesi tahmin edilen süre), m=muhtemel

(Normal şartlarda beklenen süre) ve b=kötümser süre (Herşey ters gittiğinde olması beklenen süre).

Bu çalışmada CPM/PERT yöntemi ile bir inşaat projesinin proje yönetimi yapılmış ve projenin zaman maliyet ödünleşmesi ele alınmıştır. Proje başlangıcında alanında uzman 3 kişi ile proje incelenmiş ve genel bilgiler hakkında görüşülmüştür. Ardından iş programına dahil edilecek aktiviteler ve aktivitelerin süresi, ardıl-öncül ilişkileri, kaynakları ve maliyetleri gibi bilgiler hakkında görüşülmüş ve fikirlerine başvurulmuştur. Proje hazırlanırken daha sağlıklı sonuçlar elde edebilmek amacıyla Çevre ve Şehircilik Bakanlığı'nın yayınladığı birim fiyat analiz ve tariflerine başvurulmuştur. Veri toplama aşaması tamamlandıktan sonra iş programı MS Project ile dijitalleştirilmiş ve kaynakların kullanımı ve genel maliyet analizi konularında projenin takibi sağlanmıştır. Kritik yol ve kritik yolu oluşturan aktiviteler belirlenmiştir.

2. LİTERATÜR TARAMASI

(Baccarini, 1996) çalışmasında inşaat projeleri üzerine araştırma yapılmış olup inşaat projelerinin karmaşık projeler olduğu ve bu karmaşıklığın proje yönetimi ile giderilebileceği üzerine çalışılmıştır.

(Munns & Bjeirmi, 1996) çalışmalarında proje yönetiminin projeler üzerindeki etkileri ve başarısı üzerine çalışma yapılmıştır. Proje ve proje yönetimi arasındaki ilişki tüm yönleriyle ele alınmış olup ortak ve farklı özellikleri belirlenmiştir. İki kavram arasındaki karmaşıklık ilişkisi de araştırılmıştır. Ayrıca farklı proje yönetim teknikleri kendi aralarında kıyaslanmıştır.

(Atkinson, 1999) çalışmasında zaman, maliyet ve kalite üçlüsü ile proje yönetiminin başarısı, başarı kriterleri üzerinde durmuştur. Belirli tahminler yapılarak projelerin nasıl geliştirilebileceği ve paydaşların fayda-zararları üzerine çalışmıştır.

(Pinto, 2002) Proje yönetimi kavramı, planlama aşaması, risk yönetimi, proje ekibi koordinasyonu ve proje bütçesi gibi birçok başlıkta incelemiş ve tüm aşamaları ile ele almıştır. Projede kritik faaliyetler ve sorumluluk matrislerine de değinilmiştir.

(Ballard & Howell, 2003) çalışmalarında geleneksel proje yönetim çalışmaları ile yalın yöntemler karşılaştırmış olup belirli müdahaleler ile maliyetleri en aza indirerek projenin yönetilebileceğini belirlemişlerdir.

(Schieg, 2006) Proje yönetiminde risk yönetimi üzerine çalışmış olup işletmelerin pazarda başarılı olabilmeleri için 6 adımlı bir süreçten oluşan risk yönetimine dikkat etmeleri gerektiği belirlemiştir. Ayrıca risk yönetim sistemleri ile proje yönetiminin entegre olması gerektiği üzerine çalışılmıştır.

(Şimşek & Kasapoğlu, 2006) çalışmalarında analitik hiyerarşi prosesi tekniği ile yüklenici firma seçilmesini, gerekli puanlama ve değerlendirme sistemleri kullanarak ele almıştır. Bu şekilde zaman ve maliyet konularında fayda sağlanabileceği belirlenmiştir.

(Morris, 2010) Proje yönetiminin tasarım, metodoloji ve yaklaşım konuları başta olmak üzere birçok konuda son elli yıllık gelişimini belirli bulgular ve argümanlar eşliğinde araştırmıştır.

(Coşkun & Ekmekçi, 2011) İnşaat projelerinde proje yönetimi anlayışı ile hareket edildiğinde insan kaynağının ve maliyetlerin azaltılabileceği, projelerin daha sistematik bir şekilde ilerleyip beklenen bitiş sürelerinden daha önce ve daha az maliyetle projelerin tamamlanabileceği üzerine çalışmalar yapmışlardır.

(Jiang & Klein, 2014) bilişim alanında proje yönetiminin önemi üzerinde durmuşlardır. Proje yöneticilerinin ve proje ekibinin proje yönetim anlayışlarının projeleri başarıya götüreceği belirlenmiştir.

(Seymour & Hussein, 2014) proje yönetimi anlayışının tarihsel gelişimi üzerine çalışma yapılmışlardır. Hem ilk çıktığı zamanlardan hem yakın geçmişten örneklerle proje yönetiminin önemi vurgulanmıştır.

(Ömürbek et al., 2015) çalışmalarında çok kriterli karar verme tekniklerinden olan AHP ve TOPSIS ile yazılım geliştirmede kullanılabilecek programın seçimi araştırılmış olup kriterlerin ağırlıkları belirlenerek birçok firmanın programları değerlendirilmiştir.

(Demirkesen & Ozorhon, 2017) İnşaat projelerinde entegrasyon yönetiminin önemine vurgu yaparak inşaat proje yönetimi üzerinde etkileri araştırmış ve tüm proje yönetim süreçlerinde çeşitli entegrasyon sistemleri kurularak, sistemlerin proje üzerinde güçlü bir etkisinin olduğu belirlemiştir.

(Gencer & Kayacan, 2017) yazılım projelerinde uygulanan şelale metodu ile proje yönetimi üzerine çalışmalar yapmışlardır. Ayrıca çevik yöntemler yaklaşımını ele almışlar, İki yaklaşımı karşılaştırıp proje yönetimi metodolojisi ortaya koymuşlardır.

(Kömürlü & Toltar, 2018) çalışmalarında inşaat projelerinde proje yönetiminin önemi üzerinde durmuşlardır. Doğru proje metodolojisi ve tekniklerin inşaat projelerinin başarısına etkileri ele alınmıştır.

3. PROBLEMİN TANIMI

DKY Kartal Projesi 26 dönüm arazi üzerine kurulu 130000 M2 kapalı alana sahip 25 katlı 6 konuttan, 31 katlı ofis bloğundan, alışveriş merkezinden ve bağımsız ticari alanların bulunduğu bir bloktan oluşan karma bir inşaat projesidir. Bu çalışmada bağımsız ticari alanların bulunduğu ticaret(I) bloğu ele alınmıştır. I Blok her katta 5 bağımsız bölüm bulunan 6 kattan oluşmaktadır. Her kat yaklaşık 1000 M2 alana sahiptir. DKY Kartal Projesi Ticaret(I) Bloğunda ayrı bir alt yüklenici firmanın anahtar teslim usulü işi yükleneceği, DKY İnşaat' ın ise projenin yönetiminde söz sahibi olacağı planlanmıştır. DKY Kartal Projesi birçok bloktan oluştuğu için belirtilen bloğun en kabul edilebilir sürede ve minimum maliyetle tamamlanması gerekmektedir. Projenin zaman-maliyet ödünleşme analizlerinin ve buna bağlı olarak proje kısaltma çalışmaları da yapılmıştır. Bu çalışmanın veri toplama aşamalarında, alanında uzmanlaşmış 3 kişinin görüşlerine başvurulmuştur.

4. UYGULAMA

Projenin amaçlarına ve başarıya ulaşabilmesi, kusursuz bir planlama ile mümkün olabilir. Planlama sürecinde, iş programı hazırlarken öncelikle yapılacak işlerin, faaliyetlerin tespitinin yapılması gerekmektedir. Bu çalışmada, faaliyetlerin süreleri, birim saat ve işçilik hesapları yapılarak, aynı zamanda uzman görüşlerine başvurularak hesaplanmıştır. Projede bulunan tüm faaliyetler ana faaliyetler ve alt faaliyetler olarak düzenlenmiş ve sonraki sayfada belirtilmiştir. İlerleyen bölümlerde, faaliyetler, başlarında bulunan harfler ile anılacaktır. Proje faaliyetleri ve süreleri, öncül ve ardıl ilişkileri Tablo 1'de verilmiştir. Daha sonra bu proje Microsoft Project programına yüklenmiş ve tamamlanma süresi süresi hesaplanmıştır.

Tablo 1. Faaliyetlerin Süre ve Öncülleri

Faaliyet Adı	Süre	Öncüller	Faaliyet Adı	Süre	Öncüller
A-Hafriyat	15 gün		XK-2. Kat(+124.30)	4 gün	XJ
B-İksa	20 gün	A	XL-3. Kat(+127.80)	4 gün	XK
C-İksa Sonrası Kazı	10 gün	B	XM-Çatı Katı Planı(+131.30)	4 gün	XL
D-Drenaj İşleri	5 gün	C	**Asma Tavan İmalatları**	**12 gün**	
E-Grobeton	8 gün	D	XN-Zemin Kat(+116.30)	3 gün	XJ
F-İzolasyon	5 gün	E	XO-1. Kat(+120.80)	3 gün	XN
G-Koruma Betonu	8 gün	F	XP-2. Kat(+124.30)	3 gün	XO
H-Radye Temel İmalatı(+108.80)	10 gün	G	XR-3. Kat(+127.80)	3 gün	XP
Kat Betonları	**56 gün**		**Seramik-Mermer Döşeme ve Duvar Kaplamaları**	**12 gün**	
I-Zemin Kat(+116.30)	16 gün	H	XS-Zemin Kat(+116.30)	3 gün	XG
J-1. Kat(+120.80)	10 gün	I	XT-1. Kat(+120.80)	3 gün	XS
K-2. Kat(+124.30)	10 gün	J	XU-2. Kat(+124.30)	3 gün	XT
L-3. Kat(+127.80)	10 gün	K	XV-3. Kat(+127.80)	3 gün	XU
M-Çatı Katı Planı(+131.30)	10 gün	L	**İç Cephe Boya İşleri**	**19 gün**	
İnce İşler	**58 gün**		XY--1. Bodrum Kat(+108.80)	4 gün	XM
Duvar İmalatları	**26 gün**		XZ-Zemin Kat(+116.30)	3 gün	XY
N-1. Bodrum Kat(+108.80)	6 gün	M	YA-1. Kat(+120.80)	3 gün	XZ
O-Zemin Kat(+116.30)	4 gün	N	YB-2. Kat(+124.30)	3 gün	YA
P-1. Kat(+120.80)	4 gün	O	YC-3. Kat(+127.80)	3 gün	YB
R-2. Kat(+124.30)	4 gün	P	YD-Çatı Katı Planı(+131.30)	3 gün	YC
S-3. Kat(+127.80)	4 gün	R	**Elektrik**	**66 gün**	
T-Çatı Katı Planı(+131.30)	4 gün	S	YE--1. Bodrum Kat(+108.80)	10 gün	H
Doğrama İşleri ve Korkulukları	**18 gün**		YF-Zemin Kat(+116.30)	10 gün	I
U-1. Bodrum Kat(+108.80)	3 gün	XM	YG-1. Kat(+120.80)	10 gün	J
V-Zemin Kat(+116.30)	3 gün	U	YH-2. Kat(+124.30)	10 gün	K
Y-1. Kat(+120.80)	3 gün	V	YI-3. Kat(+127.80)	10 gün	L
Z-2. Kat(+124.30)	3 gün	Y	YJ-Çatı Katı Planı(+131.30)	10 gün	M
XA-3. Kat(+127.80)	3 gün	Z	**Mekanik**	**72 gün**	
XB-Çatı Katı Planı(+131.30)	3 gün	XA	YK--1. Bodrum Kat(+108.80)	12 gün	R
Şap ve End. Şap İmalatları	**15 gün**		YL-Zemin Kat(+116.30)	12 gün	YK
XC-1. Bodrum Kat(+108.80)	3 gün	XK	YM-1. Kat(+120.80)	12 gün	YL
XD-Zemin Kat(+116.30)	3 gün	XC	YN-2. Kat(+124.30)	12 gün	YM
XE-1. Kat(+120.80)	3 gün	XD	YO-3. Kat(+127.80)	12 gün	YN
XF-2. Kat(+124.30)	3 gün	XE	YP-Çatı Katı Planı(+131.30)	12 gün	YO
XG-3. Kat(+127.80)	3 gün	XF	YR-Cephe İşleri	60 gün	M
Sıva İmalatları	**25 gün**		YS-Asansör	45 gün	YJ
XH--1. Bodrum Kat(+108.80)	5 gün	P	YT-Peyzaj ve Çevre Düzenleme	30 gün	XM
XI-Zemin Kat(+116.30)	4 gün	XH	YU-Test Ve Devreye Alma	20 gün	YS
XJ-1. Kat(+120.80)	4 gün	XI	YV-Geçici Kabul	5 gün	YU

Bu tanımlardan yola çıkarak ve MS Project' i kullanarak kritik yolun sırasıyla A - B - C - D - E - F - G - H - I - J - K - L - M - N - O - P - R - YK - YL - YM - YN - YO - YP olduğu bulunmuştur.

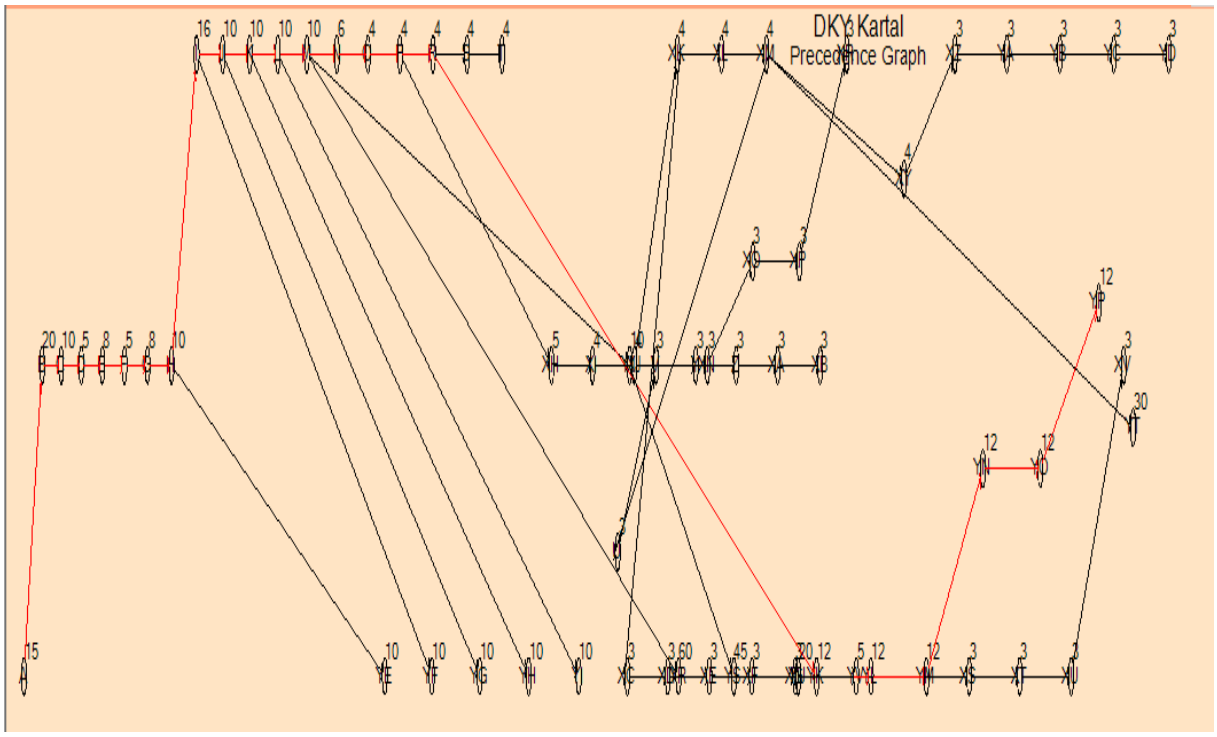
MS Project ile elde edilen Gantt diagramı yer kısıdından dolayı verilmemiştir. Microsoft Project proje tamamlanma süresini 227 gün olarak hesaplamıştır.

Daha sonra proje QM for Windows programıyla çözülmüş benzer sonuçlar bulunmuştur. Yine projenin 227 gün süreceği görülmüştür. Daha Sonra proje PERT tekniğine uygun hazırlanan verilerle QM for Windows yardımıyla çözülmüş ve projenin beklenen tamamlanma süresi 211,5 gün olarak hesaplanmıştır, Tablo 2. Yer kısıdından dolayı CPM sonuçları MS Project ile aynı sonuçları ve kritik yolu verdiği için sadece PERT çözüm tablosu verilmiştir.

AON ağı, CPM ve PERT yöntemlerine göre proje süresi hesaplandıktan sonra elde edilmiştir. AON proje ağında kırmızı ile gösterilen yollar ve aktiviteler kritik yolu ve aktiviteleri göstermektedir. CPM yöntemine ait AON proje ağı sadeleştirilerek şekil 1'de gösterilmiştir.

Tablo 2. Faaliyetlerin En Erken ve En Geç Başlama/Bitiş Zamanları (PERT)

Aktivite	Aktivite Süresi	ES	EF	LS	LF	Bolluk (Slack)	Standart Sapma	Varyans
DKY Kartal	211,5						4,48	20,03
A	15,17	0	15,17	0	15,17	0	1,5	2,25
B	20	15,17	35,17	15,17	35,17	0	1,33	1,78
C	9,17	35,17	44,33	35,17	44,33	0	1,17	1,36
D	5,33	44,33	49,67	44,33	49,67	0	0,67	0,44
E	7,33	49,67	57	49,67	57	0	1	1
F	5	57	62	57	62	0	0,67	0,44
G	7	62	69	62	69	0	1	1
H	11,17	69	80,17	69	80,17	0	1,17	1,36
I	15,17	80,17	95,33	80,17	95,33	0	1,5	2,25
J	8,17	95,33	103,5	95,33	103,5	0	0,83	0,69
K	8,17	103,5	111,7	103,5	111,7	0	0,83	0,69
L	8,17	111,7	119,8	111,7	119,8	0	0,83	0,69
M	8,17	119,8	128	119,8	128	0	0,83	0,69
N	5	128	133	128	133	0	0,67	0,44
O	3,83	133	136,8	133	136,8	0	0,5	0,25
P	3,83	136,8	140,7	136,8	140,7	0	0,5	0,25
R	3,83	140,7	144,5	140,7	144,5	0	0,5	0,25
S	3,83	144,5	148,3	203,8	207,7	59,33	0,5	0,25
T	3,83	148,3	152,2	207,7	211,5	59,33	0,5	0,25
U	3,33	167	170,3	191,5	194,8	24,5	0,67	0,44
V	3,33	170,3	173,7	194,8	198,2	24,5	0,67	0,44
Y	3,33	173,7	177	198,2	201,5	24,5	0,67	0,44
Z	3,33	177	180,3	201,5	204,8	24,5	0,67	0,44
XA	3,33	180,3	183,7	204,8	208,2	24,5	0,67	0,44
XB	3,33	183,7	187	208,2	211,5	24,5	0,67	0,44
XC	3,83	159	162,8	176,3	180,2	17,33	0,5	0,25
XD	3,83	162,8	166,7	180,2	184	17,33	0,5	0,25
XE	3,83	166,7	170,5	184	187,8	17,33	0,5	0,25
XF	3,83	170,5	174,3	187,8	191,7	17,33	0,5	0,25
XG	3,83	174,3	178,2	191,7	195,5	17,33	0,5	0,25
XH	6,33	140,7	147	153	159,3	12,33	1	1
XI	4	147	151	159,3	163,3	12,33	0,67	0,44
XJ	4	151	155	163,3	167,3	12,33	0,67	0,44
XK	4	155	159	167,3	171,3	12,33	0,67	0,44
XL	4	159	163	171,3	175,3	12,33	0,67	0,44
XM	4	163	167	175,3	179,3	12,33	0,67	0,44
XN	4	155	159	195,5	199,5	40,5	0,67	0,44
XO	4	159	163	199,5	203,5	40,5	0,67	0,44
XP	4	163	167	203,5	207,5	40,5	0,67	0,44
XR	4	167	171	207,5	211,5	40,5	0,67	0,44
XS	4	178,2	182,2	195,5	199,5	17,33	0,67	0,44
XT	4	182,2	186,2	199,5	203,5	17,33	0,67	0,44
XU	4	186,2	190,2	203,5	207,5	17,33	0,67	0,44
XV	4	190,2	194,2	207,5	211,5	17,33	0,67	0,44
XY	6,83	167	173,8	185,5	192,3	18,5	0,83	0,69
XZ	3,83	173,8	177,7	192,3	196,2	18,5	0,5	0,25
YA	3,83	177,7	181,5	196,2	200	18,5	0,5	0,25
YB	3,83	181,5	185,3	200	203,8	18,5	0,5	0,25
YC	3,83	185,3	189,2	203,8	207,7	18,5	0,5	0,25
YD	3,83	189,2	193	207,7	211,5	18,5	0,5	0,25
YE	9,17	80,17	89,33	202,3	211,5	122,17	1,17	1,36
YF	9,17	95,33	104,5	202,3	211,5	107	1,17	1,36
YG	9,17	103,5	112,7	202,3	211,5	98,83	1,17	1,36
YH	9,17	111,7	120,8	202,3	211,5	90,67	1,17	1,36
YI	9,17	119,8	129	202,3	211,5	82,5	1,17	1,36
YJ	9,17	128	137,2	133,7	142,8	5,67	1,17	1,36
YK	11,17	144,5	155,7	144,5	155,7	0	0,83	0,69
YL	11,17	155,7	166,8	155,7	166,8	0	0,83	0,69
YM	11,17	166,8	178	166,8	178	0	0,83	0,69
YN	11,17	178	189,2	178	189,2	0	0,83	0,69
YO	11,17	189,2	200,3	189,2	200,3	0	0,83	0,69
YP	11,17	200,3	211,5	200,3	211,5	0	0,83	0,69
YR	60,83	128	188,8	150,7	211,5	22,67	5,83	34,03
YS	44,17	137,2	181,3	142,8	187	5,67	4,5	20,25
YT	32,17	167	199,2	179,3	211,5	12,33	3,17	10,03
YU	18,33	181,3	199,7	187	205,3	5,67	2	4
YV	6,17	199,7	205,8	205,3	211,5	5,67	0,83	0,69



Şekil 1. QM for Windows Yazılımı Kullanılarak Elde Edilen AON Proje Ağı (CPM)

QM for Windows yazılımı kullanılarak elde edilen AON proje ağından sonra Autocad yazılımı kullanılarak AOA proje ağı çizilmiştir. AOA proje ağı proje kısaltma(hızlandırma) çalışmalarının yapılabilmesi, kısaltma modellerinin kurulabilmesi için gereklidir.

Bu çalışmada projeyi maksimum kısaltma, projeyi belirli bir bütçe dahilinde kısaltma ve projeyi karlı olduğu sürece kısaltma modelleri ele alınmıştır. Bu çalışmada sadece projeyi karlı olduğu sürece kısaltma modelinin bir bölümüne yer verilmiştir diğer modeller ile ilgili elde edilen sonuçlar paylaşılmıştır.

Model oluşturularak Lingo ile çözülmüştür. Modelin çıktıları incelendiğinde AOA ağındaki 67 numaralı son düğümün 227 değerini aldığı görülmüştür. Bu değer projenin tamamlanma süresini göstermektedir. Lingo çıktılarında gölge fiyat (Dual Price) kısmı incelendiğinde kritik faaliyetlerin gölge fiyatlarının "-1" değerini aldığı görülmüştür.

Bir projenin kısaltılabileceği maksimum süre, projede bulunan faaliyetlere bağlıdır ve özellikle inşaat projelerindeki bazı faaliyetler doğası gereği kısaltılamazlar. Ayrıca bazı faaliyetleri kısaltabilmek mümkün değildir. Örnek vermek gerekirse bir inşaatta döşeme betonu döküldükten itibaren en az 7 gün boyunca kalıp sökümü yapılmamalıdır. Buradan yola çıkarak döşeme kalıp miktarı 1 takım ise ardışık 2 döşeme betonu arasında minimum 7 gün+ kalıp söküm süresi+ yeni kalıbın kurulum süresi kadar zamanın geçmesi gerekmektedir. Bu modelde faaliyetlerin izin verilen kısaltma sürelerini gösteren kısıtlar "y" ile gösterilmiştir. Model Lingo ile çözülmüş ve Lingo yazılımının çıktıları incelenmiştir. Buna göre, kısaltma maliyeti(Crash) ₺760.000 olarak hesaplanmıştır. Ayrıca önceden 227 gün olan projenin tamamlanma süresinin kısaltma sonrası 122 güne indiği görülmüştür. Zaman maliyet ödünleşmesi sonuçları sonuç bölümünde özetlenmiştir. Projenin normal zaman, kısaltılmış zaman, normal maliyet ve kısaltılmış maliyet bilgileri Tablo 3'te gösterilmiştir.

Tablo 3. Aktiviteler ve Normal, Kısaltılmış Süreler ve Normal ve Kısaltılmış Zaman Maliyetleri

Aktivite	Normal Zaman(Gün)	Kısaltılmış Zaman(Gün)	Normal Maliyet	Kısaltılmış Maliyet	Toplam İzin Verilen Kısaltma Zamanı(Gün)	Gün Başına Kısaltma Maliyeti
A	15	5	300.000,00 ₺	350.000,00 ₺	10	5.000,00 ₺
B	20	10	260.000,00 ₺	290.000,00 ₺	10	3.000,00 ₺
C	10	3	65.000,00 ₺	79.000,00 ₺	7	2.000,00 ₺
D	5	2	25.000,00 ₺	29.500,00 ₺	3	1.500,00 ₺
E	8	3	200.000,00 ₺	207.500,00 ₺	5	1.500,00 ₺
F	5	3	547.000,00 ₺	550.000,00 ₺	2	1.500,00 ₺
G	8	3	200.000,00 ₺	207.500,00 ₺	5	1.500,00 ₺
H	10	5	4.240.000,00 ₺	4.290.000,00 ₺	5	10.000,00 ₺
I	16	8	348.500,00 ₺	388.500,00 ₺	8	5.000,00 ₺
J	10	6	348.500,00 ₺	368.500,00 ₺	4	5.000,00 ₺
K	10	6	348.500,00 ₺	368.500,00 ₺	4	5.000,00 ₺
L	10	6	348.500,00 ₺	368.500,00 ₺	4	5.000,00 ₺
M	10	6	348.500,00 ₺	368.500,00 ₺	4	5.000,00 ₺
N	6	4	175.000,00 ₺	183.500,00 ₺	2	4.250,00 ₺
O	4	2	120.000,00 ₺	128.500,00 ₺	2	4.250,00 ₺
P	4	2	120.000,00 ₺	128.500,00 ₺	2	4.250,00 ₺
R	4	2	120.000,00 ₺	128.500,00 ₺	2	4.250,00 ₺
S	4	2	120.000,00 ₺	128.500,00 ₺	2	4.250,00 ₺
T	4	2	120.000,00 ₺	128.500,00 ₺	2	4.250,00 ₺
U	3	1	37.200,00 ₺	41.050,00 ₺	2	1.925,00 ₺
V	3	1	37.200,00 ₺	41.050,00 ₺	2	1.925,00 ₺
Y	3	1	37.200,00 ₺	41.050,00 ₺	2	1.925,00 ₺
Z	3	1	37.200,00 ₺	41.050,00 ₺	2	1.925,00 ₺
XA	3	1	50.000,00 ₺	53.850,00 ₺	2	1.925,00 ₺
XB	3	1	50.000,00 ₺	53.850,00 ₺	2	1.925,00 ₺
XC	3	1	17.500,00 ₺	21.000,00 ₺	2	1.750,00 ₺
XD	3	1	17.500,00 ₺	21.000,00 ₺	2	1.750,00 ₺
XE	3	1	17.500,00 ₺	21.000,00 ₺	2	1.750,00 ₺
XF	3	1	17.500,00 ₺	21.000,00 ₺	2	1.750,00 ₺
XG	3	1	17.500,00 ₺	21.000,00 ₺	2	1.750,00 ₺
XH	5	4	65.000,00 ₺	68.150,00 ₺	1	3.150,00 ₺
XI	4	2	45.000,00 ₺	51.300,00 ₺	2	3.150,00 ₺
XJ	4	2	45.000,00 ₺	51.300,00 ₺	2	3.150,00 ₺
XK	4	2	45.000,00 ₺	51.300,00 ₺	2	3.150,00 ₺
XL	4	2	45.000,00 ₺	51.300,00 ₺	2	3.150,00 ₺
XM	4	2	45.000,00 ₺	51.300,00 ₺	2	3.150,00 ₺
XN	3	2	7.500,00 ₺	9.775,00 ₺	1	2.275,00 ₺
XO	3	2	7.500,00 ₺	9.775,00 ₺	1	2.275,00 ₺
XP	3	2	7.500,00 ₺	9.775,00 ₺	1	2.275,00 ₺
XR	3	2	7.500,00 ₺	9.775,00 ₺	1	2.275,00 ₺
XS	3	2	35.000,00 ₺	37.800,00 ₺	1	2.800,00 ₺
XT	3	2	35.000,00 ₺	37.800,00 ₺	1	2.800,00 ₺
XU	3	2	35.000,00 ₺	37.800,00 ₺	1	2.800,00 ₺
XV	3	2	35.000,00 ₺	37.800,00 ₺	1	2.800,00 ₺
XY	4	2	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
XZ	3	1	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
YA	3	1	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
YB	3	1	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
YC	3	1	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
YD	3	1	20.000,00 ₺	24.800,00 ₺	2	2.400,00 ₺
YE	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YF	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YG	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YH	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YI	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YJ	10	6	90.000,00 ₺	118.000,00 ₺	4	7.000,00 ₺
YK	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YL	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YM	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YN	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YO	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YP	12	7	75.000,00 ₺	102.500,00 ₺	5	5.500,00 ₺
YR	60	40	1.800.000,00 ₺	2.100.000,00 ₺	20	15.000,00 ₺
YS	45	30	400.000,00 ₺	550.000,00 ₺	15	10.000,00 ₺
YT	30	10	250.000,00 ₺	310.000,00 ₺	20	3.000,00 ₺
YU	20	15	50.000,00 ₺	87.500,00 ₺	5	7.500,00 ₺
YV	5	5	10.000,00 ₺	10.000,00 ₺		
TOPLAM MALİYET			12.770.800,00 ₺	14.113.150,00 ₺		

Projeyi Karlı Olduğu Sürece Kısaltma Modelinin Kodları (Amaç fonksiyonu ve bir bölümü) aşağıda verilmiştir;

```
Min=CRASH+(X1E+X2E+X3E+X4E+X5E+X6E+X7E+X8E+X9E+X10E+X11E+X12E+X13E+X14E+X15E+X16E+X17E+X18E+X19E
+X20E+X21E+X22E+X23E+X24E+X25E+X26E+X27E+X28E+X29E+X30E+X31E+X32E+X33E+X34E+X35E+X36E+X37E+X38E+X
39E+X40E+X41E+X42E+X43E+X44E+X45E+X46E+X47E+X48E+X49E+X50E+X51E+X52E+X53E+X54E+X55E+X56E+X57E+X58E
+X59E+X60E+X61E+X62E+X63E+X64E+X65E+X66E+X67E+7500*X68E)-
(X1F+X2F+X3F+X4F+X5F+X6F+X7F+X8F+X9F+X10F+X11F+X12F+X13F+X14F+X15F+X16F+X17F+X18F+X19F+X20F+X21F+X
22F+X23F+X24F+X25F+X26F+X27F+X28F+X29F+X30F+X31F+X32F+X33F+X34F+X35F+X36F+X37F+X38F+X39F+X40F+X41F+
X42F+X43F+X44F+X45F+X46F+X47F+X48F+X49F+X50F+X51F+X52F+X53F+X54F+X55F+X56F+X57F+X58F+X59F+X60F+X61F
+X62F+X63F+X64F+X65F+X66F+X67F+X68F);

CRASH=(5000*Y1_2+3000*Y2_3+2000*Y3_4+1500*Y4_5+1500*Y5_6+1500*Y6_7+1500*Y7_8+10000*Y8_9+5000*Y9_10+5000*Y1
0_11+5000*Y11_12+5000*Y12_13+5000*Y13_14+4250*Y14_15+4250*Y15_16+4250*Y16_17+4250*Y17_18+4250*Y18_19+4250*Y1
9_20+1925*Y41_62+1925*Y62_63+1925*Y63_64+1925*Y64_65+1925*Y65_66+1925*Y66_67+1750*Y39_52+1750*Y52_53+1750*Y5
3_54+1750*Y54_55+1750*Y55_56+3150*Y17_36+3150*Y36_37+3150*Y37_38+3150*Y38_39+3150*Y39_40+3150*Y40_41+2275*Y3
8_48+2275*Y48_49+2275*Y49_50+2275*Y50_51+2800*Y56_57+2800*Y57_58+2800*Y58_59+2800*Y59_60+2400*Y41_42+2400*Y4
2_43+2400*Y43_44+2400*Y44_45+2400*Y45_46+2400*Y46_47+7000*Y9_21+7000*Y10_22+7000*Y11_23+7000*Y12_24+7000*Y13
_25+7000*Y14_26+5500*Y18_30+5500*Y30_31+5500*Y31_32+5500*Y32_33+5500*Y33_34+5500*Y34_35+15000*Y14_29+10000*Y
26_27+3000*Y41_61+7500*Y27_28+Y28_68);

Kazanc= 7500*(227-X68F)-CRASH;

 X68E-X67E+Y67_68>=0;  X68F-X20F+Y20_68>=0;  X68F-X21F+Y21_68>=0;  X68F-X22F+Y22_68>=0;  X68F-X23F+Y23_68>=0;
X68F-X24F+Y24_68>=0; X68F-X25F+Y25_68>=0; X68E-X28E+Y28_68>=5; X10F-X9F+Y9_10>=16; X29F-X14F+Y14_29>=60;
@GIN(Y44_45); @GIN(Y14_26); @GIN(Y26_27); @GIN(Y61_68);
@GIN(Y67_68);
```

5. SONUÇ

Projeler, yaşam döngüleri boyunca birçok belirsizlik, problem ve kısıtlara sahiptir. Bu sebeple projelerin başarıya ulaşabilmeleri, proje yönetim anlayışının benimsenmesi ve projenin başarılı bir şekilde yönetilmesi ile mümkün olacaktır. Proje yönetim anlayışını benimsememiş birçok proje yöneticisi ve yönetilen projeler başarısızlıkla sonuçlanmıştır. Yine benzer orana sahip birçok proje, projenin yaşam döngüsü içerisinde, proje yönetimi uygulanmış olsa bile hatalı yönetimler ve kararlar yüzünden yine başarıya ulaşamamaktadır.

Bu proje farklı yazılımlarla çözülmüş her birinde aynı sonuca ulaşılmıştır. MS Project yazılımı ile gannt şeması oluştulmuş, QM for Windows programı ile hem CPM verileri hem de PERT verileri çözülmüştür. Daha sonra LINGO optimizasyon paket programıyla zaman maliyet ödünleşmesi yapılmış ve farklı amaç fonksiyonları için proje kısaltılmıştır.

Modelin çıktıları incelendiğinde, kısaltma maliyeti ₺760.000 olarak hesaplanmıştır. Ayrıca önceden 227 gün olan projenin tamamlanma süresinin kısaltma sonrası 122 güne indiği görülmüştür. Bu kısaltmadan günlük karımız ₺7.500 olarak kabul edilirse ₺787.500 kazanacağımız ve kısaltma maliyet ₺760.000 çıkarıldığında geriye sadece ₺27.500 gibi çok cüzi bir kar kalacağı görülmüştür. Buda maksimum kısaltmanın en karlı yol olmayacağını göstermektedir.

Projenin hızlandırılabilmesi amacıyla ₺500.000 değerinde bütçeye göre çözüm incelenmiş, modelin çıktıları incelendiğinde, ₺500.000 olarak belirlenen bütçeden ₺493.000 kullanılmış, faaliyetlerin kısaltma maliyetlerinden dolayı kalan miktar kullanılarak herhangi bir kısaltma işlemi yapılamamıştır. ₺500.000 bütçe kullanılarak projenin tamamlanma süresi 134 gün olarak hesaplanmıştır. Bu durumda proje kısaltmanın getirisi (227-134)*7.500 = ₺697.500 getireceği kısaltma maliyeti ₺493.000 düşüldüğünde net karımızın ₺204.500 olacağı görülmüştür.

Projenin bir günlük erken bitirme kazancı ya da 1 günlük geç bitirme zararı ₺7500 olarak hesaplanmıştır. Modelin çıktıları incelendiğinde, projenin kısaltma maliyetinin ₺281.500 olduğu ve toplam proje süresinin 151 gün olduğu görülmüştür. Kazancımız (227-151)*7.500 = ₺570.000 gelirimizin olacağı kısaltma maliyetinin ₺281.500 düşüldüğünde net kazancın

₺288.500 olacağı görülmüştür. Projenin erken bitirilmesinden kaynaklı kazanç ₺288.500 olarak hesaplanmıştır. Bu proje kısaltmada yapılabilecek maksimum net kara eşittir.

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BİR OTOMOTİV FABRİKASINDA HİBRİD DEMATEL VE TOPSİS YÖNTEMLERİ İLE HATA TÜRLERİ VE ETKİLERİ ANALİZİ YAPILARAK ÖNCELİKLİ HATANIN BELİRLENMESİ

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ÖZET

Günümüzdeki rekabetçi dünyada kalite dahada önemli hale gelmiştir.Üretim sonucunda istenmese de birçok kalite sorunları ortaya çıkmakta ve bunların çözülmesi gerekmektedir. Elbette bütün hatalar aynı önemde değildir. Bazı hataların, öncelikli olan hataların daha önce çözülmesi daha önemlidir. Bu çalışmada hata önem sırası hata türleri ve etkileri analizi (HTEA) yapılarak ve hibrid dematel-topsis yöntemi kullanılarak bulunmuş ve karşılaştırma yapılmıştır.

Bu çalışmada bir traktör fabrikasında kalite iyileştirme yöntemlerinden biri olan hata türleri ve etkileri analizi ve hibrid dematel-topsis yöntemleri kullanılarak, hataların tespitleri, sebepleri ve önceliklendirilmeleri yapılmış ve yapılan önceliklendirmelerde ilk sırada çıkan hatalar belirlemiştir.

HTEA'da hata önceliklerini belirleyebilmek için; "Ortaya çıkma (O), Şiddet (Ş) ve Saptama (S)" parametreleri ile Risk Öncelik Sayısı (RÖS) değerleri hesaplanır. Ortaya Çıkma, hatanın sıklığını; Şiddet, hatanın etkisini; Saptama, hatayı ürün müşteriye ulaşmadan tespit etme yeteneğini göstermektedir. HTEA analizinde RÖS değerleri hesaplanmış ve hatalar önem sırasına göre dizilmiştir.

Diğer yöntemde ise Ortaya çıkma, Şiddet, ve Saptama değerleri kriterler olarak kabul edilmiş ve önce dematel kullanılarak bu kriterlerin ağırlıkları hesaplanmış. Sonra Topsis yöntemiyle hata türleri önem derecesine göre sıralanmıştır.

Önceliklendirmede ilk sırada olan hata, boyama esnasında ortaya çıkan boya kalınlığı kalite problemidir. Boya kalınlığını etkileyen boya robotunun parametrelerinin hatalı olması sonucunda traktör yüzeyinde boya kalınlığına bağlı kalite hataları meydana gelmiştir. Kalite standartlarıyla uyumlu olmayan traktör boya kalınlığı, robot boya parametrelerinin en iyi sonucu verecek şekilde optimize edilmesi sonucunda çözülmeye hazır hale getirilmiştir.

Anahtar Kelimeler: Hata Türleri ve etkileri, Deney Tasarımı,Kesirli Faktöriyel Deney, Dematel, Topsis

DETERMINING PRIORITY ERROR BY ANALYSIS OF FAILURE MODES AND EFFECTS ANALYSIS WITH HYBRID DEMATEL AND TOPSIS METHODS IN AN AUTOMOTIVE FACTORY

ABSTRACT

In today's competitive world, quality has become even more important. Although undesirable, many quality problems arise as a result of production and must be resolved. Of course, not all errors are equally important. It is more important that some errors, priority errors, are resolved earlier. In this study, the error order of importance was found by performing failure modes and

effects analysis (FMEA) and using the hybrid dematel-topsis method, and a comparison was made.

In this study, the failure modes and effects analysis, which is one of the quality improvement methods in a tractor factory, and the hybrid dematel-topsis methods were used to identify, cause and prioritize the errors, and the first error in the prioritization was determined.

In order to determine error priorities in FMEA; “Occurrence (O), Severity (S) and Detection (D)” parameters and Risk Priority Number (RPN) values are calculated. Occurrence, the frequency of the error; The severity is the effect of the mistake; Detection demonstrates the ability to detect the defect before the product reaches the customer. In the FMEA analysis, the RPN values were calculated and the errors were arranged in order of importance.

In the other method, Occurrence, Severity and Detection values were accepted as criteria and the weights of these criteria were calculated using dematel first. Then, with the Topsis method, the error types were ranked according to their priority.

The first error in prioritization is the paint thickness quality problem that occurs during painting. As a result of the incorrect parameters of the paint robot affecting the paint thickness, quality errors occurred on the tractor surface due to the paint thickness. Tractor paint thickness, which is not compatible with quality standards, was made ready to be solved as a result of optimizing the robot paint parameters to give the best results.

Keywords: Failure Modes and Effects Analysis, Dematel, TOPSIS, Hibrid Dematel-TOPSIS

1. GİRİŞ

İnsanlık boyunca şu üç konuda sürekli gelişmeler olmuştur; Yazılım, Donanım ve Algoritma. Sistemler de insanlık boyunca sürekli daha karmaşık hale gelmiş ve bu sistemleri idare etmek ancak yazılım, donanım, algoritma sayesindeki gelişmelerle ve buna ilaveten eğitimli personelle mümkün hale gelmiştir. Eskiden küçük sistemleri eğitimsiz ve dah az eğitimli insanlar idare ederken şimdi karmaşık sistemleri eğitimli insan hatta insanlarla yani eğitimli ekiple işbölümü yaparak ve birlikte çalışarak ve teknolojiyi azami kullanarak idare etmeleri mümkün hale gelmiştir.

Eskiden sanayi devriminden sonra kitlesel üretim ve birim maliyeti düşük üretim cazip hale gelirken zamanla müşteri memnuniyeti ön plana çıkmış ve müşteriler artık sadece ucuz değil, aynı zamanda kaliteli ve kendi hususi isteklerine uygun ürünler talep etmeye başlamışlardır. Bu aşamada hem esnek imalat hem de kalitenin önem kazandığı üreitm sitemi ve üretimler yaygın hale gelmeye başlamıştır. Bu aşamada HTEA yöntemi tasarım ve üretimin erken aşamalarında hataları tespit etmeye ve bunları önem ve öncelik sırasında ele almaya imkan tanımaktadır.

Klasik HTEA analizinden başka çok kriterli karar verme yöntemleride hataların önem ve öncelik ssıralarının belirlenilmesinde kullanılmaktadır. (Şimşir et al., 2018) çalışmalarında bir demir çelik fabrikası haddahane atölyesinde hataların önem ve öncelik sıralarına klasik HTEA, hibrid Dematel-TOPSIS ve Hibrid Dematel-ELECTRE yöntemlerini kullanarak karar vermişlerdir.

HTEA yöntemi ürün ve proseslerde problemler ortaya çıkmadan hataların tespiti ve risklerin belirlenmesi için tasarlanmış bir yöntemdir. İdeal olarak HTEA bir ürün tasarlanırken veya proses geliştirilirken uygulanır. Fakat varolan bir ürüne veya prosese de HTEA uygulamak faydalı olmaktadır. Burada HTEA ekibi hata türlerine ve bu hataların etkilerine karar veriri ve kritik hatalara karar verir. Sonra bu hataları önem ve öncelik sırasına göre sıralar (Lipol & Haq, 2011).

2 LİTERATÜR TARAMASI

HTEA türleri Sistem HTEA, Tasarım HTEA, Proses HTEA ve Servis Teslimat HTEA gibi sınıflanırılabilmektedir. Örneğin Tasarım HTEA analizinde ürün piyasaya üretilmeden önce analiz edilir, ve tasarım kaynaklı hatalar tesbit edilmeye çalışılır. Proses HTEA imalat ve montaj süreçlerini analizde kullanılabilir. Burada proses ve montaj kaynaklı hatalar üzerinde yoğunlaşılır (Lipol & Haq, 2011).

(Cassanelli et al., 2006) yaptıkları çalışmada klasik FMEA kullanmışlar bir Klima için tasarlanan motor kontrol sisteminin tasarım aşamasında bu tekniği uygulamışlardır. Ve bu analiz sonucunda düzeltici tedbirler alınmıştır. (Kadioglu, Uçmuş, et al., 2009) Makine imalatı yapan bir işletmede tasarım FMEA analizi ile hataların tesbiti ve kalite iyileştirme konusunu çalışmışlardır.

(Çevik & Aran, 2009) Kalite iyileştirme sürecinde hata türü ve etkileri analizinin çalışmış ve piston üretiminde uygulamasını yapmışlardır. (Aksay et al., 2012) Risk Yönetim tekniği olan FMEA tekniğini sağlık hizmetlerinde kullanmış ve laboratuvar sürecine yönelik bir uygulama yapmışlardır.

(Kahraman & Demirer, 2010) OHSAS 18001 kapsamında FMEA uygulaması yapmışlardır. (Xiao et al., 2011) çoklu hata türleri ve FMEA analizinde ağırlıklı risk öncelik sayısı değerlendirmesini çalışmışlardır. (Barends et al., 2012) FMEA tekniğini Rassallık modifikasyonu yoluyla Analitik geçerlilik için yapılan risk analizinde kullanmışlardır.

(Küçük et al., 2016)konfeksiyon kesimhane departmanında FMEA yöntemini kullanmış ve tesbit edilen 18 hatadan 8 hatayı Risk öncelikli hatalar olarak bulmuşlar ve çözüm önerilerinde bulunmuşlardır. (Rah et al., 2016) çalışmalarında iki rik analiz metodunu karşılaştırmışlardır. Gelenksel FMEA ve düzenlenmiş sağlık için FMEA tekniklerini karşılaştırmışlardır.

(Veranyurt & Arslanoğlu, 2019)çalışmalarında klinik mikrobiyoloji laboratuvarında FMEA yöntemi ile preanalitik süreçteki hata kaynaklarını analizetmişlerdir. (Sulaman et al., 2019) FMEA ve STPA (Sistem teorik Proses Analizi) güvenlik analizi metotlarını bir vaka üzerinde karşılaştıran birçalışma yapmışlardır.

(Rastayesh et al., 2020) Risk analizi için Bayes ağını ve FMEA yöntemini kullanarak sistem mühendisliği yaklaşımını bir vaka analizi üzerinde çalışmışlardır. (Güngör, 2021) FMEA yöntemini mobilya sektöründe çalışmış ve bir işletmenin EFQM mükemmellik modeli uygulamasında FMEA yöntemiyle risk analizi yapmıştır.

3. PROBLEMİN TANIMI

Bu çalışmada bir traktör fabrikasında seçilen 15 hatanın önce FMEA sonra hibrid Dematel-TOPSIS yöntemiyle önem ve önceliğine göre sıralaması yapılacaktır. Değerlendirmeye alınan 15 hata Tablo 4.2.1 de listelenmiştir. Tablo'yu tekrar vermemek için RÖS değerleri de son sütuna eklenmiştir.

Tablo 1. Hata Türlerinin HTEA ile Değerlendirilmesi ve RÖS Değerlerinin Hesaplanması

NO	HATA TÜRLERİ	HATA ADETLERİ	ORTAYA ÇIKMA (O)	ŞİDDET (Ş)	SAPTAMA (S)	RİSK ÖNCELİK KATSAYISI (RÖS)
1	Diferansiyel-arka aks-redüktör - kilitleme pedalı-bozuk/çalışmıyor/arızalı/sürekli yanıyor	97	5	10	5	250
2	Şanzıman - takviye kol körüğü - uygun olmayan montaj	178	7	6	4	168
3	Elektrik sistemi - kabin kapı müşürleri - bozuk/çalışmıyor/arızalı/sürekli yanıyor	55	4	9	5	180
4	Motor - genleşme kabı - yag/su/mazot/sıvı seviyesi düşük/fazla	118	6	7	6	252
5	Hidrolik sistem - damper kolları - yanlış ayar kalibrasyon	377	8	4	3	96

6	Kaporta,kabin,platform - ön kaporta içi sızdırmazlık fitili - zedeli,zedelenmiş/yıpranmış/eğik/çizik	84	5	7	4	140
7	Ön yükleyici - joystıck damper valf - yağ/su/mazot/hava kaçağı	27	4	5	5	100
8	Varyant plakalar - şase numarası - uygun olmayan montaj	23	4	3	7	84
9	X280 model traktörlerde boya kalınlığı problemi	262	8	10	6	480
10	Kuyruk mili - pto on-off kolu - temas/ binme/sürtme	25	4	8	5	160
11	Ön düzen ve tekerlekler - ön/arka jant komplesi - zedeli,zedelenmiş/yıpranmış/eğik/çizik	211	7	7	3	147
12	Kaporta,kabin,platform - arka çamurluklar - boya hatası	74	5	6	8	240
13	Elektrik sistemi - marş emniyet müşürü (debriyaj) - yanlış ayar kalibrasyon	201	7	9	6	378
14	Hidrolik sistem - damper boru/hortum/rakor - yag/su/mazot/hava kaçağı	198	7	8	6	336
15	Fren sistemi - komplesi - yanlış ayar kalibrasyon	1142	9	8	5	360

4. KULLANILAN YÖNTEMLER

4.1. HTEA Yöntemi

HTEA'da hata önceliklerini belirleyebilmek için; "Ortaya çıkma (O) , Şiddet (Ş) ve Saptama (S)" parametreleri ile RÖS değerleri hesaplanır. Ortaya Çıkma, hatanın sıklığını; Şiddet, hatanın etkisini; Saptama, hatayı ürün müşteriye ulaşmadan tespit etme yeteneğini göstermektedir.

HTEA Uygulama Süreci

i. Başlangıç işlemleri (Veriler Toplanır)

ii. Olası hata türü, nedenleri, etkileri ve hatayı saptamak için mevcut kontrollerin belirlenmesi

iii. Ortaya çıkma, ağırlık ve saptama değerleri belirlenerek RÖS değeri hesaplanır

iv. Hatalar Önem ve Önceliklerine göre sıralanır önlem alınacak hatalar ve önlemler belirlenir

v. Belirlenen önlemlerin uygulanır ve yeni RÖS değerleri hesaplanır

RÖS değerleri hesaplanırken aşağıdaki tablolardan faydalanılır, Tablo 2-4.

Tablo 2. "Ortaya Çıkma" Derecelendirme Tablosu

HATA OLASILIĞI	OLASI HATA ORANLARI	DERECE
Oldukça yüksek: Hata neredeyse kaçınılmaz	1/2'den fazla	10
Çok yüksek	1/3	9
Yüksek	1/8	8
Kısmen yüksek	1/20	7
Kısmen orta	1/80	6
Orta	1/400	5
Kısmen düşük	1/2000	4
Düşük	1/15000	3
Çok düşük	1/150000	2
Hemen hemen olanaksız	1/1500000'den büyük	1

Tablo 3. "Şiddet" Derecelendirme Tablosu

SINIF	ETKİ	KRİTER	DERECE
1.Sınıf	Tehlikeli	Emniyetle ilgili arıza, yasalara uyumsuz bir arıza. Hata herhangi bir ikaz olmadan meydana gelir	10
	Ciddi	Emniyetle ilgili arıza, yasalara uyumsuz bir arıza. Hata herhangi bir ikazla meydana gelir	9
	Çok büyük	Üründe temel fonksiyon kaybı. Ürünün tamamı hurdaya çıkar.	8
2.Sınıf	Büyük	Ürün/süreç üzerinde büyük etki. Ürün kullanılamaz. Üretimin ayıklanması ve bir bölümün (%100'den az) hurdaya ayrılması gerekir.	7
	Önemli	Parçanın yeniden işlenmesine neden olur Ürün performansının derecesi düşmüştür. Ürün çalışmaktadır fakat kolaylık/rahatlık sağlayan bazı parçalar çalışmaz	6
3.Sınıf	Orta	Ürün performansı veya süreç üzerinde orta şiddette etki. Müşteri bazı rahatsızlıklar duyar. Kolaylık/rahatlık sağlayan parçalar düşük performansla çalışırlar.	5
	Küçük	Ürün performansı veya proses üzerinde küçük şiddette etki. Hata müşteri tarafından fark edilir ve ürün kullanımında bazı rahatsızlıklar yaşanır.	4
4.Sınıf	Önemsiz	Ürün performansı veya proses üzerinde önemsiz etki. Hata müşteri tarından fark edilir.	3
	Çok önemsiz	Ürün performansı veya proses üzerinde önemsiz etki. Hata müşteri tarafından fark edilmez.	2
	Etkisi yok	Ürün performansı veya proses üzerinde hiç etkisi yok	1

Tablo 4. "Saptama" Derecelendirme Tablosu

SAPTAMA	KRİTER	DERECE
Hemen hemen imkânsız	Tespit etme imkânı yok.	10
Çok zor	Kontrollerin hata türünü belirlemesi çok zor	9
Zor	Kontrollerin hata türünü belirlemesi zor	8
Çok az	Kontrollerin hata türünü belirlemesi çok azdır.	7
Az	Kontrollerin hata türünü belirlemesi azdır.	6
Orta	Kontrollerin hata türünü belirlemesi ortadır.	5
Ortanın üstü	Kontrollerin hata türünü belirlemesi ortanın üstündedir.	4
Yüksek	Kontrollerin hata türünü belirlemesi yüksektir.	3
Çok yüksek	Kontrollerin hata türünü belirlemesi çok yüksektir.	2
Hemen hemen kesin	Kontrollerin hata türünü belirlemesi hemen hemen kesindir.	1

Rös değerleri aşağıdaki şekilde basit bir çarpım işlemi ile bulunur ve hatalar RÖS değerine göre sıralanır. RÖS değerleri Tablo 4.2'de verilmiştir.

Risk Öncelik Sayısı (RÖS) = Ortaya Çıkma (O) × Şiddet (Ş) × Saptama (S)

4.2. Hibrid DEMATEL-TOPSIS Yöntemi

Burada Önce dematel yöntemiyle Ortaya Çıkma (O), Şiddet (Ş), Saptama (S) kriterlerinin birbirlerine göre ağırlıkları hesaplanır.

Sonra TOPSIS Yöntemine göre bu 15 hata önem ve öncelik sırasına göre sıralanır. Bu sıralamada kriter ağırlıkları olarak DEMATEL yöntemiyle bulduğumuz ağırlıklar kullanılır. Bu yöntemlerin nasıl kullanıldığı detaylı bir şekilde uygulama bölümünde açıklanacaktır. DEMATEL ve TOPSIS çok bilinen yöntemler olduğu için detaylar sadece uygulamada verilecektir.

5. UYGULAMA

Önce HTEA yöntemiyle anlatıldığı şekilde RÖS değerleri hesaplanmıştır. Bu değerler Tablo 5'te verilmiştir. Bu sıralama ayrıca aşağıdaki tabloda gösterilmiştir. Bu tabloya bakıldığımda FMEA Yöntemine göre en öcelikli hata 9. Hatadır.

Tablo 5: HTEA RÖS Sıralama Tablosu

SIRA NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
HATA NO	9	13	15	14	4	1	12	3	2	10	11	6	7	5	8
RÖS	810	480	378	336	252	250	240	180	168	160	147	140	100	96	84

İkinci Yöntem Hibrid DEMATEL-TOPSIS Yönteminde önce kriter ağırlıkları DEMATEL yöntemiyle hesaplanmıştır. Bunun için Kriterlerin sözel karşılaştırama matrisleri hazırlanmıştır Tablo 6. Daha sonra bu tablo direkt ilişki matrisine dönüştürülmüştür Tablo 7. Daha sonra direk ilişki matrisi normalize edilmiştir Tablo 8. Daha sonra Toplam ilişki matrisi elde edilmiştir Tablo 9. En nihai olarak kriter ağırlıkları hesaplanmıştır Tablo 10.

Tablo 6: Sözel Değerlendirme Matrisi

DEĞERLENDİRME	Ortaya Çıkma (O)	Şiddet (S)	Saptama(D)
Ortaya Çıkma (O)	-	Orta Etki	Çok Yüksek Etki
Şiddet (S)	Yüksek Etki	-	Çok Yüksek Etki
Saptama(D)	Yüksek Etki	Orta Etki	-

Tablo 7: Direk İlişki Matrisi(A)

A Matrisi	Ortaya Çıkma (O)	Şiddet (S)	Saptama(D)	Toplam
Ortaya Çıkma (O)	-	2	4	6
Şiddet (S)	3	-	4	7
Saptama(D)	3	2	-	5
Toplam	6	4	8	Max=8

Tablo 8: Normalleştirilmiş Direk İlişki Matrisi(M)

M Matrisi	Ortaya Çıkma (O)	Şiddet (S)	Saptama(D)
Ortaya Çıkma (O)	0	0,25	0,5
Şiddet (S)	0,375	0	0,5
Saptama(D)	0,375	0,25	0

Tablo 9: Toplam İlişki Matrisi (T)

T Matrisi	Ortaya Çıkma (O)	Şiddet (S)	Saptama (D)	Toplam (Di)
Ortaya Çıkma (O)	0,750	0,750	1,250	2,750
Şiddet (S)	1,125	0,625	1,375	3,125
Saptama(D)	0,938	0,688	0,813	2,438
Toplam (Ri)	2,813	2,063	3,438	8,314

Tablo 10: DEMATEL Kriter Ağırlıkları Hesaplaması

	(Di)	**(Ri)**	**(D+R)**	**(D-R)**	$w_i = \sqrt{[(D_i + R_i)]^2 + [(D_i - R_i)]^2}$	**Normalleştirilmiş Wi**
Ort. Çıkma (O)	2,750	2,813	5,563	-0,063	5,563	0,331
Şiddet (S)	3,125	2,063	5,188	1,063	5,295	0,315
Saptama(D)	2,438	3,438	5,875	-1,000	5,959	0,354

Daha Sonra TOPSIS aşamasına geçilmiştir. Bu aşamada kriter ağırlıkları olarak DEMATEL yöntemiyle bulunan ağırlıklar kullanılmıştır. TOPSIS yöntemi için Tablo 11'deki karar matrisi kullanılmıştır. Bu karar matrisi önce normalize edilmiş ve normalize karar matrisi elde edilmiştir Tablo 12. Bu aşamada Normalize matris ağırlıklar kullanılarak ağırlıklı normalize karar matrisi haline dönüştürülmüştür Tablo 13. Ağırlıklı Normalize matris kullanılarak her kriter için en iyi değerleri varsayan ideal ve en kötü değerleri varsayan negatif ideal hipotetik alternatiflere karar verilmiştir Tablo 14. Bu aşamada her bir alternatifin idela çözümden uzaklığı ve negatif ideal çözümden uzaklıkları hesaplanmıştır. Bu aşamada ideal çözümden en az uzak yani bu çözüme en yakın alternatifler iddialı alternatiflerdir. Aynı zamanda negatif ideal alternatife kıyasladığımızda bu defa en uzak alternatifler daha iyi alternatiflerdir. Fakat idenlden ve negatif idealden uzaklıklar kullanılarak her aliternatifin görecel yakınlık (C) değerleri hesaplanır. Bu değer kıyaslamak için en uygundur, burada hem ideale yakın, hem negatif idealden uzak olan ve C sayısı 1 değerine en yakın alternatif en iyi alternatif olarak seçilir, bunun tersi 0'a en yakın olan en zayıf alternatif olmuş olur Tablo 15.

Tablo 11: Karar Matrisi (A)

		Hata No														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Kriterler	Ort. Çıkma (O)	5	7	4	6	8	5	4	4	8	4	7	5	7	7	9
	Şiddet (S)	10	6	9	7	4	7	5	3	10	8	7	6	9	8	8
	Saptama(D)	5	4	5	6	3	4	5	7	6	5	3	8	6	6	5

Tablo 12: Normalize Karar Matrisi

$Z_{ij} = \frac{y_{ij}}{\sqrt{\sum_{j=1}^{n}(y_{ij}{}^2)}}$		Hata No															Demat el W_i
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Kriterler	Ortaya Çıkma(O)	0,21	0,29	0,17	0,25	0,33	0,21	0,17	0,17	0,33	0,17	0,29	0,21	0,29	0,29	0,37	0,331
	Şiddet (S)	0,35	0,21	0,31	0,24	0,14	0,24	0,17	0,10	0,35	0,28	0,24	0,21	0,31	0,28	0,28	0,315
	Saptama(D)	0,24	0,19	0,24	0,29	0,14	0,19	0,24	0,34	0,29	0,24	0,14	0,38	0,29	0,29	0,24	0,354

Tablo 13: Ağırlıklı Normalize (V) Matris

	Hata Numaraları														
Kriterler	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
O. Çıkma(O)	0,07	0,10	0,05	0,08	0,11	0,07	0,05	0,05	0,11	0,05	0,10	0,07	0,10	0,10	0,12
Şiddet (S)	0,11	0,07	0,10	0,08	0,04	0,08	0,05	0,03	0,11	0,09	0,08	0,07	0,10	0,09	0,09
Saptama(D)	0,09	0,07	0,09	0,10	0,05	0,07	0,09	0,12	0,10	0,09	0,05	0,14	0,10	0,10	0,09

Tablo 14: İdeal ve Negatif İdeal Çözümler Tablosu

Hata Numaraları															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S_i^*	0,07	0,08	0,09	0,06	0,11	0,09	0,10	0,11	0,04	0,09	0,10	0,06	0,05	0,05	0,05
(S_i^*)	0,09	0,07	0,08	0,08	0,06	0,06	0,04	0,07	0,11	0,07	0,07	0,10	0,10	0,09	0,10

Tablo 15: Görecel Yakınlık "C" Değerleri

Sıra No	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Hata No	**9**	**13**	**14**	**15**	**12**	**1**	**4**	**3**	**10**	**2**	**11**	**8**	**6**	**5**	**7**
C	**0,73**	**0,68**	**0,65**	**0,65**	**0,61**	**0,56**	**0,55**	**0,48**	**0,45**	**0,45**	**0,42**	**0,39**	**0,39**	**0,35**	**0,30**

6. SONUÇ

Bu çalışmada literatürde yaygın kullanılan HTEA analizi ile bir traktör fabrikasında tesbit edilen 15 hata önem ve öncelik sırasına göre dizilmiştir. Bu yönteme göre en önemli hata olarak 9. hata yani X280 model traktörlerde boya kalınlığı problemi en önemli hata olarak ortaya çıkmıştır. Bu hatayı sırasıyla 13., 15. ve 14. hatalar ve diğer hatalar izlemiştir.

Bu çalışmada asıl yapılan iş ise literatürdeki HTEA analizine alternatif olan oldukça yeni olan hibrid DEMATEL-TOPSIS yöntemidir.Bu yöntemin sonuçları Tablo XX'de gösterilmiştir ve bu kıyaslama da yine 9. hata yani X280 model traktörlerde boya kalınlığı problemi en önemli hata olarak ortaya çıkmıştır. İki yönteminde aynı sorunu işaret etmesi bu problemin ivedilike çözülmesi gerektiği anlamına gelmektedir. İki yöntem kıyaslandığında sıralamada farklılıklar mevcuttur, yani iki yöntem tamamen aynı sonuçları vermemiştir. Bu yöntemde ikinci sırada 13. hata aynıdır fakat 14. ve 15. hatalar yer değiştirmiştir. Diğer sıralarda da farklılıklar mevcuttur.

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MONTE CARLO İNTEGRASYON METODU İLE TE POLARİZE ELEKTROMANYETİK DALGANIN İKİ BOYUTLU ŞERİT GEOMETRİDEN SAÇINIMI

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ÖZET

Saçınım problemi elektromanyetik ile ilgili konularda sıkça çalışılan alanlardan biridir. İki ya da üç boyutlu geometrilerden saçınım çalışmalarında, mükemmel iletken yüzeyler, dielektrik katmanlar, metamalzemeler, grafen yapılar ele alınmıştır. Ayrıca, yarı-uzay ve tüm-uzay bölgelerinden saçınım problemlerinin çözümleri de literatürde görülmektedir. Bu problemlerde çeşitli nümerik teknikler kullanılmıştır. Moment metodu, sonlu farklar, sonlu elemanlar, Monte Carlo metodu, analitik regülarizasyon metodu bu tekniklerden bazılarıdır.

Bu çalışmada, TE polarize düzlem elektromanyetik dalga, belirli bir açı altında iki boyutlu şerit geometriyi aydınlatmaktadır. Şerit geometri, sonsuz uzun, çok ince ve mükemmel iletken yapıdadır.

Problem çözümünde öncelikle şerit üzerinde indüklenen akım yoğunlukları ve gelen elektromanyetik alan ifadeleri kullanılarak diferansiyel denklem elde edilir. Ardından moment metot prosedürü uygulanır. Geometri ayrıklaştırılır. Baz ve test fonksiyonları seçilir. Eşitliğin her iki tarafına iç çarpım uygulanır. Böylece diferansiyel denklem, matris denklemi haline dönüşür. Her bir matris elemanı integraller ile hesaplanır. Bu noktada, Monte Carlo integrasyon metodu kullanılır. İntegrali alınacak bölgede, rastgele noktalar örneklenerek, o noktalardaki fonksiyonun değerleri elde edilir. İntegral sonucu da aritmetik ortalama alınarak basitçe elde edilir. Moment metodu uygulanırken, nümerik integral hesaplamalarında kaynak ve gözlem noktalarının yakın olduğu yerlerde tekillik sorunları meydana gelirken, Monte Carlo integrasyon metodu uygulandığında, tekilliği oluşturacak noktalar hesaplamaya dahil edilmeyerek bu sorun aşılmış olur.

Matris denklemine dönüşen problem, daha sonra matris tersi alınarak bilinmeyen akım yoğunluğu değerlerine ulaşmamızı sağlar. Sonuç olarak, değişik geliş açısı durumları için akım dağılımları değişimleri elde edilmiş ve sunulmuştur.

Anahtar Kelimeler: Saçınım Problemi, Monte Carlo İntegrasyon metodu, Moment Metodu, Şerit Geometri

SCATTERING OF TE POLARIZED ELECTROMAGNETIC WAVE FROM TWO DIMENSIONAL STRIP GEOMETRY USING MONTE CARLO INTEGRATION METHOD

ABSTRACT

Scattering problem is one of the frequently studied areas in electromagnetics. Perfectly conducting surfaces, dielectric layers, metamaterials, graphene structures are handled in two or three dimensional geometry scattering studies. Besides, half space and full space scattering problem solutions are found in the literature. Various numerical techniques are used in these problems. Method of moments, finite difference method, finite element method, Monte Carlo method and analytical regularization method are some of these techniques.

In this study, TE polarized plane electromagnetic wave illuminates two dimensional strip geometry with an incidence angle. Strip geometry is infinitely long, thin and perfectly conducting structure. In the solution of the problem, firstly differential equation is obtained using induced current densities and incident electromagnetic field expressions. After that, method of moment procedure is applied. Geometry is discretized. Base and test functions are chosen. Inner product procedure is applied to both sides of the equation. Finally, differential equation is transformed to a matrix equation. Each matrix element is calculated using integral calculation. At this point, Monte Carlo integration method is used. Function values are calculated with randomly generated points in the integral region. Integral calculation result is obtained by taking the arithmetic mean easily. While applying moment method in the calculations of the numerical integration; a singularity problem arises when source and observation points are close to each other, in Monte Carlo integration method; this problem is overcome such that nodes generating singularity are excluded.

After the problem is transformed into matrix equation, matrix inversion helps us to reach unknown current density values. As a result, current density distribution variations are obtained and presented with several incidence angle cases.

Keywords: Scattering Problem, Monte Carlo Integration Method, Method of Moments, Strip Geometry

GİRİŞ

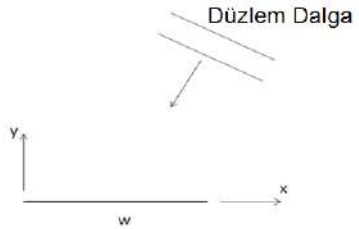
Saçınım problemleri elektromanyetik ile analizlerde sıklıkla karşılaşılan konulardandır. Tabakalı yapılar, grafen, iletken cisimlerden saçınım çalışmalarında çeşitli nümerik tekniklerde çözümler elde edilmiştir (Smolkin ve Snegur 2021). Bu tekniklerden bazıları moment metodu, sonlu elemanlar, sonlu farklar, analitik regülarizasyon metodu olarak sıralanabilir (Tian vd 2021). Kaynak olarak elektromanyetik düzlem dalgaların alındığı bu çalışmalarda, TE (Yevtushenko vd 2021) ya da TM polarize (Kaliberda vd 2021) durumları için formüller elde edilip, akım yoğunlukları bulunmuştur. Daha sonra akım yoğunlukları kullanılarak uzak alan radyasyon deseni, yönlülük gibi parametreler elde edilmiştir.

Nümerik işlemler yapılırken integral hesaplarında da bazı teknikler ele alınır. Kullanılan bu tekniklerden birisi de Monte Carlo integrasyon metodudur (Mishra ve Gupta 2008). Bu metot ile tekilliğe sebep olan noktalar örneklenmeyerek, tekillik problemleri aşılır ve çok boyutlu integraller hızlıca hesaplanabilir.

Bu çalışmada, TE polarize bir düzlem dalganın, şerit bir geometriyi aydınlattığı durumda, şerit üzerinde indüklenen akım yoğunluklarının bulunması problemi moment metodu ve Monte Carlo integrasyon tekniği kullanılarak elde edilmiştir.

ARAŞTIRMA VE BULGULAR

İncelenen problem, x ekseni boyunca uzanmış sonsuz ince mükemmel iletken şerit geometriden saçınım problemidir. Şerit, z ekseni boyunca sonsuz uzun olup, TE polarize düzlem dalga yatayla θ açısı yapacak şekilde şeridi aydınlatmaktadır. Problem geometrisi Şekil 1'de verilmiştir.



Şekil 1. Problem Geometrisi

Problemin çözümü için, şerit üzerinde indüklenen akım yoğunlukları ile gelen dalga arasındaki ilişki yazılır.

$$E_x^s(x) = -j\omega A_x - \frac{j}{\omega\mu\varepsilon}\frac{\partial^2 A_x}{\partial x^2}$$
$$E_y^s(x) = -\frac{j}{\omega\mu\varepsilon}\frac{\partial^2 A_x}{\partial x \partial y} \qquad (1)$$

Burada E^s, saçınan elektrik alan olup A da vektör potansiyel olarak adlandırılır.

$$A_x(x) = -\frac{j\mu}{4}\int_0^L J_x(x')H_0^{(2)}(k\rho)dx' \qquad (2)$$

Akım yoğunluğu ile A vektör potansiyel arasındaki ilişki de (2) ile verilmiştir.

Elde edilen denklem sonrası, moment metot prosedürü uygulanır. Akım yoğunluğu bilinen baz fonksiyonlarına açılır (3).

$$J(x') = \sum_{n=1}^{M} a_n f_n(x') \qquad (3)$$

Burada, f_n baz fonksiyonları, üçgen tipte seçilmiş olup bilinmeyen a_n katsayıları bulunmak istenen değerlerdir. Daha sonra (1) ifadesinde eşitliğin her iki tarafına iç çarpım uygulanır ve denklem bir matris denklemi (4) haline dönüşür.

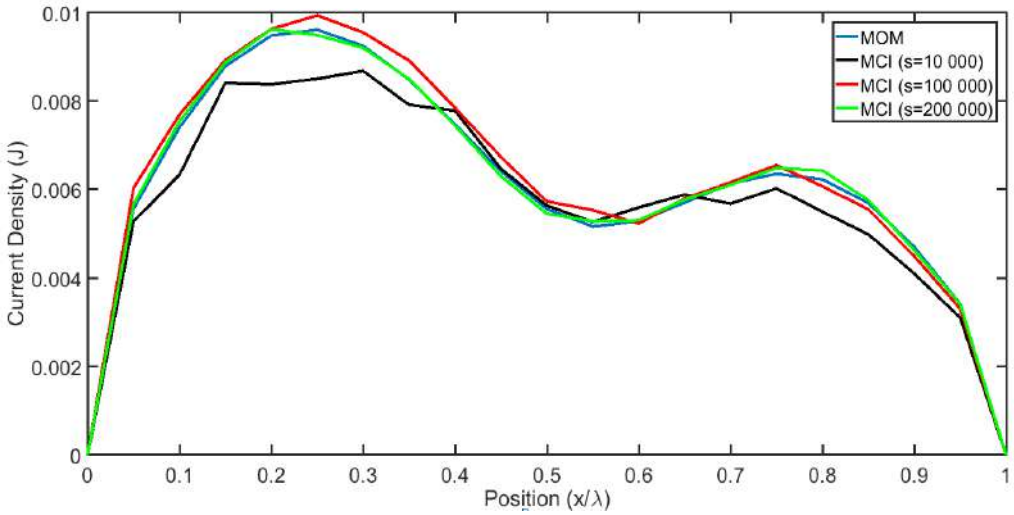
$$Z_{MxM}\, a_{Mx1} = B_{Mx1} \qquad (4)$$

Z matrisi hesaplanırken, her bir matris elemanı çift katlı integral ile bulunurken, B matrisini oluşturan elemanlar tek katlı integral yardımıyla elde edilirler. Bu noktada Monte Carlo integrasyon metodu devreye girer. Monte Carlo integrasyon metodunda, integrali alınacak bölgede rastgele noktalar üretilerek, bu noktaların fonksiyondaki değerleri toplanır. İntegral sonucu da tüm noktaların aritmetik ortalaması olarak (5)'te verildiği şekilde bulunur.

$$\int_C f(x)dx = \frac{C}{N}\sum_{i=1}^{N} f(x_i) \qquad (5)$$

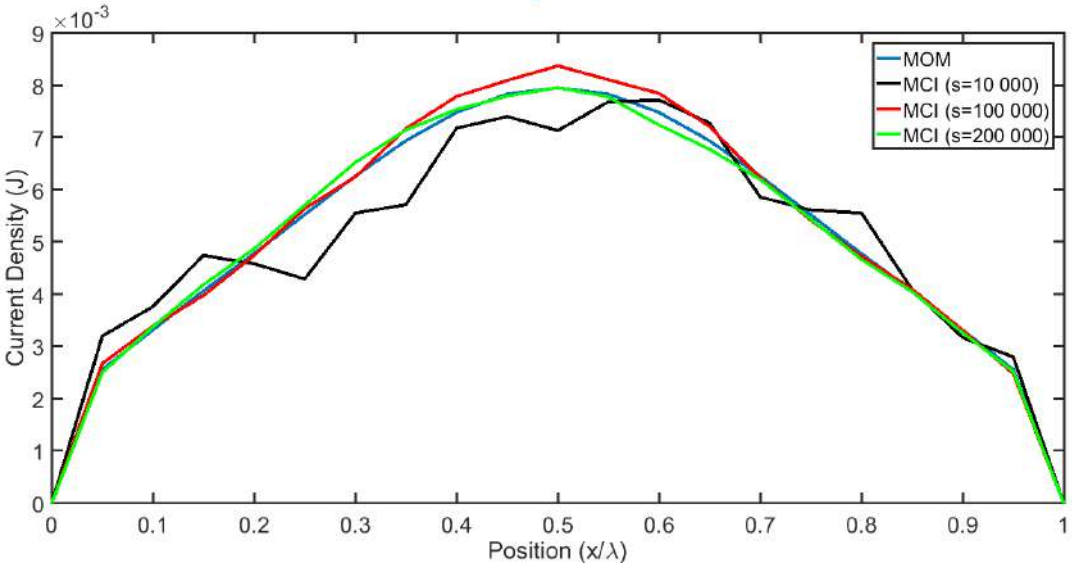
Kaynak ve gözlem noktalarının yakın olduğu bölgelerde, integralde tekillik sorunları ortaya çıkmaması için, Monte Carlo integrasyon metodunda tekilliğe neden olan noktalar örneklemden çıkarılarak sorun aşılmış olur.

Bu çalışmada, şerit genişliği w=λ, düzlem dalganın geliş açısı θ=30° ve 90° alınarak, şerit geometri 20 eşit parçaya bölünmüştür. Monte Carlo integrasyon metodu için de her bir şerit üzerindeki parça için N=10 000, N=100 000 ve N=200 000 adet rastgele noktalar seçilerek akım yoğunlukları elde edilmiş ve Şekil 2 ve Şekil 3'te sunulmuştur.



Şekil 2. Moment metodu (nümerik integrasyon) ve Monte Carlo integrasyon metodu kullanılarak elde edilen akım yoğunluğu grafiği (θ=30°)

Şekil 2'ye bakıldığında, geliş açısı θ=30° durumunda gerçek çözümün moment metodu nümerik integrasyon ile hesaplanan değerler olduğu kabul edilirse, Monte Carlo integrasyon metodunda N değeri arttırıldığı zaman gerçek çözüme yaklaşıldığı görülmüştür.



Şekil 3. Moment metodu (nümerik integrasyon) ve Monte Carlo integrasyon metodu kullanılarak elde edilen akım yoğunluğu grafiği (θ=90°)

Şekil 3'e bakıldığında ise, geliş açısı θ=90° iken akım yoğunluğu grafiği beklendiği gibi simetrik çıkmıştır. Ayrıca yine s sayısı artarken gerçek çözüme yakınsama sağlanmıştır.

Monte Carlo metodunun hesaplama süreleri, nümerik integrasyona göre oldukça kısadır. Bu süreler, örnek sayısına göre belirlenir. Tablo 1'de süreler verilmiştir. Nümerik integrasyona göre daha kısa sürelerde hesaplamalar sağlanmıştır.

Tablo 1. Nümerik integrasyon ve Monte Carlo integrasyon kullanılarak elde edilen sonuçların hesaplama süreleri

Kullanılan Metod	Hesaplama Süresi (s)
MoM(Nümerik İntegrasyon)	105.66
MCI (s=10 000)	4.00
MCI (s=100 000)	36.41
MCI (s=200 000)	73.66

SONUÇ

Sonuç olarak, Monte Carlo integrasyon metodu kullanılarak kısa sürelerde karmaşık problemlerin çözümü sağlanmıştır. Çok katlı integrallerin hesaplanmasında ve tekilliğin olduğu durumlarda, bu teknik büyük kolaylık sağlamaktadır.

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İLERİ OKSİDASYON PROSESLERİ: KENTSEL VE ENDÜSTRİYEL ATIKSU ARITIM TEMELLERİ VE UYGULAMALARI

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ÖZET

Günümüzde, ağırlıklı olarak tarım ve sanayi üzerine fokuslayan alternatif suyun yeniden kullanımı teknolojilerinin geliştirilmesi için sürekli artan bir endişe Dünya genelinde bulunmaktadır. Bu bağlamda, İleri Oksidasyon Prosesleri (İOP), yüksek kimyasal stabilitesi ve/veya düşük biyo-degradasyonu nedeniyle geleneksel tekniklerle arıtılamayan organik kirleticilerin uzaklaştırılması için oldukça rekabetçi bir su arıtma teknolojisi olarak kabul edilmektedir.

Bu bildiri; İOP'ler ile ilgili literatürü gözden geçirmekte, kirletici degradasyonunda bu proseslerin verimliliği ile ilgili verileri sunmakta ve teorik düşünmeleri ve endüstriyel uygulamalarıyla karşılaştırmaktadır. Bu bildiride, İOP'lerin (ozon bazlı, UV bazlı, elektrokimyasal, katalitik ve fiziksel prosesler) temelleri, ana uygulamaları, avantaj ve dezavantajları anlatılmıştır. İOP'ler, mevcut enerji kaynaklarının yüksek maliyeti gibi sınırlara sahip olmasına rağmen, kentsel ve endüstriyel atık sudaki kirleticilerin degradasyonu için teknik, ekonomik ve çevresel açıdan etkili bir alternatif olarak kabul edilmiştir. Yeni düşük-maliyetli katalitik materyaller geliştirilmiştir ve tam-ölçekli reaktörler inşa edilmiştir. İOP'lerin endüstriyel uygulamaları için bu faktörlerin etkililiğini optimize etmesi büyük önem taşımaktadır.

Anahtar Kelimeler: İOP, İleri Oksidasyon, Atıksu Arıtma

ADVANCED OXIDATION PROCESSES: BASICS AND APPLICATIONS IN URBAN AND INDUSTRIAL WASTEWATER TREATMENT

ABSTRACT

Today, there is a growing concern around the world for the development of alternative water reuse technologies that focus heavily on agriculture and industry. In this context, Advanced Oxidation Processes (AOPs) are considered as a highly competitive water treatment technology for the removal of organic contaminants that cannot be treated by conventional techniques due to its high chemical stability and/or low biodegradability.

This paper reviews the literature on AOPs, presents data on the efficiency of these processes in pollutant degradation, and compares theoretical considerations and industrial applications. In this paper, the basics, main applications, advantages and disadvantages of AOPs (ozone-based,

UV-based, electrochemical, catalytic and physical processes) were explained. AOPs have been recognized as a technically, economically and environmentally effective alternative for the degradation of pollutants in domestic and industrial wastewater, although they have limitations such as the high cost of available energy sources. New low-cost catalytic materials have been developed and full-scale reactors have been built. It is essential for İOPs to optimize the effectiveness of these factors for their industrial application.

Keywords: İOP, Advanced Oxidation, Wastewater Treatment

1. GİRİŞ

Kentsel atıksu arıtma tesisleri, potansiyel yeniden kullanım için suyun ana kaynaklarından biri haline gelmiştir. Ancak bazı ilaçlar, pestisitler, hormonlar ve diğer organik maddeler geleneksel atıksu arıtımı ile giderilemez. Özellikle zehirli ve/veya inatçı maddelerle su kirlenmesinin büyük bir çevresel etkileri vardır. İz organik kimyasallar (TOrC), geleneksel fiziksel ve biyolojik atık su arıtımı ile kısmen giderilebilir (Lim ve diğ., 2008; Luo ve diğ., 2014).

İleri oksidasyon proseslerinin (İOP'ler) uygulanması, çok çeşitli TOrC'lerin oksidasyonu nedeniyle uygulanabilir ve etkili bir azaltma seçeneği sunar (Comninellis ve diğ., 2008; Giannakis ve diğ., 2015; Klavarioti ve diğ., 2009; Stefan, 2017; Yang ve diğ., 2014). İOP, birincil oksidasyon türleri olarak hidroksil radikalleri ($^{\bullet}OH$) kullanan oksidasyonlardır. Hidroksil radikaller eşleşmemiş elektronlarından dolayı oldukça reaktiftirler ve seçici değildirler. Hidroksil radikaller, çoğu organik madde için ozon gibi diğer oksidanlara göre oldukça yüksek kinetik hız sabitlerine sahiptir. Bu çalışma; İOP'ler ile ilgili literatürü gözden geçirmekte, kirletici degradasyonunda bu proseslerin verimliliği ile ilgili verileri sunmakta ve teorik düşünmeleri ve endüstriyel uygulamalarıyla karşılaştırmaktadır. Ayrıca çalışmada, İOP'lerin (ozon bazlı, UV bazlı, elektrokimyasal, katalitik ve fiziksel prosesler) temelleri, ana uygulamaları, avantaj ve dezavantajları incelenmiştir.

2. İOP'LERİN UYGULAMA ALANLARI

Çalışmalarda farklı İOP teknolojileri kullanılmaktadır. Özellikle ozonlama ve UV ışınlamayı içeren İOP'ler, içme suyu arıtma ve suyun yeniden kullanım tesislerinde halihazırda iyi kurulmuş ve tam ölçekli olarak işletilmektedir. Bununla birlikte, su arıtımı için ortaya çıkan çok sayıda İOP (elektrokimyasal İOP, plazma, elektron ışını, ultrason veya mikrodalga tabanlı İOP'ler gibi) hakkında yeni çalışmalar çeşitli araştırmacılar tarafından sürekli olarak rapor edilmektedir (Stefan, 2017). Tablo 1 su arıtımında İOP'nin kullanım alanlarını göstermektedir.

Tablo 1: İOP'lerin uygulama alanları

Yer altı suları	Yüzme havuzları
Endüstriyel atık su	Sızıntı suları
Koku ve VOC'ler	Su geri dönüşüm
Endüstriyel çamurlar	Dezenfeksiyon
Yüzey suları	Evsel çamurları
Evsel atıksu	Ultra saf

Hedef kirletici için kullanılacak İOP verimi, prosesin ●OH üretim verimi ile doğru orantılıdır. Ozon ve hidrojen peroksit gibi oksidanların tek başına kullanıldığı kimyasal oksidasyon teknolojilerinin bozunma hızları İOP ile karşılaştırıldığında daha düşüktür (Echigo ve diğ., 1996; Fung ve diğ., 2000; Gogate ve diğ., 2002). Bu oksidanların birlikte kullanıldığı hibrit arıtma teknikleri, daha kısa arıtma süreleri sağlar (Weavers ve diğ., 2000). Bu hibrit proseslerin maliyeti enerji verimi, işletim koşulları ve çıkış suyu tipine bağlıdır.

İOP proseslerinin su ve atıksu arıtımında kullanımı son yıllarda artmaktadır. Ayrıca ozonlama, ozon/H_2O_2, UV radyasyonu ve bu oksidanların kombinasyonu, su arıtmımda dezenfeksiyon amacıyla uzun yıllardır kullanılmaktadır. İOP, klor ve H_2O_2 gibi geleneksel yöntemlerle karşılaştırıldığında yüksek maliyetlidir. Ancak, bu prosesler aktif karbon adsorpsiyonu gibi üçüncül arıtma prosesleri ile mali olarak rekabet edebilir.

Diğer bir dezavantaj ise serbest radikaller oldukça reaktiftir ancak seçiçi değildirler. Bu yüzden hedef kirleticiler dışında su ortamında bulunan diğer bileşikler ile reaksiyona girer ve oluşan bu radikallerin tüketici maddeler tarafından kulanılması oksidasyon verimini düşürür (Glaze ve diğ., 1990). Hümik maddeler, karbonat-bikarbonat alkalinitesi, fosfat iyonu, demir, mangan, klorür ve bakır iyonu sucul ortamda oluşan radikalleri tüketen maddelerdir (Glaze ve diğ., 1990; Hoigné ve Bader, 1976).

İOP ile tam mineralizayon gerçekleşmemesi durumunda organik ve inorganik oksidasyon yan ürünleri oluşur. İnorganik yan ürünlerin en önemlisi, ozon tabanlı İOP'lerde bromat oluşmasıdır. Tablo 2, İOP ile giderilen kirleticiler ve atıkların örneklerini sağlar.

Tablo 2. İOP ile giderilen kirleticiler ve atıkların örnekleri

Antibiyotikler	Kraft ağartma atıksuları	*Escherichia coli*
Tabakhane atık suları	Kimyasal özel atıksuları	Parazitler
Kentsel çamuru	Doğal organik madde	Fenolik atıksu
Krom	Humik materyaller	Matbaacılık atıksuları
Arsenik	Nikel kaplama atıksuları	Pestisitler
Pestisit atıksuları	Stillbeen türevleri	Hastane atıksuları
Koliformlar	Petrol sahası atıksuları	Gri sular
VOC'ler	Siyanür	Röntgen kontrast medyası
Dezenfeksiyon yan ürünleri	Zeytin mengenesi atıksuları	Kağıt fabrikası atıksuları
Çöp depolama sızıntı suları	Damıtma tesislerinin atıksuları	İlaç kalıntıları
Kauçuk proses atıksuları	Cam elyaf atıksuları	Tat ve kokuya neden olan bileşikler

İOP'nin en önemli avantajları; (Oturan ve Aaron, 2014; Parsons, 2005)

- ✓ Hızlı arıtım süresi (en fazla birkaç saat, genelde dakikalar mertebesinde).
- ✓ KOİ <1000 mg/L konsantrasyonlarda çok etkili.
- ✓ Birçok farklı moleküler yapıda organik ve inorganik kirletici için etkili.
- ✓ Çok çeşitli organik bileşiklerin asimile edilmesi.
- ✓ Kirleticilerin Tam Mineralizasyonu.

- ✓ Biyolojik gibi diğer arıtmalara dirençli olan refrakter bileşiklerin imhasında kullanılır.
- ✓ Ön veya ileri arıtma gibi diğer süreçlerle entegre olabilir.
- ✓ Biyolojik arıtmada bir miktar zorluğa sebep olabilen ve yüksek toksik atıksu arıtımında kullanılır.
- ✓ Asıl yerde olan arıtmaya izin verir.
- ✓ Arıtılmış suyun organoleptik özelliklerini geliştirir.
- ✓ Yüksek oksidasyon reaksiyonunun kinetiği ile yüksek güç sunar.

Dezavantajları ise; (Oturan ve Aaron, 2014; Parsons, 2005)

- ✓ Oksidanın seçici olmayışı
- ✓ pH, sıcaklık, reaksiyon süresi kontrolü gerekliliği (hepsi için değil).
- ✓ Yüksek işletme maliyeti (elektrik enerjisi tüketimi), olarak sayılabilir.
- ✓ Bazı işlemler uygun ölçeklerde mevcut değildir.
- ✓ Yüksek organik içeriği, yüksek bulanıklığı, optiği veya rengi içeren atıksu için bazı türler geçerli değildir.
- ✓ Oksidasyon yan ürünlerinin birikimi potansiyeli.
- ✓ Bromat oluşumu potansiyeli.
- ✓ Müdahaleci bileşikler tarafından radikal süpürülme, İOP'lerin etkinliğini azaltabilir.

3. İOP VERİMİNİ ETKİLEYEN SU KALİTESİ PARAMETRELERİ

3.1. Alkalinte

Hidroksil radikaller seçici olmadıkları için hedef kirletici dışında organik ve inorganik bileşikleri de okside ederler. Hem karbonat hem de bikarbonat oluşan hidroksil radikalleri tüketir ve sonuçta karbonat radikalleri oluşur. Oluşan bu radikaller de organik ve inorganikler ile reaksiyona girebilir ancak reaksiyon hızları oldukça düşüktür (Hoigné ve Bader, 1976; Peyton, 1998).

3.2. Doğal Organik Madde (DOM)

DOM, makro-moleküler hümik yapılar, küçük molekül ağırlıklı hidrofilik asitler, proteinler, yağlar, karboksilik asitler, amino asitler, karbonhidratlar ve hidrokarbonlar gibi organik maddeleri içeren heterojen bir karışımdır (McKinght ve Aiken, 1998). Sulardaki doğal ve insan kaynaklı organik maddeler, $^{\bullet}OH$'ı tüketerek İOP vermini düşürür. Yüksek DOM konsantrasyonları, oluşan $^{\bullet}OH$ miktarını azaltacağı için hedef kirleticinin giderim verimini de azaltır. Sularda yüksek konsantrasyonlarda DOM bulunması halinde etkin bir İOP uygulanabilmesi için daha yüksek oksidan dozu ve uzun temas süresi gerektirir.

3.3. Nitrat ve Nitrit

Hidrojen peroksit ve UV foto-oksidasyonu sonucu $^{\bullet}OH$ oluşur. Su kaynağında UV absorbe edebilen bileşiklerin bulunması, hidroksil radikallerin üretimini azaltır ve daha az $^{\bullet}OH$ oluştuğu için oksidasyon verimi de düşer. Nitrit ve nitrat, sırasıyla 230-240 nm ve 300-310 nm arasında UV ışığını absorplar. Yüksek nitrat veya nitrit konsantrasyonlarının bulunması (>1 mg/L) halinde, UV tabanlı İOP'lerin verimi önemli ölçüde azalmaktadır (Parsons, 2005).

3.4. Fosfat ve Sülfat

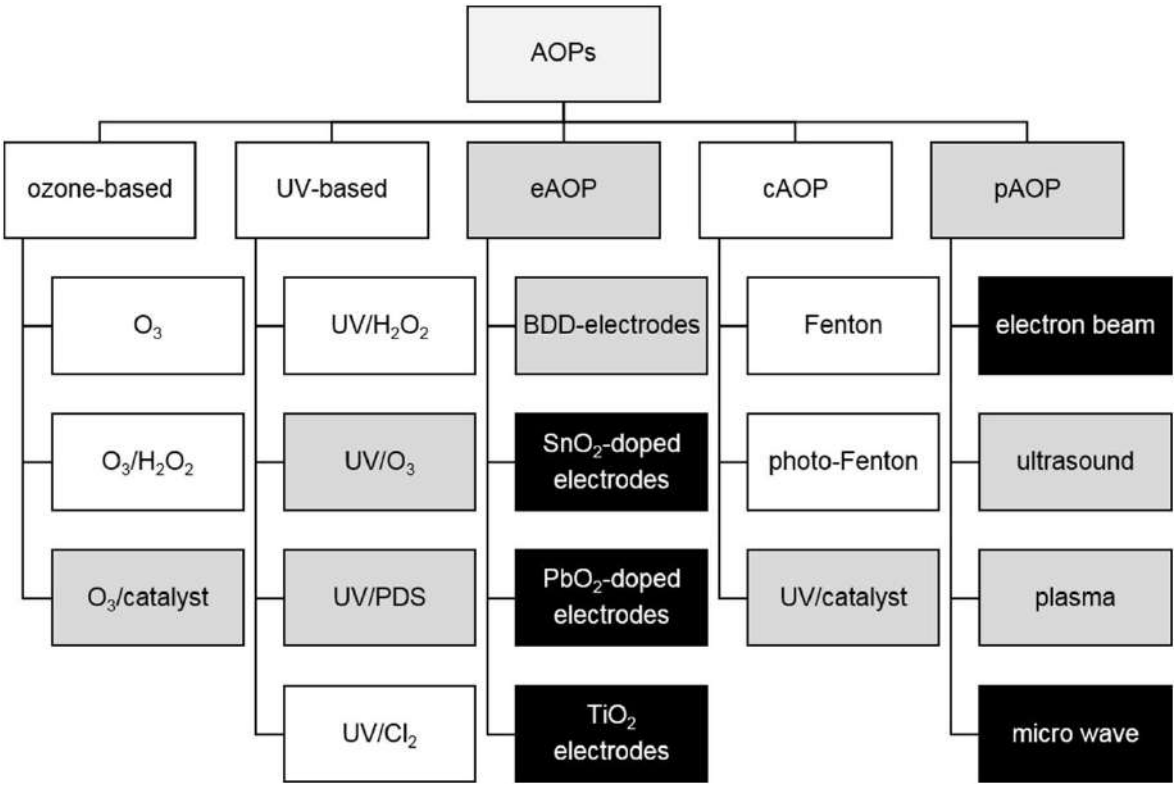
Su kaynaklarında fosfat ve sülfat genellikle düşük konsantrasyonlardadır ancak $^{\bullet}OH$ tüketici olduklarından dolayı girişim yaparlar. $^{\bullet}OH$ ile reaksiyonları oldukça yavaş olduğundan ozon/ H_2O_2/UV sistemleri için bu iyonların etkisi ihmal edilebilir. Ancak TiO_2 katalizörü kullanıldığı sistemlerde sülfat organik kirleticilerin bozunmasını önemli miktarda azaltmaktadır (Crittenden ve diğ., 1996).

3.5. Bulanıklık

UV radyasyonu kullanılan İOP için suyun bulanıklığının artması oksidasyon verimini düşürür. Bulanıklık sudaki ışık geçirimliliğini azalttığı için UV ışığının absorplanması azalacak ve UV tabanlı İOP'lerde daha az •OH üretilmesine sebep olacaktır.

4. İLERİ OKSİDASYON PROSLERİNİN SINIFLANDIRILMASI

İOP teknolojileri, oksidan üretiminin yanı sıra çok farklı aktivasyon yöntemlerini içerir ve potansiyel olarak organik yıkım için bir dizi farklı mekanizma kullanabilir. Ozon bazlı, UV bazlı, elektrokimyasal ($_e$İOP), katalitik ($_k$İOP) ve fiziksel ($_f$İOP) İOP'ler olarak sınıflandırılan, farklı yerleşik ve ortaya çıkan İOP'lere genel bir bakış Şekil 1'de verilmektedir. Bununla birlikte, bu sınıflandırma şemasının sabit olarak kabul edilmemesi gerektiğine dikkat edilmelidir, çünkü birkaç proses farklı teknolojileri içerir ve bu nedenle farklı kategorilere atanabilmektedir. Şekil 1'de özetlenen farklı prosesler, yerleşik İOP'lerden henüz yalnızca laboratuvar ölçeğinde test edilen proseslere kadar çok farklı uygulama derecelerine sahip prosesleri temsil etmektedir.



Şekil 1. Farklı İOP'lere genel bakış ve sınıflandırma. Bireysel prosesler, tam ölçekte kurulmuş (beyaz), laboratuvar ölçeğinde ve pilot ölçekte araştırılmış (gri) ve laboratuvar ölçeğinde test edilmiş (siyah) olarak işaretlenir (Miklos ve diğ., 2018).

Tüm İOP'ler, reaktif oksidatif türlerin yerinde oluşumu ve oksidanların hedef kirleticilerle reaksiyonu olmak üzere iki adımdan oluşur. Radikal oluşum mekanizmaları, proses parametrelerine bağlıdır ve sistem tasarımı ve su kalitesinden etkilenebilir. Radikal süpürmenin yanı sıra diğer parametreler de (örneğin, yüzey bazlı İOP'lerde radikal kütle transferi, hidrodinamik) kirletici yok etme verimliliği için önemli bir rol oynamaktadır (Collins ve Bolton, 2016; Parsons, 2005; Stefan, 2017).

4.1. Ozon Bazlı İOP'ler

Ozon, su arıtımında uzun süredir oksidan ve dezenfektan olarak kullanılmaktadır. Oksidan olarak ozon çok seçicidir ve çift bağlar, aminler ve aktive edilmiş aromatik halkalar (örneğin fenol) gibi elektronca zengin fonksiyonel gruplara saldırmaktadır. Gerçek sulu çözeltilerdeki reaksiyonları genellikle $^{\bullet}OH$ oluşumunu içerdiğinden, ozonlamanın kendisi genellikle İOP veya İOP benzeri bir işlem olarak kabul edilir. $^{\bullet}OH$, ozonun hidroksit iyonları ile reaksiyonundan oluşturulabilir (Merényi ve diğ., 2010a; Merényi ve diğ., 2010b). Bununla birlikte, bu reaksiyonun başlangıcı, 70 $M^{-1}s^{-1}$'lik bir ikinci derece hız sabiti ile oldukça yavaştır.

Ayrıca radikaller, ozonun organik madde (özellikle fenol ve amin fonksiyonel grupları) ile reaksiyonundan yan ürün olarak oluşmaktadır (Buffle ve von Gunten, 2006). Özellikle ikincil atıkların ozonlanması sırasında bu reaksiyonlar radikal oluşumuna en büyük katkıyı sağlar. Aktif olarak radikal oluşumunu başlatma yöntemleri arasında yüksek pH'da ozonlama ve O_3/H_2O_2 (perokson işlemi olarak da adlandırılır), O_3/UV ve O_3/katalizör kombinasyonları da bulunmaktadır.

4.1.1. Yüksek pH'da ozonlama

Yükseltilmiş pH'da ozonlama, $^{\bullet}OH$ oluşumu kasıtlı olarak tercih edilirse bir İOP olarak kabul edilmektedir (Miklos ve diğ., 2018). Hidroksit iyonlarının bolluğu, $^{\bullet}OH$ oluşumunu ve dolayısıyla dolaylı ozonlamayı doğrudan etkiler. Özellikle arıtılacak suyun pH>8 olması durumunda, kalsiyum karbonatın çökelmesi söz konusu değilse, İOP olarak uygulanan ozonlama umut verici bir proses olabilmektedir (Calderara ve diğ., 2002).

4.1.2. Perokson prosesi (O_3/H_2O_2)

Perokson prosesinde, ozon peroksit anyonu (HO_2^-) ile reaksiyona girerek $^{\bullet}OH$ öncüllerini oluşturmakta ve bunlar daha sonra $^{\bullet}OH$ ile reaksiyona girmektedir (Merényi ve diğ., 2010b). Arıtılmış suyu alıcı ortama vermeden önce kalan H_2O_2'nin giderilmesi gerekebilir. Perokson prosesi için optimum molar oran H_2O_2/O_3=0.5 mol/mol'dür (Katsoyiannis ve diğ., 2011; Pisarenko ve diğ., 2012). Perokson prosesindeki tipik ozon dozları 1–20 mg/L'dir. Peroksit, ozonun su matrisi ile reaksiyonlarından da oluşturulabilir, ancak atık su ozonlaması sırasında genel $^{\bullet}OH$ oluşumuna katkısı önemli değildir (Ganzenko ve diğ., 2018; Nöthe ve diğ., 2009). O_3/H_2O_2, içme suyu arıtma ve suyun yeniden kullanım uygulamalarında (örn. Windhoek, Namibya) yerleşik bir prosestir. Bununla birlikte, son çalışmalar, yüksek rekabet reaksiyonları ve tek başına ozon ile zaten etkili olan radikal oluşumu nedeniyle atık sudaki uygulamalarının faydalarının sınırlı olduğunu göstermiştir (Hübner ve diğ., 2014).

4.1.3. O3/katalizörler

Katalitik ozonlama, katalizörün suda çözünürlüğüne bağlı olarak, homojen ve heterojen katalitik ozonlama arasında ayırt edilmektedir. Homojen katalitik ozonlama, (Pines ve Reckhow, 2002) Co(II)'yi katalizör olarak ve oksalik asidi kullanarak yaklaştığı üç aşamalı bir katalitik döngü olarak tanımlanabilir: (1) Co(II)-oksalat kompleksinin oluşumu, (2) ozon ile Co(III)-oksalat kompleksine oksidasyon ve (3) bir oksalat radikali ve Co(II) oluşturan Co(III)-oksalat kompleksinin ayrışması. Heterojen katalitik ozonlama mekanizmalarına metal oksitler (örn., TiO_2, Al_2O_3, MnO_2) aracılık eder ve (Beltran, 2003) tarafından ayrıntılı olarak açıklandığı gibi çok fazlı taşıma mekanizmalarına ve ilgili reaksiyonlara dayalı daha karmaşık reaksiyon yolları ile sonuçlanmaktadır.

Hem homojen hem de heterojen katalitik ozonlama, yalnızca ozonlamaya kıyasla esas olarak daha düşük ozon talebine dayalı olarak laboratuvar ölçeğinde su arıtma potansiyellerini göstermiştir (Bai ve diğ., 2016; Wu ve diğ., 2016; J. Wu ve diğ., 2016; Xing ve diğ., 2016). Ancak, katalizör geri kazanımı ve katalitik ozonlama mekanizmalarının anlaşılmaması

nedeniyle tam ölçekli uygulama sınırlıdır (Nawrocki ve Kasprzyk-Hordern, 2010). Bazı araştırmalar aktif karbonun katalitik ozonlamada katalizör olarak kullanıldığını bildirmektedir (Kaptijn, 1997). Bununla birlikte, bu proseste $^{\bullet}$OH üretimi, ozonun aktif karbon yüzeyinde bulunan pirol grupları ile reaksiyonuna dayanır ve etkin radikal oluşumunu sürdürmek için sürekli olarak yenilenmesi gereken bir katalizörden ziyade radikal bir destekleyici olarak hareket ettiğini göstermektedir (Sánchez-Polo ve diğ., 2005).

4.2. UV Bazlı İOP'ler

UV bazlı İOP'ler, UV ışınımına (çoğunlukla UV-C) ve UV ışığının farklı radikal promotörlerle kombinasyonuna dayalı süreçleri içermektedir. UV-ışınlama kaynakları genellikle sırasıyla mono veya polikromatik emisyon spektrumlu düşük (LP) veya orta basınçlı (MP) cıva lambalarından oluşur. Son zamanlarda, belirli dalga boyu dağılımlarına sahip UV ışık yayan diyot (LED) ışık kaynakları araştırılmış ve dezenfeksiyon amacıyla özetlenmiştir (Song ve diğ., 2016). LED'lerin geleneksel orta ve düşük basınçlı lambalara kıyasla başlıca avantajları, cıvanın ortadan kaldırılması, benzersiz tepe emisyon dalga boyları, kompakt boyut ve dolayısıyla esnek uygulama tasarımının yanı sıra kısa bir başlangıç aşamasıdır.

4.2.1. UV/H_2O_2

H_2O_2, 290 nm'den daha düşük dalga boyuna sahip UV ışığı ile etkileşip ışıl bozunma tepkimesi vererek hidroksil radikallerini oluşturmaktadır. Bu tepkime pH'ya, H_2O_2 konsantrasyonuna, UV radyasyon süresi ve yoğunluğuna bağlıdır. Alkali koşullarda H_2O_2'nin ışıl bozunması artmakta, ayrıca UV radyasyon süresi ve yoğunluğun artması da oksidasyon verimini arttırmaktadır. H_2O_2 konsantrasyonu arttıkça hidroksil radikalleri oluşması artmaktadır (Benitez ve diğ., 2000).

TOrC giderimi için UV/H_2O_2, ultra saf sudan (Keen ve diğ., 2016; Wols ve Hofman-Caris, 2012; Wols ve diğ., 2013) depolama sahası sızıntı suyuna kadar değişen su kaliteleri için laboratuvar ölçeğinde hakemli dergi makalelerinde geniş çapta incelenmiştir (Ghazi ve diğ., 2014; Xiao ve diğ., 2016). İlk tam ölçekli uygulamalar, içme suyunun yeniden kullanımı (Audenaert ve diğ., 2011) ve yüzey suyu arıtma uygulamaları (Kruithof ve diğ., 2007) için halihazırda oluşturulmuştur. Düşük UV geçirgenliği ve ikincil veya üçüncül arıtılmış atık su atıklarının yüksek süpürme kapasitesi nedeniyle ileri atık su arıtımı için UV/H_2O_2 oluşturulmamıştır.

4.2.2. UV/O_3

UV/O_3 işleminde, UV ışıması (λ<300nm), çözünmüş ozonun bölünmesiyle sonuçlanır, ardından termal olarak uyarılmış bir H_2O_2 oluşturmak için atomik oksijenin su ile hızlı reaksiyonu gelir. Daha sonra, uyarılmış peroksit iki radikal $^{\bullet}$OH'ye ayrışır (Von Sonntag, 2008). Hem UV lambaları hem de ozon jeneratörü, UV ve ozon kombinasyonu için nispeten yüksek enerji talepleri ile sonuçlanan büyük miktarda elektrik enerjisine ihtiyaç duyar. Ozonlama ve fotoliz kombinasyonu ile doğrudan oksidasyon, çok çeşitli TOrC reaktivitesini kapsamakta ve bu prosesin ana avantajına yol açmaktadır (Miklos ve diğ., 2018).

4.2.3. UV/$SO_4^{\bullet-}$

$^{\bullet}$OH bazlı İOP'lere ilginç bir alternatif, sudaki organik kirleticilerin oksidasyonu için esas olarak sülfat radikalleri ($SO_4^{\bullet-}$) üreten UV/$SO_4^{\bullet-}$ prosesidir (Ao ve Liu, 2017; Ike ve diğ., 2018; Wacławek ve diğ., 2017). Sülfat radikalleri güçlü bir oksitleyici güce sahiptir ve $^{\bullet}$OH'den daha seçici oksidanlardır (Lutze ve diğ., 2015).

Son araştırmalar, laboratuvar ölçekli deneylerde UV/H_2O_2 ile karşılaştırıldığında UV/$SO_4^{\bullet-}$ nın olumlu etkisini göstermiştir (Khan ve diğ., 2014; Xiao ve diğ., 2016; Zhang ve diğ., 2015). Bununla birlikte, sülfat radikallerinin daha seçici reaktivitesine dayanan sonuçlar, UV/H_2O_2'ye

kıyasla su matrisi değişikliklerine ve çözünmüş organik madde (DOM) bileşimine karşı daha yüksek bir hassasiyet ortaya koymaktadır (Ahn ve diğ., 2017). İlgili hedef bileşiğe ve su matrisine bağlı olarak, $SO_4^{\bullet-}$ bazlı İOP'ler $^{\bullet}OH$ bazlı proseslere önemli bir alternatif olabilmektedir.

4.2.4. UV/Cl_2

UV/Cl2 umut verici başka bir İOP'dir. Bu proseste UV ile aktive olan klorun radikal türleri (Cl● ve ●Cl_2^-) meydana gelmekte ve daha sonra hedef bileşikleri oksitleyen ●OH'nin oluşturulmaktadır (Miklos ve diğ., 2018). $Cl^{\bullet}$, elektronca zengin kirleticilerle olumlu reaksiyona girdiği için $^{\bullet}OH$'den daha seçici bir oksidandır (Fang ve diğ., 2014). Esas olarak kullanılan iki oksidan hipoklorit ve klor dioksittir (Fang ve diğ., 2014; Jin ve diğ., 2011; Sichel ve diğ., 2011; Wang ve diğ., 2016). Hipoklorit ile ilgili olarak, molar absorpsiyon katsayısını önemli ölçüde etkilediği için HOCl/OCl^- türevinin pH bağımlılığı dikkate alınmalıdır. UV/Cl_2, özellikle ters ozmoz permeatı gibi daha düşük pH değerlerine sahip sular için uygundur (Watts ve diğ., 2007). Araştırmalar esas olarak organik indikatör bileşikleri bozan laboratuvar ölçekli sistemler üzerinde yapılmıştır (Fang ve diğ., 2014; Jin ve diğ., 2011; Sichel ve diğ., 2011; Wang ve diğ., 2016). Dolaylı yeniden kullanım için ilk tam ölçekli uygulama yakın zamanda Los Angeles Terminal Adası Su Arıtma Tesisinde faaliyete geçmiştir (Miklos ve diğ., 2018). Bununla birlikte, $Cl^{\bullet}$ bazlı reaksiyonlar, $^{\bullet}OH$ tarafından klorat, perklorat ve halojenli OBP'lere oksitlenebilen oksidatif klor türlerinin (örn., $ClOr^{\bullet}$, OCl^-) oluşumunu içermektedir.

4.3. Elektrokimyasal İOP'ler

Bu prosesler; kaplanmış SnO_2 (Zhuo ve diğ., 2011), PbO_2 (Bonfatti ve diğ., 1999; Fernandes ve diğ., 2014), RuO_2 (Quan ve diğ., 2013), bor kaplı elmastır (BDD) (Chaplin ve diğ., 2013) ve alt-stokiyometrik ve kaplı TiO_2 (Bejan ve diğ., 2009; Kesselman ve diğ., 1997) gibi elektrot türleri kullanılarak organik maddelerin doğrudan veya dolaylı olarak oksitlenmesi esasına dayanmaktadır. Bununla birlikte, BDD elektrotları, diğer elektrotlara kıyasla nispeten düşük üretim maliyetleri ve anodik polarizasyon altında elmas tabakasının yüksek stabilitesi nedeniyle en çok uygulanan eİOP yöntemidir (Miklos ve diğ., 2018).

Kirlenmiş suyun BDD elektrotları ile elektrokimyasal oksidatif arıtımı, su oksidasyonundan O_2 oluşumu yoluyla doğrudan $^{\bullet}OH$ üretebilir (Lin ve diğ., 2017). Elmas iletken olmadığı için, niyobyum, tantal veya silikon gibi bir taşıyıcı malzeme üzerine kimyasal buhar biriktirme yoluyla biriktirilen bir elektrot malzemesi olarak kullanmak için bor ile kaplanmaktadır (Haenni ve diğ., 1998). Radikaller, başka kimyasallar eklenmeden üretilir. Bu nedenle, BDD elektrot ile arıtma, çeşitli kirleticilerin giderilmesi için çevre dostu ve verimli bir yöntem olarak ilgi görmektedir.

Su arıtımında TOrC'lerin oksidasyonunun yanı sıra, BDD elektrotları dezenfeksiyon amacıyla ve kimyasal oksijen ihtiyacının (KOİ) giderilmesi için araştırılmaktadır. $^{\bullet}OH$ üretiminin yanı sıra, toplu çözeltide eliminasyon reaksiyonlarını ve dezenfeksiyonu artıran ikincil oksidanlar üretilebilir (Rajab ve diğ., 2015). BDD'nin uygulanabilirliği için sınırlayıcı bir faktör, 2. bölümde tartışıldığı gibi halojenli Oksidasyon yan ürünlerinin kasıtsız oluşumudur (Bergmann ve diğ., 2011; Bergmann ve Rollin, 2007; von Gunten, 2003). Bununla birlikte, KOİ giderme için birkaç tam ölçekli eİOP sistemi hali hazırda uygulanmaktadır (Woisetschläger ve diğ., 2013).

4.4. Katalitik İOP'ler

4.4.1. Fenton prosesi

Uygulanması basit, ileri teknoloji ve nitelikli personel gerektirmeyen ve ileri oksidasyon proseslerinden biri olan Fenton prosesi kuvvetli asidik şartlarda (pH 3) hidrojen peroksidin

(H_2O_2) ferro demir (Fe^{2+}) ile reaksiyona girerek katalitik olarak parçalanmasına dayanmaktadır (Parsons, 2005). Bu proses, özellikle kesikli üretimin yapıldığı endüstriyel atıksuların arıtımında kullanılabilen, hem organik ve inorganik kirleticiler için oksidasyon hem de askıda ve koloidal kirleticiler için koagülasyon – flokülasyon – çöktürme mekanizmalarını içeren etkili bir fizikokimyasal arıtma prosesidir (Gogate ve Pandit, 2004).

Demir oksitlerin diğer geçiş metalleri ile deşiştirmesiyle, ileri TOrC giderme performansı elde edilebilir (C. Jiang ve diğ., 2010; Piscitelli ve diğ., 2015; Rahim Pouran ve diğ., 2014). Demir çökelmesini önlemek için Fenton prosesi asidik koşullarla sınırlıdır. Bu nedenle, son zamanlarda demir içermeyen ve Fenton benzeri adlandırılan alternatif prosesler incelenmektedir (Bokare ve Choi, 2014). Fenton prosesinin başlıca avantajları, düşük maliyetle çalışma (Sánchez Pérez ve diğ., 2013) ve kalan demirin kolay manyetik olarak ayrılma olasılığıdır. Fenton prosesi bu nedenle birkaç endüstriyel tam ölçekli uygulamada kurulmuştur (Bae ve diğ., 2015).

4.4.2. Fotokatalitik İOP'ler

Su arıtımında oksidasyon prosesleri için foto-aktif katalizörlerin kullanımı son yıllarda yoğun bir şekilde araştırılmıştır (Prieto-Rodríguez ve diğ., 2017; Vallejo ve diğ., 2015). Fotokatalitik özelliklere sahip çok sayıda katalizör olmasına rağmen (TiO_2, WO_3 ve ZnO gibi), araştırmalar, katalizörün çözünürlüğüne dayalı olarak esas olarak iki tip reaksiyon üzerinde yoğunlaşmıştır:

Homojen foto-Fenton prosesleri:

$$Fe^{3+} + H_2O_2 + h\upsilon \rightarrow Fe^{2+} + OH^- + {}^{\bullet}OH \quad (1)$$

Yarı iletkenlere (TiO_2) dayalı heterojen fotokataliz (Simonsen ve diğ., 2010):

$$TiO_2 + h\upsilon \rightarrow TiO_2(e^-) + TiO_2(h^+) \quad (2)$$

$$h^+ + OH^-_{ads} \rightarrow {}^{\bullet}OH \quad (3)$$

UV ve görünür ışık (λ=180-400nm), Fe (III)'ün foto-indirgenmesiyle Fenton prosesini hızlandırır, ancak bu reaksiyon için kuantum verimi nispeten düşüktür (Miklos ve diğ., 2018). Bu nedenle, doğrudan Fenton prosesi ile bağlantılıdır. Organik bir ligand (örneğin, ferrioksalat) ile foto-Fenton prosesleri, Fe (III)-polikarboksilatların yüksek UV absorpsiyonundan dolayı daha yüksek bir kuantum verimine ve dolayısıyla daha yüksek bir verimliliğe sahiptir. Ek olarak, ferrioksalat kompleksi, λ<550nm dalga boyuna kadar radyasyonu emebilir, bu da onu güneş enerjisiyle çalışan İOP'ler için uygun hale getirir (Hislop ve Bolton, 1999; Rahim Pouran ve diğ., 2014)

TiO_2 bazlı fotokatalizde, yarı iletken malzeme UV ışığı (λ<400nm) ile ışınlanmaktadır (Yildiz ve Olabi, 2021). Genellikle askıda kolloidal partiküller olarak veya farklı substratlar üzerinde hareketsiz hale getirilmiş olarak araştırılmaktadır. Yeterli enerjiye sahip fotonlar fotokatalist yüzeyine çarparsa, bir elektron iletim bandına uyarılır ve değerlik bandında (denk. (2)) pozitif yüklü bir boşluk (h+) bırakır. Bu türler, ya doğrudan yarı iletken yüzeyinde ya da radikal reaksiyonlar yoluyla (denk. (3)) su bileşenlerinin oksidatif veya indirgeyici dönüşümlerine neden olabilir. Sonraki reaksiyonlar için yeterli miktarda çözünmüş oksijen gereklidir. Diğer İOP'ler sadece •OH reaksiyonlarına dayanırken Fotokataliz, oksidasyon ve indirgeme mekanizmalarını birleştirme olan özgün bir avantaja sahiptir. Ancak, kirleticilerin oksidasyonu ve indirgenmesi için TiO_2 fotokatalizinin kuantum verimi, elektron-delik çiftlerinin hızlı yeniden kombinasyonundan dolayı genellikle çok düşüktür (ϕ=0.04) (Miklos ve diğ., 2018). Bir elektron donörünün (sitrik asit gibi) eklenmesi, pozitif deliklerin "doldurulmasına" ve iletim bandındaki negatif elektronlardan artan indirgeme oranlarına yol açabilir (Oliveira ve diğ., 2015; Vohra ve Davis, 2000).

TOrC giderimi için TiO_2 fotokatalizinin avantajları, katalizörün kendisinin düşük maliyetlerini ve çeşitli kristal formlarda ve partikül özelliklerinde kolay ticari bulunabilirliği içermektedir (Dükkancı, 2017). Ayrıca, katalizör toksik değildir ve fotokimyasal olarak stabildir. Tam ölçekte heterojen foto-kataliz uygulamasının sınırlandırılması temel olarak iki faktöre dayanmaktadır: (I) işlemden sonra koloidal katalizörün su süspansiyonundan ayrılması ve (II) bir substrat üzerinde hareketsizleştirilmiş katalizörün yüzeyine kütle transfer sınırlamaları (Qu ve diğ., 2013).

4.5. Fiziksel İOP'ler

4.5.1. Elektrohidrolik deşarj (Plazma)

Sıvı fazlı elektrik deşarj reaktörleri, su arıtımında İOP'ler olarak araştırılmıştır (Hijosa-Valsero ve diğ., 2014). Su içinde (elektrohidrolik deşarj) veya su ve gaz fazı (termal olmayan plazma) arasında uygulanan güçlü elektrik alanları hem kimyasal hem de fiziksel süreçleri başlatmaktadır. Deşarj sırasında oksidasyonu teşvik edebilen çeşitli oksitleyici radikaller, UV radyasyonu ve şok dalgaları eklenebilmektedir (B. Jiang ve diğ., 2014).

4.5.2. Ultrason

Sulu ortamdaki ultrasonlar, kimyasal (dolaylı) veya fiziksel (doğrudan) bir mekanizma olmak üzere iki farklı aksiyon türü üzerinden meydana gelebilen özel bir İOP teknolojisini oluşturmaktadır. Genellikle yüksek frekansta gerçekleştirilen dolaylı aksiyonda, su ve dioksijen molekülleri homolitik parçalanmaya uğrar ve $^{\bullet}OH$, $HO_2^{\bullet}$ ve $O^{\bullet}$ radikallerini üretir (Zaviska ve diğ., 2009).

Sonikasyon olarak adlandırılan doğrudan aksiyon ise, gayet yüksek sıcaklıklarda (T =2000-5000 K°) ve basınçlarda (yaklaşık $6x10^4$ kPa) mikrokabarcık oluşumunu ve kritik rezonans boyutuna ulaştıktan sonra bu kabarcıkların büzüşerek patlaması sonucu hidroksil radikal oluşumunu kapsayan bir prosestir (Oturan ve Aaron, 2014). Bu mikro kabarcıklar çeşitli mekanizmalar sonucu oluşabilir:

1. Su hızının bölgesel artışı.
2. Sonikasyon vasıtasıyla hızlı titreşim.
3. Statik basınçtaki azalma.

Bu aşırı koşullarda; Su moleküllerinin sonolizi gerçekleşir, bu sonoliz, sulu ortamda bulunan organik kimyasal türlerle reaksiyona girebilen çok reaksiyonlu radikaller üretir (denk. 4-5) ve/veya organik bileşiklerin piroliz bozunması gerçekleşir (denk. 6) (Hua ve Hoffmann, 1997; Ma, 2012):

$$H2O +))) \rightarrow {}^{\bullet}OH + {}^{\bullet}H \quad (4)$$

$$^{\bullet}OH + X\ (O.B.) \rightarrow Ürünler \quad (5)$$

$$X\ (O.B.) + \Delta H \rightarrow Ürünler \quad (6)$$

Burada;))), Ultrason ve X (O.B) organik bileşiklerdir.

Sonokimyasal proseslerin, laboratuvar ölçekli deneylerde çeşitli su kirleticilerini oksitlediği kanıtlanmıştır (Mahamuni ve Adewuyi, 2010). Bu nedenle, son yıllarda ultrasonlar; sular, atıksular ve arıtma çamurlarındaki organik kirleticilerin oksitlenmesi ve bozunması için yaygın olarak kullanılmaktadır (Dai ve diğ., 2006; Ma, 2012; Naffrechoux ve diğ., 2003; Olabi ve Yildiz, 2021a, 2021b; Torres ve diğ., 2007; Yildiz ve Olabi, 2021; Zaviska ve diğ., 2009). Bununla birlikte, ultrason uygulaması oldukça enerji yoğundur ve diğer teknolojilere kıyasla bu İOP'nin çok düşük enerji verimliliği ile sonuçlanır (Goel ve diğ., 2004; Mahamuni ve Adewuyi, 2010). Bu nedenle, ultrasonun UV ışıması (sonofotoliz), oksidanlar (O_3, H_2O_2) veya katalizörler (TiO_2) (sonokataliz) veya her ikisi (sonofotokataliz) ile birleştirilmesi daha fazla

ilgi görmektedir. Bu hibrit prosesler ek avantajlar sağlayabilir. Birleştirilmiş ek proseslerin (örneğin, US/UV/TiO_2, US/UV/Fenton, US/O_3) daha yüksek verimliliği nedeniyle enerji verimliliğinde büyük bir iyileşme elde edilir (Mahamuni ve Adewuyi, 2010; Olabi ve Yildiz, 2021b; Poblete ve diğ., 2017).

4.5.3. Mikrodalga

Mikrodalga 300MHz–300GHz aralığında yüksek enerjili radyasyon uygulaması, su kirleticilerinin oksidasyonu için araştırılmıştır. Mikrodalgalar, organik kirleticilerin yok edilmesine yardımcı olmak için oksidanlar (H_2O_2) veya katalizörler (TiO_2, GAC) ile birlikte kullanılmıştır (Bo ve diğ., 2006; Han ve diğ., 2004; Zhihui ve diğ., 2005). Mikrodalgalar, reaksiyon hızlarını artırabilir ve dahili molekül titreşimi yoluyla kirleticilerin seçici olarak ısınmasına neden olabilir. Ek olarak mikrodalgalar, kombine MW/UV reaktörleri için elektrotsuz deşarj lambası aracılığıyla UV radyasyonu üretebilir. Ne yazık ki, uygulanan mikrodalga enerjisinin çoğu ısıya dönüştürülür. Düşük enerji verimliliğinin yanı sıra, arıtılmış suyun aşırı ısınmasını önlemek için soğutma cihazları kullanılmalıdır (Miklos ve diğ., 2018)

4.5.4. Electron ışını

Su arıtımı için bir elektron ışını kaynağından (0.01–10MeV) gelen iyonlaştırıcı radyasyonun kullanımı 1980'lerden beri test edilmiştir. Hızlandırılmış elektronlar su yüzeyine nüfuz etgmekte ve çeşitli iyonik türler ve serbest radikaller de dahil olmak üzere suda elektronik olarak uyarılmış türlerin oluşmasına neden olmaktadır. Hızlandırılmış elektronların maksimum nüfuz derinliği, gelen elektronların enerjisi ile doğru orantılıdır (Nickelsen ve diğ., 1994). Bu nedenle su, ince bir film halinde veya püskürtülen bir aerosol olarak ışınlanır. Bu proses, yüksek bir oksitleme gücü ve su matrisi tarafından çok az müdahale göstermektedir. Ayrıca, enerji verimliliği fizibilite aralığındadır (Bolton ve diğ., 1998). Bir elektron hızlandırıcı için yüksek sermaye maliyetleri (genellikle> 1 milyon ABD Doları), X-ışınlarından kaynaklanan ilgili risk potansiyeli ve dolayısıyla gerekli güvenlik önlemleri nedeniyle, elektron ışını işleminin daha fazla geliştirilmesi karlı görünmemektedir.

5. SONUÇLAR

İleri oksidasyon prosesleriyle yapılan arıtılabilirlik çalışmalarında elde edilen giderim verimlerinin geleneksel arıtma yöntemlerindeki giderim verimlerine göre çok daha yüksek olduğu ve kirletici miktarlarını deşarj kriterlerine indirdiği görülmektedir. Dolayısıyla bu proseslerin hem evsel hem de endüstriyel atıksuların arıtımında başarıyla uygulandığı ortaya konmuştur.

İleri oksidasyon prosesleri yüksek oksidasyon potansiyeline sahip hidroksil radikallerini üretmekte ve bu radikallerle ortamdaki organik bileşenler reaksiyona girmektedir.

Bu reaksiyon sonucunda pek çok organik bileşenin, son ve kararlı ürünler olan su ve karbondioksite kadar oksidasyonu mümkün olabilmektedir. Dolayısıyla arıtma verimi diğer proseslere oranla daha yüksek olmaktadır.

Klasik arıtma proseslerinde karşılaşılan çamur oluşumu ve çamur bertarafının meydana getirdiği sorunlar ve ek maliyetler bu tip proseslerde neredeyse yok denecek kadar azdır.

Hidroksil radikalleri ile organik bileşenler arasındaki reaksiyonun gerçekleşme süresi özellikle biyolojik arıtma proseslerine göre daha düşüktür. Böylece kirleticilerin giderimi daha kısa sürede sağlanmaktadır.

İleri oksidasyon proseslerinin diğer arıtma proseslerine oranla çok daha az alana ihtiyaç duyulması, işletme içerisindeki alanların daha etkin kullanımına olanak sağlayacak ve arıtma tesisi alanı için yapılacak harcamalar daha az olacaktır.

Bu proseslerde sağlanan yüksek orandaki arıtma verimiyle, atık sudaki kirleticiler büyük bir oranda giderilebilecek ve işletmeye iyi kalitede geri kazanılmış su elde edilebilecektir. Böylelikle işletme için temiz su kaynağına alternatifbir su kaynağı yaratılacak elde edilecek ve dolayısıyla işletmenin su maliyeti düşürülebilecektir.

İleri oksidasyon proseslerinin bütün bu üstün yönlerine karşın, diğer arıtma yöntemlerine nazaran ilk yatırım ve işletme maliyetlerinin daha fazla olması bu proseslerin başlangıçta uygulanamaz olarak tanımlanmasına neden olabilir. Ancak bu prosesler yukarıdaki avantajları sağlarsa tercih edilebilir. Örneğin arıtma sonucunda elde edilecek geri kazanılmış suyun işletmede tekrar kullanılması ile su tüketim maliyetleri azalacaktır. Böylelikle başlangıçta bu prosesler için işletme tarafından yapılan fazla harcamalar kısa sürede kazanca dönüşebilir.

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ÖZET

Ülkemizde ve dünyada hem evsel hem de endüstriyel atıksu arıtma tesislerinde oluşan çamurların bertarafı çözüm bekleyen önemli sorunlardan biridir. Son yıllarda biyolojik stabilizasyon süreçlerinin hidroliz aşamasını ortadan kaldırmak için çamur dezentegrasyon süreçleri ortaya çıkmıştır. Çamur flokunun parçalanması (sonodispergasyon etkisi) ve flok oluşturan mikroorganizmaların hücre zarlarının tahrip edilmesi, arıtma çamurunun ultrasonik dezentegrasyonunun doğrudan bir etkisidir. Bu, sıvı çamur (sonoliz etkisi) ile organik materyalin salınmasına yol açmaktadır. Uygulanan enerji, ultrason frekansı ve çamur katı içeriği olmak üzere üç ana faktör çamurun ultrasonik dezentegrasyonunu etkilemektedir. Ultrasonik dezentegrasyon teknolojisi katı faz ve hücre dışı polimerik madde (HDPM)'yi çözmektedir. Bu çözünürleştirmenin bir sonucu olarak çözünmüş KOI (çKOİ) artmaktadır. Ultrasonik dezentegrasyon, hem çamur susuzlaştırılabilirliğini hem de mikroorganizmalarını olumsuz ve olumlu yönde etkilemektedir. Çamur susuzlaştırılabilirliğinin düşük enerji seviyelerinde arttığı bulunurken yüksek özgül enerji (ES) uygulandığında filtrasyon direnci önemli ölçüde artmaktadır. Çok düşük enerji seviyelerinde mikroorganizma konsantrasyonu artmaktadır, çünkü US dalgaları su moleküllerinin, mikroorganizmaların ve sudaki diğer çözünenlerin titreşimlerine neden olmaktadır. Çamur dezentegrasyonu ve hücre çözülmesi çok daha yüksek enerji seviyelerinde meydana gelir. ES> 32000 kJ / kg TKM'de, hücrelerin ölümü ve / veya çözülmesi nedeniyle bozulmamış bakteri sayısı azalmaya başlar. Sonikasyon ayrıca çamurun patojen ve toksisite seviyelerini azaltmaktadır. Buna ek olarak, US'nin diğer arıtma proseslerine eklenmesinin, çamurun dezentegrasyon derecesini (DD) önemli ölçüde geliştiren sinerjik bir etki yarattığı bulunmuştur. Bu nedenle ve ekonomik hususlar açısından, ultrasonik-alkali arıtma, ultrasonik-ozon, ultrasonik-Fenton ve ultrasonik-fotokatalitik teknolojileri gibi hibrit arıtma teknolojilerinin geliştirilmesi gerekmektedir. Bu çalışma, bu umut verici ve yenilikçi teknolojiyi, literatürde ve güncel araştırma hatlarında atıfta bulunulan deneysel sonuçlara dayanarak derinlemesine tartışmakta ve hem atıksu arıtma ünitelerinde hem de çamur arıtma ünitelerinde uygulanması için avantajlarını, dezavantajlarını ve potansiyel konumlarını göstermektedir.

Anahtar Kelimeler: Ultrasonik, Arıtma Çamuru, Çamur dezentegrasyonu, Çamur arıtma, Çamur minimizasyonu

SEWAGE SLUDGE DISINTEGRATION USING ULTRASONIC TECHNOLOGY

ABSTRACT

Disposal of sludge formed in both domestic and industrial wastewater treatment plants is one of the important problems waiting to be solved in Turkey and in the world. In recent years, sludge disintegration processes have emerged to eliminate the hydrolysis stage of biological stabilization processes. The disintegration of the sludge flocculation (sonodispergation effect) and the destruction of the cell membranes of the flocculating microorganisms are a direct effect of the ultrasonic disintegration of the sludge. This leads to the release of organic material and liquid sludge (sonolysis effect). Three main factors affect the ultrasonic disintegration of the sludge: applied energy, ultrasound frequency and sludge solid content. Ultrasonic disintegration technology solves solid phase and extracellular polymeric substance (EPS). As a result of this solubilization, sCOD increases. Ultrasonic disintegration affects both sludge dewaterability and microorganisms both negatively and positively. It has been found that sludge dewaterability increases at low energy levels, while filtration resistance increases significantly when high specific energy (ES) is applied. Microorganism concentrations increase at very low energy levels because US waves cause vibrations of water molecules, microorganisms, and other solutes in water. Sludge disintegration and cell dissolution occur at much higher energy levels. At ES> 32000 kJ/kg TKM, the number of intact bacteria begins to decrease due to death and/or dissolution of cells. Sonication also reduces pathogen and toxicity levels in the sludge. Moreover, the addition of US to other treatment processes has been found to produce a synergistic effect that significantly improves the degree of sludge disintegration (DD). For this reason and in terms of economic considerations, it was concluded in this paper that hybrid treatment technologies such as ultrasonic-alkaline treatment, ultrasonic-ozone, ultrasonic-Fenton and ultrasonic-photocatalytic technologies should be developed. This paper discusses in depth such promising and innovative technology, based on experimental results cited in the literature and current research lines, and demonstrates its advantages, disadvantages, and potential locations for its application in both wastewater treatment units and sludge treatment units.

Keywords: Ultrasonic, Sewage Sludge, Sludge Disintegration, Sludge treatment, Sludge minimization

1. GİRİŞ

Son yıllarda, atık su arıtma sürecinde atık çamurun miktarının en aza indirilmesi büyük önem kazanmıştır. Özellikle biyolojik arıtma işleminden oluşan arıtma çamurlarının organik madde içeriği çok yüksek olduğu için bu tip çamurlar bozunma ve kokuşma eğilimindedir. Atık çamurun arıtılması ve bertarafı, evsel atıksu arıtma tesisleri için tüm işletme maliyetinin yaklaşık yarısı kadardır. Çamurun ortadan kaldırılması konusunda uzun yıllardan beri çok sayıda araştırma yürütülmüş ve bazı yeni çamur azaltma teknikleri önerilmiştir (Liu, 2003; Nagao ve diğ., 2003; Øegaard, 2004). Son yıllarda biyolojik stabilizasyon süreçlerinin hidroliz aşamasını ortadan kaldırmak için çamur dezentegrasyon süreçleri ortaya çıkmıştır (Khaksar ve diğ., 2019). Çamur dezentegrasyonu, dezentegrasyon türü ve dezentegrasyonun yoğunluğuna bağlı olarak çamur florasının veya çamurdaki mikroorganizma hücrelerinin bozulması yoluyla gerçekleştirilebilir (Ye ve diğ., 2012).

Arıtma çamurunun dezentegrasyonu, çamurun flok yapısının bozulmasına ve hücre içi sıvıların salınmasına yol açıp çamurun işlenmesi sırasında hücrelerdeki organik bileşiklerin kolayca çıkarılmasını sağlmaktadır (Wolski, 2020). Dezentegrasyon yöntemlerine yönelik çalışmaların büyük çoğunluğu, bu yöntemlerin aktif çamur veya ikincil çamur için uygulanmasına odaklanmaktadır. Bunun nedeni, birincil çamurların kolayca parçalanabilen bileşenlerden oluşmasıdır (arıtmayı gerektirmez). İkincil çamurlar ise, hücre duvarlarının hızlı bozunmasını engelleyen mikroorganizmalardan oluşmaktadır (Wacławek ve diğ., 2019). Dezentegrasyon yoluyla çamurun stabilizasyon derecesinin arttırılması, daha az çamur üretimi, daha kararlı çamur ve daha fazla biyogaz üretimi sağlanır (Wacławek ve diğ., 2019; F. Wang ve diğ., 2005). Fazla çamuru azaltmak için geliştirilen çamur dezentegrasyon teknolojileri, biyolojik dezentegrasyon, mekanik dezentegrasyon, tarımsal dezentegrasyon ve kimyasal dezentegrasyon olarak sınıflandırılmaktadır (Foladori ve diğ., 2010; Müller, 2001).

Dezentegre edilen çamurların anaerobik çürümesi, organik maddenin ileri derecede parçalanması sebebiyle yüksek dereceli bir stabilizasyona imkan sağlamakta ve bu şekilde atık çamur miktarı klasik anaerobik çürüme işlemi ile karşılaştırıldığında % 30 - 40 oranında azaltılabilmektedir. Diğer yandan, dezentegrasyon tekniği olarak oksidasyon prosesleri kullanıldığında, katı fazda bulunan hücre parçaları (biyokatılar) anaerobik çürüme sırasında kalıcı kimyasal oksijen ihtiyacı (KOİ) (zor parçalanan organik yapılar)'nin oksitlenerek biyolojik oksijen ihtiyacına (BOİ) dönüşümünde iyi bir besin kaynağı olabilmektedir. Kalıcı KOİ'nin BOİ'ye dönüşmesi anaerobik çürüme işleminde daha çok biyogaz üretimine dolayısıyla daha fazla enerji elde edilmesine olanak sağlamaktadır (Filibeli ve Erden 2010; Vranitzky ve diğ., 2005; Wacławek ve diğ., 2019). Dezentegrasyon işlemi ile köpük problemi olan ve şişkin çamura sebep olan ipliksi yapıyı parçalamak (bozmak) mümkün olmakta ve dolayısıyla çamurun çökelebilme özellikleri geliştirilmektedir. Dezentegrasyon işlemi ile çamur yapısında meydana gelen değişimlerden biri de çamurun viskozitesinin azalmasıdır. Çamurun viskozitesindeki azalma çamurun karıştırma ve pompaj işlemlerinin kolaylaştırılması açısından oldukça önemlidir (Filibeli ve Erden 2010; Wacławek ve diğ., 2019).

Kirleticilerin zararsız son ürünlere hızlı oksidasyonu avantajına sahip olan İOP'lerin son yıllarda arıtma çamurunun dezentegrasuonu için kullanımına ilgi artmıştır. Çamurun dezentegrasyonu ve azaltılması için uygulanan İOP, ozon oksidasyonu (Chacana ve diğ., 2017; Zhang ve diğ., 2016), hidroksit peroksit H_2O_2 oksidasyonu (Feki ve diğ., 2015; Kim ve diğ., 2009), Fenton ve foto-Fenton oksidasyonu (Yildiz ve Cömert, 2020) , elektrokoagülasyon (Yildiz ve Oran, 2019), fotokatalitik oksidasyonu (Hayashi ve diğ., 2009), ultrasonik oksidasyon (Zorba ve Sanin, 2013), persülfat oksidasyonu (Maqbool ve diğ., 2019; Zhao ve diğ., 2016), Islak hava oksidasyonu (Øegaard, 2004), Süperkritik su oksidasyonu (Svanström ve diğ., 2004) ve kombinasyonları (Packyam ve diğ., 2015; Tian ve diğ., 2015; Yu ve diğ., 2018) gibi birçok yenilikçi dezentegrasyon prosesleri araştırılmıştır.

Ultrasonik dezentegrasyon genellikle mekanik yöntem olarak sınıflandırılmaktadır. Ancak •OH radikallerin oluşumunu desteklediği için bu bildiride ileri oksidasyon prosesli dezentegrasyon teknolojisi olarak da sınıflandırılmıştır. Bu çalışma, bu umut verici ve yenilikçi teknolojiyi, literatürde ve güncel araştırmalara atıfta bulunulan deneysel sonuçlara dayanarak derinlemesine tartışmakta ve hem atıksu arıtma ünitelerinde hem de çamur arıtma ünitelerinde uygulanması için avantajlarını, dezavantajlarını ve potansiyel konumlarını ortaya koymaktadır.

2. ULTRASONİK DEZENTEGRASYON TEKNOLOJİSİ

Çamur flokunun parçalanması (sonodispergasyon etkisi) ve flok oluşturan mikroorganizmaların hücre zarlarının tahrip edilmesi, arıtma çamurunun ultrasonik dezentegrasyonunun doğrudan bir etkisidir. Bu, sıvı çamur (sonoliz etkisi) ile organik materyalin salınmasına yol açmaktadır (Zielewicz, 2017).

Ultrasonik frekanslar 20 kHz ile 10 MHz arasında değişmektedir. Çamur esas olarak ultrasonik kavitasyon ile parçalanır. Kavitasyon, sıvı kütlesindeki lokal basınç buhar basıncının altına düştüğünde meydana gelir ve zaman içerisinde mikro kabarcıkların oluşumunu milisaniye kadar kısa bir sürede indüklemektedir (Foladori ve diğ., 2010; Tyagi ve Lo, 2011). Bu kabarcıklar hızla kritik bir boyuta kadar büyüp şiddetli bir şekilde çökerlemekte ve sonuçta yoğun lokal ısını (5000 °K'ye kadar), gaz-sıvı arayüzünde yüksek basıncı (500 atm'a kadar), türbülansı ve yoğun kesme kuvvetlerini üretmektedir. Bu aşırı koşullar, sonokimyada önemli bir mekanizma olan •OH•, HOO•, H• ve hidrojen peroksit gibi radikallerin oluşumunu desteklemektedir (Carrèr ve diğ., 2010; Foladori ve diğ., 2010; Khanal ve diğ., 2007; Pilli ve diğ., 2011). Ultrasonik dezentegrasyonun avantajları ve dezavantajları Tablo 1'de verilmiştir.

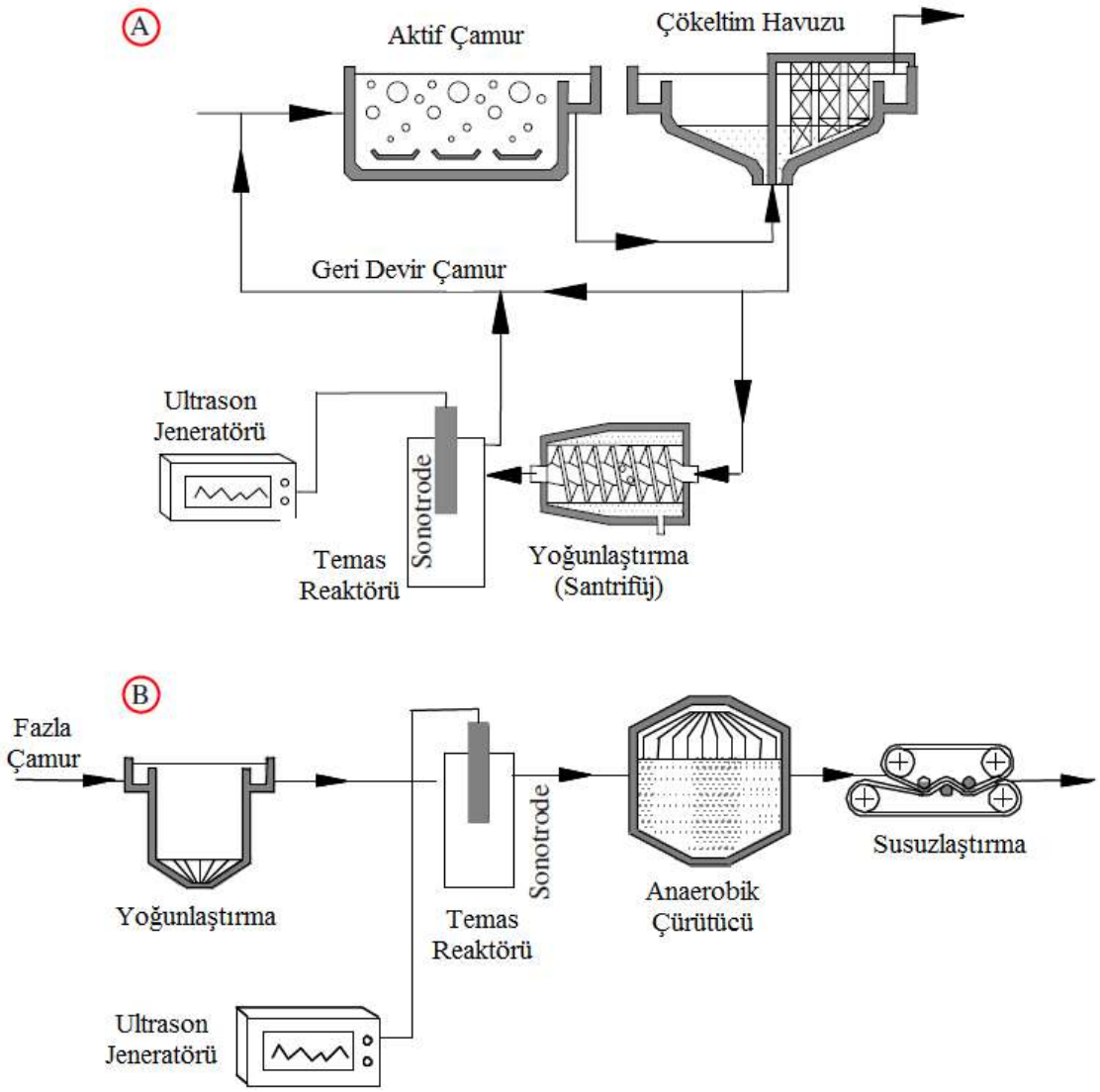
Tablo 1. Ultrasonik dezentegrasyonun avantajları ve dezavantajları (Foladori ve diğ., 2010)

Avantajları	Dezavantajları
Güvenilirlik (yüksek derecede araştırma ve geliştirme)	Sonotrotların erozyonu
Proses tam ölçekte uygulanbilme	Sonotrotların periyodik olarak değiştirilmesi
Mevcut sistemlerde kompakt tasarım ve kolay iyileştirme (mevcut bir AAT'de uygulanması kolay)	Yüksek enerji tüketimi
Kısa temas süresi	
Çürütücüde filamentli kabarmayı ve köpürmeyi kontrol etme potansiyeli	Çamur susuzlaştırılabilirliğinin kötüleşmesi (yüksek enerjide)
UKM tahribatı, biyogaz üretimi ve biyokatıların kalitesinin geliştirilmesi (biyolojik olarak parçalanabilen organik kalıntısı düşük ve patojen sayısı düşük olan biyokatılar).	
Koku oluşumu ve tıkanma sorunu yok	

İşlem, hücre liziz-şifreli büyüme mekanizması yoluyla aktif çamur reaktörlerinde (ön arıtma atık su arıtma ünitelerine entegre edildiğinde) veya çürütücülerde (ön arıtma çamur arıtma birimlerine entegre edildiğinde) lizatların müteakip biyodegradasyonu ile tamamlanmaktadır. Bu da çamur kütlesinde genel bir azalmaya yol açmaktadır (El-Hadj ve diğ., 2007).

Ultrasonik dezentegrasyon, çürütücü içerisine girmeden önce bir çamur arıtma ünitesindeki yoğunlaştırılmış çamur akımına uygulanabilir. Bu dezentegrasyon, anaerobik ve aerobik

çürütme sırasında uçucu katı madde (UKM) yıkımını arttırmak için kullanılır (Khanal ve diğ., 2007). Şekil 1 ultrasonik dezentegrasyon uygulamasının potansiyel yerlerini göstermektedir.



Şekil 1. (A) Atıksu arıtma üniteleri ve (B) çamur arıtma ünitelerine entegre edilen ultrasonik dezentegrasyon uygulaması (Foladori ve diğ., 2010)

Üç ana faktör çamurun ultrasonik dezentegrasyonunu etkilemektedir (Foladori ve diğ., 2010; Zorba ve Sanin, 2013). Bunlar; uygulanan enerji, ultrason frekansı ve çamur katı içeriğidir.

3. ULTRASONİK DEZENTEGRASYONU ETKİLEYEN FAKTÖRLER

3.1. Uygulanan Enerjinin Etkisi

Farklı çalışma koşulları altında elde edilen sonikasyon sonuçları, toplam katı madde (TKM) birimi başına özgül enerji (E_S) cinsinden ifade edilebilir. Uygulanan enerji seviyesinin arttırılması çamur dezentegrasyonunun etkisini arttırır. Es hesabı denklem 1-2 ~~8-9~~'da verilmiştir:

$$Es = \frac{P.t}{V.1000} \quad (J/L) \tag{1}$$

$$Es = \frac{P.t}{V.x.1000} \quad (kJ/kgTKM) \tag{2}$$

Burada; P = uygulanan güç (W); t = dezentegrasyon süresi; V = dezentegre edilen hacim (m^3); x = çamur konsantrasyonu ($kgTKM/m^3$).

Es parametresi, farklı çalışma koşulları altında elde edilen sonikasyon sonuçlarının, sonikasyonun gücü, dezentegre edilen hacim ve dezentegrasyon süresi dikkate alınarak aynı anda karşılaştırılmasında faydalıdır (Foladori ve diğ., 2010).

Yüksek Es'de sonikasyon sırasında, genellikle 100.000 kJ / kgTKM'den fazla enerji uygulandığında 60 ° C'ye ulaşabilen çamur sıcaklığında bir artış gözlenir. Laboratuvar ölçeği deneylerinde ultrasonlar + termal etki kombinasyonundan ziyade sadece ultrasonların etkisini değerlendirmek için çamur sıcaklığı artışı genellikle kontrol edilir (su banyosu ile). Tam ölçekli uygulamalarda sıcaklık her zaman yükselmez, çünkü laboratuvarda test edilen aralıktan daha az Es uygulanır.

Es'in hesaplanması için Denklem dikkate alındığında, aynı Es seviyesi, kısa bir süre için yüksek güç veya daha uzun bir süre için daha düşük güç uygulanarak elde edilebilir. Bununla birlikte, bazı araştırmacılar aynı Es'de daha kısa sürede daha yüksek bir güçle çalışmanın daha ekonomik olduğunu ileri sürmektedir, çünkü KOİ çözünürlüğü için daha verimlidir. Bu varsayım, (Show ve diğ., 2007) tarafından açıklanan teorik değerlendirmelerle de desteklenmektedir. Bazı denelerde, uzun bir süre uygulandığında bile ultrasonik parçalanmanın etkili olmadığı bir güç seviyesi olan bir "eşik etkisi" gözlenmiştir (Foladori ve diğ., 2010).

3.2. Ultrason Frekansının Etkisi

Ses alanını tanımlayan ve sonikasyon verimliliğini etkileyen ultrasonik frekans, bu süreçte çok önemli bir parametredir. Çeşitli çalışmalar düşük frekansların çamurun dezentegrasyonu için daha etkili olduğunu göstermiştir. Yüksek ultrason frekansları hidroksil içermeyen radikaller üretimi desteklemekte ve kimyasal reaksiyonları teşvik ederken, düşük ultrason frekansları güçlü şok dalgaları üreterek dezentegrasyonu desteklemektedir (Zhang ve diğ., 2008). Ultrasonik dezentegrasyon literatürde 20-40 kHz frekanslarında gerçekleştirilmiştir. Çamur dezentegrasyonunda kavitasyon için optimum frekans 20 kHz olarak belirlenmektedir (Foladori ve diğ., 2010; Olabi ve Yildiz, 2021b). Literatürde laboratuvar ölçeğinde veya pilot ölçeğinde ultrasonik parçalanmanın çeşitli uygulamaları bildirilmiştir ve birçok tam ölçekli tesis halihazırda mevcuttur.

Kavitasyon kabarcıklarının çökmesi, genişleyen kabarcıklar ultrason frekansının bir fonksiyonu olan rezonans yarıçaplarına ulaştığında ortaya çıkar. Kabarcık yarıçapı ultrason frekansı ile ters orantılıdır ve bu nedenle düşük frekansların uygulanması, daha büyük kavitasyon kabarcıklarına neden olur ve bu da yoğun mekanik hareketler oluşturur. Bu mekanik hareketle açığa çıkan enerjinin, çökme anındaki kabarcık boyutunun bir fonksiyonu olduğu varsayılabilir.

Çamur durumunda, kavitasyon kabarcıklarının sayısı ve boyutu, yüksek katı içeriği, ortamın farklı yoğunluğu ve çözünmüş gazların varlığı nedeniyle saf suyunkinden farklı olabilir (Tiehm ve diğ., 2001).

3.3. Çamur Katı İçeriğinin Etkisi

Yoğunlaştırılmış çamura ultrason dalgaları uygulandığında, enerji çoğunlukla neredeyse sadece sudan oluşan (>%95) çamurdaki su tarafından absorbe edilir. Ultrasonik arıtmanın neden olduğu dezentegrasyon, arıtılan çamurdaki daha yüksek TKM konsantrasyonları ile daha

etkilidir (Neis ve diğ., 2000). Yüksek TKM konsantrasyonuna sahip bir çamur, katıların patlayan kavitasyon kabarcıklarıyla temas etme olasılığını artırarak çok sayıda kavitasyon olayını teşvik edtmektedir (Foladori ve diğ., 2010; Khanal ve diğ., 2007).

Mao ve diğ. (2004) ve Show ve diğ. (2007) çalışmalarında verimliliği azaltan bir TKM konsantrasyon sınırının mevcut olduğu gözlemlenmiştir. Bu değer bu araştırmacılar tarafından 30 g TKM/L civarındadır. Ancak arıtılmış çamurun özelliklerine bağlı olarak değişebilir.

Çamur gibi sıvı-katı bir sistem, kavitasyon sırasında mikro kabarcık oluşumuna izin vermek için yeterli miktarda sıvı içermelidir. TKM konsantrasyonu çok yüksekse, oluşan kabarcıklar sonotrotun çevresinde yayılamaz ve patlayamaz, bu da yüksek lokal sıcaklık ve basınca neden olur. Bu nedenle, çok yüksek TKM konsantrasyonlarının kullanılması mümkün olmaz, çünkü aşırı ısınma ve sonotrot erozyonu ve tesis bozulması riski vardır.

Her ultrasonik reaktör, ultrason dalgalarının yayılmasını ve böylece çamur dezentegrasyonu sağlayabilme kabiliyeti ile belirlenen arıtılacak çamurdaki karakteristik bir maksimum katı içeriğe sahiptir. Maksimum katı içeriği sınırlayan faktörler ise: reaktör boyutu, transdüser türü, çamur viskozitesi, çamur sıcaklığı ve flokülasyon sırasında çamura polimer eklenirse polimer konsantrasyonudur (Grönroos ve diğ., 2005).

4. ÇAMUR DEZENTEGRASYONUNDA ULTRASONUN ETKİNLİĞİ

4.1. KOİ Çözünürlüğü Üzerindeki Etkileri

Ultrasonik dezentegrasyon teknolojisi katı faz ve HDPM'yi çözmektedir. Bu çözünürleştirmenin bir sonucu olarak, çözünmüş KOİ (çKOİ) artmaktadır. Bu nedenle, çKOİ parametresi çamur dezentegrasyonunu değerlendirmek için kullanılmaktadır. HDPM konsantrasyonunun yanı sıra amonyum azotu ve nitrat azotu da ultrasonik dezentegrasyonda önemli bir parametrelerdir (Pilli ve diğ., 2011). Çamurun ultrasonik dezentegrasyon sırasında, toplam KOİ, TKM ve UKM konsantrasyonları oldukça sabit kalır, bu da organik maddenin mineralizasyonunun gerçekleşmediğini göstermektedir (Foladori ve diğ., 2010; Khanal ve diğ., 2007; Pilli ve diğ., 2011). KOİ'nin çözünürlüğü ve dezentegrasyon derecesinin ($DD_{KOİ}$) özgül enerji (E_S) ile arttığı bulunmuştur (Tyagi ve Lo, 2011).

4.2. Susuzlaştırılabilirlik ve Çökelebilirlik Üzerindeki Etkileri

Ultrasonik dezentegrasyon, çamur susuzlaştırılabilirliğini hem olumlu hem de olumsuz yönde etkilemektedir. Çamur susuzlaştırılabilirliğinin düşük enerji seviyelerinde arttığı, hücre çözülmesi ve HDPM'nin sulu faza salınması nedeniyle dezentegrasyon derecesinin azaldığı bulunmuştur (Feng ve diğ., 2009; Mao ve diğ., 2018; Menon ve diğ., 2020; Shao ve diğ., 2010). Yüksek Es uygulandığında filtrasyon direnci önemli ölçüde artmaktadır; filtrelenebilirlik azalması, susuzlaştırılabilirliğinin kötüleşmesi ve susuzlaştırılmış çamurun kuru içeriğinin azalması ile ilişkilidir (Ghafarzadeh ve diğ., 2017; Gonze ve diğ., 2003; Tyagi ve diğ., 2014).

4.3. Mikroorganizmalar Üzerindeki Etkileri

Ultrasonik dezentegrasyon mikroorganizmaları hem olumlu hem de olumsuz olarak etkilmektedir. Çok düşük enerji seviyelerinde mikroorganizma konsantrasyonu artmaktadır, çünkü ultrason dalgaları su moleküllerinin, mikroorganizmaların ve sudaki diğer çözünenlerin titreşimlerine neden olmaktadır. Ayrıca, ultrason hücre zarının geçirgenliğini geliştirerek maddelerin hücrelere taşınmasını kolaylaştırmaktadır (Foladori ve diğ., 2010). Bu faktörlerin kombinasyonu mikrobiyal büyümeyi ve biyodegradasyonu destekler (Zhang ve diğ., 2008). Çamur dezentegrasyonu ve hücre çözülmesi çok daha yüksek enerji seviyelerinde meydana gelir. Es> 32000 kJ / kg TKM'de, hücrelerin ölümü ve / veya çözülmesi nedeniyle bozulmamış bakteri sayısı azalmaya başlar (Foladori ve diğ., 2010).

Bununla birlikte, çamur floklarının spesifik yüzeyindeki bir artışı ve bakteriler, substratlar ve enzimler arasında temasını destekleyen yoğun flokların dağılımı gibi düşük Es seviyelerinde bile faydalar gözlemlenebilir. Bu, toplam çamurun biyolojik olarak parçalanabilirliğini arttırır: örneğin, ultrasonik dezentegrasyon ön-arıtıma bağlanan anaerobik çürütme durumunda, düşük enerji seviyelerinde bile biyogaz üretiminde belirli bir artış genellikle birkaç pratik deneyin gösterdiği gibi gözlenir (Foladori ve diğ., 2010).

Diğer çalışmaların sonuçları, sonikasyonun patojen ve toksisite seviyelerini azalttığını açıkça göstermektedir (Khanal ve diğ., 2006; Nam-Koong ve diğ., 2020; Olabi ve Yildiz, 2021a).

5. ÇAMUR DEZENTEGRASYONUNDA ULTRASON KULLANIM ÇALIŞMALARI

5.1. Hidroliz Hızını Arttırmak Amacı ile

Çamur şartlandırmada en sık kullanılan yöntem çamur yapısının ultrasonik dezentegrasyonudur. Ultrasonlar, 20 kHz ila 1 GHz aralığında bir frekansta ses titreşimleridir. Çamur şartlandırma için ultrasonların kullanımı literatürde geniş çapta açıklanmıştır. Çamur şartlandırma için, sık kullanılan ultrasonlar 20-50 kHz frekansındadır (Davidsson ve Jansen, 2006; Wang ve diğ., 1999). Çoğu araştırmacı, yaklaşık 20 kHz frekansta kullanmıştır (Bougrier ve diğ., 2005; Erden ve Filibeli, 2010; Salsabil ve diğ., 2009; Wolski, 2020; Xie ve diğ., 2007). Çalışmaların sonuçları, ultrasonların özellikle fazla çamurun şartlandırılmasında etkili olduğunu göstermektedir (Bougrier ve diğ., 2005; Salsabil ve diğ., 2009; Tiehm ve diğ., 2001; Zielewicz, 2017). Bu nedenle, esas olarak birincil çamurun değil fazla ve karışık çamurun iyileştirilmesi için kullanılmaktadır (Bien ve diğ., 2004; Schläfer ve diğ., 2002). Ultrasonlar bakteri hücrelerini etkili bir şekilde tahrip edip lizizine neden olmaktadır (Suschka ve Grübel, 2014). Çamur dezentegrasyonu sonucunda, atık suda üretilen biyogaz ve KOİ artışı meydana gelir. Eşzamanlı olarak, çamurdaki organik katıların bozunma hızı gözlenmiştir (Erden ve Filibeli, 2019; Kim ve diğ., 2010; Tiehm ve diğ., 2001; Wang ve diğ., 2019; Zielewicz, 2017).

5.2. Süpernatantta KOİ 'yi ve Katı Madde Ayrışımını Arttırmak Amacı ile

Ultrason kullanarak üst sıvıdaki KOİ artışı %30'dan fazla olabilir (Tiehm ve diğ., 1997). (Davidsson ve Jansen, 2006), 50 kHz ultrasound ile şartlandırılmış çamurdan kalan üst sıvıdaki KOİ'nin 40.000 mgO_2/L'ye (15.200 mgO_2 / L çKOİ dahil) kadar ulaşabileceğini belirtmiştir. Ultrasonik dezentegrasyonun, moleküler ağırlığı 40.000 ve daha fazla olan partikülleri yok etmek için çok spesifik olarak etkili olduğu belirtilmiştir. Araştırmacılar, 100 kHz'den yüksek bir frekansa sahip olan ultrasonların, bir dezentegrasyon ajanı olarak etkili olmadığını gözlemlemişlerdir (Foladori ve diğ., 2010). Bu da, çoğu araştırmacının neden 20-30 kHz frekans kullandığını açıklamaktadır. Üst sıvıdaki KOİ artışı, çamurda bulunan organik polimerlerin parçalanmasının bir sonucudur. Katı fazdan sıvı fazına salınırlar. Tiehm ve diğ. (1997) çalışması, ultrasonlar ile arıtılan arıtma çamurundaki uçucu katıların ayrışma oranının, şartlandırılmamış çamurun çürütülmesi sırasında elde edilene kıyasla yaklaşık %50 daha yüksek olduğunu göstermiştir. Benzer sonuçlara diğer araştırmacılar tarafından ulaşılmıştır (Kim ve diğ., 2010; Tiehm ve diğ., 2001; Wang ve diğ., 2019; Zielewicz, 2017). Atık su arıtma tesislerinde anaerobik çürütme yapılmadan önce arıtma çamurunun ultrasonik dezentegrasyon uygulanmıştır. Ultrason kullanımı, anaerobik çürütme sırasında askıda katı maddelerin giderim oranını, şartlandırılmamış çamura kıyasla %25-30 oranında arttırmaya izin vermiştir (Zafar, 2019).

5.3. Biyogaz Üretimini Yükseltmek Amacı ile

Appels ve diğ. (2008) tarafından elde edilen sonuçlar, birkaç saat boyunca 25 kHz ultrases kullanımının, çamurun 8 günlük anaerobik çürütme sırasında %15-40 oranında biyogaz üretimine izin verdiğini göstermektedir. Benzer sonuçlar Erden ve Filibeli (2019) ve Bien ve diğ. (2004) tarafından da elde edilmiştir. Erden ve Filibeli (2019), 20 kHz ultrasonlarla

dezentegre edilmiş çamurun mezofilik çürütülmesi sırasında biyogaz üretiminde % 49 artış gözlemlerken aynı frekansta (180W, 60 s) ultrasonlar kullanarak Bien ve ark. biyogaz üretiminde % 24 artış farketmiştir. Uygun koşullarda, ultrason kullanılarak biyogaz üretiminde % 60-100'lük bir artış bile sağlanabilir (Navaneethan, 2007; Schläfer ve diğ., 2002; Tiehm ve diğ., 1997). Yalnızca Tiehm ve diğ. (1997), 31 kHz'lik ultrasonlarla 1.5 dakikalık ultrasonik dezentegrasyondan sonra biyogaz üretiminde % 100'den fazla bir artış elde edilebileceğini belirtmişlerdir. Schläfer ve diğ. (2002), çamuru 30 dakika boyunca 20 kHz ultrason ile şartlandırmış ve dezentegre edilmemiş çamurla karşılaştırıldığında biyogaz üretiminde %100 artış sağlamıştır. Yukarıda belirtilen sonuçlar, hem ultrason frekansının hem de maruz kalma süresinin, parçalanma sonuçlarını etkileyen önemli parametreler olduğunu, üçüncü parametre ise arıtma çamurunun tipi ve özellikleri olduğunu göstermektedir.

Çamurun ultrasonik dezentegrasyonu tam ölçekte uygulanmıştır; ancak, sonuçlar laboratuvar ölçeğindeki gibi çok muhteşem değilmiştir. Bu koşullar altında biyogaz üretimindeki artışlar %15-30 arasındaymış (Zafar, 2019). Appels ve diğ. (2008) hesaplamalarına göre biyogaz üretimindeki en az %15-%40 artış maliyet etkinliğindedir. Biyogaz üretimini artırmak için ultrasonik dezentegrasyonu kullanan teknolojilerden biri VTA-GSD prosesidir (https://vta.cc/en/products/water-technology/vta-gsd). Bu yöntem kullanılarak biyogaz üretiminde %30'a varan artış elde edilebilir. Aynı zamanda, çamur oluşumunu ve bertaraf maliyetlerini azaltır ve susuzlaştırma maddelerinin kullanımını %30 de düşürür. Yöntemde, çamurun ultrasonik dezentegrasyonu (25 kHz, katı tutma süresi 60 dakika, 1 bar basıncı) bir akış reaktöründe gerçekleştirilir.

6. KOMBİNE ULTRASONİK DEZENTEGRASYON UYGULAMALARININ ÇALIŞMALARI

Ultrasonlar, kombine bir proses olarak diğer yöntemlerle birlikte de kullanılabilir. Lu ve diğ. (2018) çalışması ile elde edilen sonuçlar, kombine alkalin-ultrason işleminin, düşük moleküler ağırlıklı maddeler üreterek çamurda çözünürlüğü arttırdığını göstermiştir. Kim ve diğ. (2010) çalışmasında, alkali ile ön arıtmaya tabi tutulmuş çamura ultrasonik arıtma uygulanmış. (çKOİ / tKOİ) artışı bireysel ön arıtmada % 50 ile sınırlı iken, kombine ön arıtmada % 70'e ulaşmıştır. Neumann ve diğ. (2018) ise, kombine ultrason-termal (55 °C) ön işleminin anaerobik çürütme prosesine etkisini değerlendirmişlerdir. Bu kombine dezentegrasyon yönteminin kullanımı metan üretim verimini %30 artırmıştır. Ön arıtma aynı zamanda çamurun susuzlaştırma duyarlılığını da geliştirmiştir (Prasad ve diğ., 2019).

Wang ve diğ. (2019) tarafından yapılan çalışmada, çamuru mineralize etmek için ultrasonik arıtım (UT) ile birleştirilmiş bir fotosentetik biyoelektrokimyasal sistem (BES) araştırılmıştır. Çamur UT ile dezentegre edilmiş ve ondan ayrılan süpernatan ayrıca fotosentetik bakteriler (PSB -BES) içeren bir biyoelektrokimyasal sistem yoluyla ayrıştırılmış. UT verimi, süpernatant ayrılması ile arttırılmış. PSB -BES yöntemi, çözünmüş kimyasal oksijen ihtiyacının (çKOİ) süpernatanttan bozulmasını etkili bir şekilde iyileştirmiştir. çKOİ ve protein giderimi, PSB'siz BES ile karşılaştırıldığında sırasıyla 1.4 ve 1.5 kat artmıştır. Ayrıca, aydınlatma, voltaj ve sıcaklık gibi çeşitli kilit çalışma faktörlerinin etkileri sistematik olarak araştırılmıştır.

Man ve diğ. (2018), kombine ultrason (US) ve sıfır değerlikli demir/EDTA/Hava (ZEA) sistemi ile tekstil boyama çamurundan polisiklik aromatik hidrokarbonları (PAH) uzaklaştırmayı incelemişlerdir. ZEA, US/Air (US işlemine enjekte edilen hava) ve US/ZEA arıtmalarını kullanan 16 PAH'ın giderme verimleri, çeşitli işletme parametrelerinin etkileri ile birlikte araştırılmıştır. Sonuçlar, ∑16 PAH'ların % 70.1'inin US/ZEA tedavisi ile çıkarıldığını göstermiştir. Menon ve diğ. (2020) tarafından yapılan çalışmada, Fenton (F), Serbest Nitröz Asit (FNA) ve F/FNA gibi çeşitli çamur susuzlaştırma tekniklerinin etkinliği ultrasonikasyon altında gerçekleştirilmiştir. Farklı koşullar altında çamur süzüntüsünün ve Kılcal Emme

Süresinin (CST) miktarını belirlemek için deneyler yapılmıştır. Deneysel sonuçlar, ultrasonikasyon uygulamasına bağlı olarak artan kütle aktarımının daha yüksek susuzlaştırılabilirliğe yol açtığını göstermiştir. Gong ve Jiang (2015) ise, kombine ultrason & Fenton oksidasyon (U+F) ön arıtma proseslerinde ultrason ve Fenton reaktifinin aritma çamurunun ayrışması üzerindeki etkilerine odaklanmışlardır. Sonuçlar, U+F prosesinin, çamur süpernatanında çözünmüş KOİ, TOC, toplam N, proteinler, toplam P ve PO_4^{3-} konsantrasyonlarını önemli ölçüde artırabildiğini belirtmiştir. Ayrıca dezentegre edilmiş çamur, tarama elektron mikroskobuna dayalı olarak oldukça daha ince bir partikül boyutu ve daha gevşek bir mikro yapı göstermiştir.

Olabi ve Yildiz (2021a) çalışmasında, ultrasonik (US) proses ile klasik Fenton (KFP) ve modifeye Fenton (MFP) proseslerinin UV ışığı ile kombinasyonunun arıtma çamurun dezentegrasyonu üzerine etkileri incelenmiştir. Tüm proseslere US ilavesinin çamurun dezentegrasyon derecesini (DD) önemli ölçüde geliştiren sinerjik bir etki yarattığı bulunmuştur. Yazarların başka bir çalışmada ise sono-fotokatalitik oksidasyon ve Fenton reaktifleri ile kombinasyonunun sinerjileri çamur dezentegrasyonu açısından incelenmiştir. Çamur minimizasyonu için etkili bir yöntem olan çamur dezentegrasyonunda sono-fotokatalitik prosesin önemli bir etkisi olduğu sonucuna varılmıştır. Ayrıca prosese ilave edilen Fenton reaktiflerinin sinerjik etkisinin kuvvetli olduğu ve bu iki prosesin birlikte kullanımının DD değerini %17.60 dan %52.81'e yükselttiği belirlenmiştir (Olabi veYildiz, 2021b).

7. SONUÇ ve ÖNERİLER

Ultrason teknolojisi, son on beş yılda biyo-teknolog ve kimya ve çevre mühendisleri arasında geniş bir ilgi görmüştür. Çamur arıtımında ultrasonikasyonun çoklu avantajları ve çok yönlü uygulaması, araştırma makalelerindeki muazzam artıştan en iyi şekilde anlaşılabilecek laboratuvar, pilot ve tam ölçekli bir araştırma çalışmaları akışına dönüştürülmüştür. Ultrasonik çamur dezentegrasyonu, çevre dostu biyo-enerjinin geri kazanılması ve atık çamur miktarının en aza indirilmesi için etkili, ekonomik ve çevresel açıdan sürdürülebilir bir yol sunmaktadır. Daha yüksek spesifik enerji girdisi (>5000 kJ/kg TS), yüksek güç yoğunluğu/şiddeti ve daha uzun sonikasyon süresi, partikül boyutu küçültme, KOİ çözünürlüğü, süpernatant bulanıklığı ve çamurdaki morfolojik değişiklikler ile incelenen çamur parçalanması için uygun bulunmuştur. Bu arıtma koşulları, biyogaz üretiminde ve biyo-çürütücülerin katı madde azaltma verimliliğinde ve ayrıca çevresel olarak güvenli (patojen içermeyen) çamur üretiminde dikkate değer bir iyileşmeye yol açmıştır. Bununla birlikte, yukarıda belirtilen arıtma koşulları çamurun susuzlaştırılabilirliğini bozmaktadır. Ultrasonik dezentegrasyonun diğer yöntemlerle (kimyasal ve termal) kombinasyon halinde kullanılmasının, çamurun çözündürülmesi ve ardından biyo-çürütme performansı (organiklerin ve katıların daha fazla uzaklaştırılması ve daha fazla biyogaz üretimi) açısından tüm prosesin verimliliğini arttırmaktadır. Böylece, sinerjik etkiler nedeniyle, hibrit ön arıtmalar, çamurun bireysel ultrasonik ön arıtmasına kıyasla daha etkili ve ekonomik bir çözüm sağlayabilmektedir.

Ultrasonik dezentegrasyonu, yüksek sermaye ve işletme ve bakım maliyeti olan enerji yoğun bir tekniktir. Bununla birlikte, daha fazla enerji açısından zengin biyogaz üretimi ve çürütücü hacminde ve bertaraf edilecek biyokatı miktarında önemli azalma gibi ön arıtmadan elde edilen faydalar vardır. Tam ölçekli çalışmalar, ultrasonik dezentegrasyon tekniği kullanılarak uygulanan enerjiden yedi kat daha fazla net enerji kazanımının elde edilebileceğini ileri sürmüştür. Uzmanlar, ultrasonik dezentegrasyon tekniğinin dahil edilmesinden elde edilen gelirlerin 2-3 yıllık bir geri ödeme süresi sağladığını öne sürmüşlerdir. Ayrıca, kurulum ve işletme maliyeti, biyo-dizel, hidrojen, proteinler, enzimler ve ağır metaller gibi satılabilir yan ürünlerin verimiyle elde edilen ekonomik faydalarla da dengelenebilir. Bu ürünler için pazarların mevcut olduğuna dair kanıtlar vardır (Tyagi ve diğ., 2014).

Alternatif olarak, yan ürünler ultrasonik dezentegrasyonun kendisinde yeniden kullanılabilir ve daha fazla enerji ve maliyet tasarrufu sağlamaktadır. Çamur dezentegrasyonundaki herhangi bir uygulama için ultrasonikasyon seçimi, ilgili belirli faktörlerin analizine odaklanmalıdır. Bu, fonların mevcudiyetini, ürün gereksinimini, alternatif enerji kaynağını ve sermaye maliyeti, işletme ve bakım maliyeti, enerji maliyeti, işçilik maliyeti ve birim başına katma değer arasındaki dengeyi içerebilir. Ürünlerdeki nicel ve nitel iyileştirmeler, zamandan, yerden ve sermaye ekipmanından tasarruf, ultrasonik dezentegrasyon tekniğini geleneksel yöntemlere tercih etmenin en önemli nedenleridir. Ayrıca, hibrit sistemler, tek başına bir ultrasonik veya geleneksel sisteme göre ek tasarruflar da sunabilmektedir.

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THE RELATIONSHIP BETWEEN SHADOW AND VISIONAL COMFORT IN INDOOR AREAS

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ABSTRACT

Shadows enrich the overall appearance of objects and, accordingly, the environment. Well-designed, beautiful spaces stand out not only with the color, material, or theme balance used in the design but also with the dynamism that shadows add to the space. Light can be perceived by shadow. So if there is light, there are also shadows to consider. Natural or artificial light creates beautiful shadow effects that can liven up any space. The most important issue of light and shadows is to adapt, otherwise, uncomfortable and tiring environments will arise due to complexity. Shadow has a central role in human perception. Thanks to shadows, clearly perceived forms and textures can be achieved, or, on the contrary, disturbing visual conditions occur. The dynamism of shadows formed at different times of the day or from different building elements enriches the appearance of an interior or facade. If a lighting designer accepts shadow-induced darkness as part of the design, it is possible to achieve well-designed rich environments.

Keywords: Indoor Lighting, Hard Shade, Soft Shade, Artificial Lighting, Natural Lighting

1. INTRODUCTION

The identity of a space gains forms and meaning thanks to the lighting. Changes in the lighting of the space can cause great changes in the perception of volumetric size, width, and spatial openness. Lighting as a concept is a very powerful spatial expression tool with its determining, emphasizing, directing, limiting, and selective aspects. It has great importance in perceiving and remembering the physical features of the space on the user. Simultaneously with the time a person perceives the space, his psychological approach and behavior also show differences thanks to the lighting. Lighting approaches that will highlight and emphasize the general characteristics of the space and create a spatial effect make the spaces more understandable. In today's modern world, the time we spend indoors and without benefiting from natural light is increasing day by day.

The physical and psychological problems that arise as a result of prolonged working hours in daily life and the need for artificial light reveal the necessity of evaluating the lighting technologies used in spaces in terms of human health. Accordingly, it is important to create a space setup suitable for the psychological and physiological conditions of the users.

2. LIGHT AND SHADE DESIGN

It is possible to manage the visual interior design of a building with Light and Shadow design. Beautiful interiors are possible not only through the perfect use of colors, themes, and materials but also through the combination of light and shadow to create a useful aesthetic space. The most important parameter in this synchronization is the natural or artificial light scattered over

any area. The most important effect of light is shadow, and if the shadow is used correctly, it is possible to enliven any space or create pleasant shadows with natural or artificial lighting. At the same time, if the harmony of light and shadow is not achieved, the light-shadow duo will cause the spaces to look dull and gloomy.

The concept of being aesthetic in terms of light is designed by adding light and shadow to a space. If the light is not used correctly, it can bring negative effects to the space. For example, if artificial lighting is not designed correctly, ugly shadows may appear under cabinets, walls, and floors.

The characteristics of the shadows that occur in a volume can lead to rich images depending on the conditions, as well as cause the visual perception to be tiring and misleading. Especially in spaces such as offices and classrooms, the shadows on the desk can make working difficult, distracting, and tiring.

3. RELATIONSHIP OF LIGHT AND SHADOW

Light creates shadows. Shadows enrich the overall appearance of objects and, accordingly, the environment. Well-designed, beautiful spaces gain importance not only with the color, material, or theme balance used in the design but also with the dynamism that shadows add to the space. The characteristics of the lighting sources used in an environment can create harsh or soft shadows and, accordingly, dramatic or relaxing environments. Creating shadows of various sizes and shapes, direct or indirect light distribution; is possible with luminaires with narrow, medium, or wide beam angles. Hard shadows are created with directional spots, while soft shadow effects are created with indirect light distribution. In other words, a shadow with a definite border is a hard shadow, while a shadow with an uncertain border is a soft shadow. Light can be perceived with shadow, and without light, there can be no shadow. So if there is light, there are also shadows to consider. Natural or artificial light creates beautiful shadow effects that can liven up any space.

The most important issue of light and shadows is to adapt, otherwise disturbing and tiring environments will emerge due to complexity. Shadow has a central role in human perception. Thanks to shadows, clearly perceived forms and textures can be obtained, or, on the contrary, uncomfortable visual conditions may occur. The dynamism of the shadows formed at different times of the day or coming from different building elements enriches the appearance of an interior or facade. In a classroom or office, sharp shadows make it difficult for the observer to perceive.

4. DISCUSSION AND CONCLUSION

There are many examples in the architecture of the optimum use of light and shadow on wall and floor surfaces to enliven a space. From the past to the present, famous architects have used light and shadow at different times of the day to create designs that are sometimes dynamically shaded and sometimes shaded that add different qualities to spaces. Between Figure 1 and Figure 10, shadow-light interaction is seen in architectural works with dynamic shade or shadow design.



Figure 1. Shadow-light interaction (http://cindrebay.blog/light-and-shadow-in-interiors/)



Figure 2. Shadow-light interaction (https://mimarobot.com/haber/genel/mimarlik-icin-aydinlatmanin-onemi/)



Figure 3. Shadow-light interaction
(https://twitter.com/ogokal74/status/1161153406410657792/photo/4)

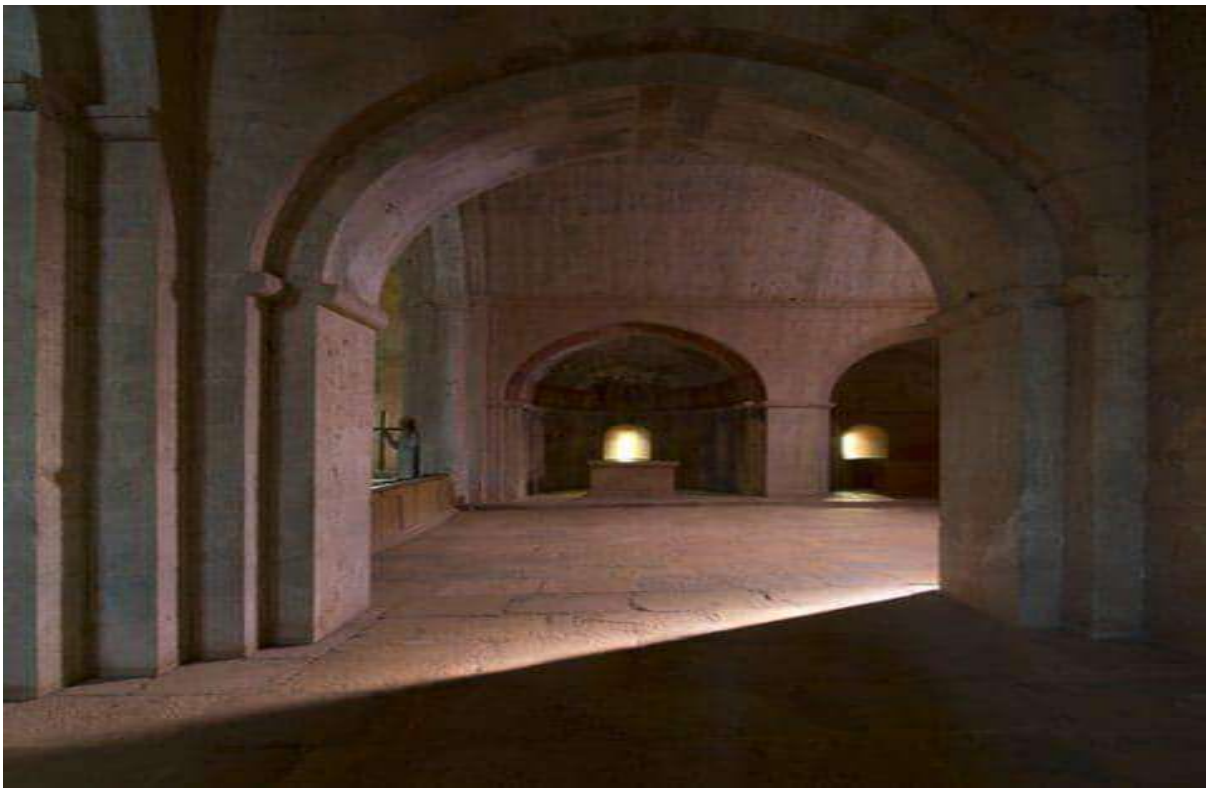

Figure 4. Shadow-light interaction (https://107849-306720-raikfcquaxqncofqfm.stackpathdns.com/wp-content/uploads/2015/09/HenryP2.jpg)



Figure 5. Shadow-light interaction
(https://twitter.com/ogokal74/status/1161153406410657792/photo/2)



Figure 6. Shadow-light interaction
(https://bigumigu.com/haber/mekani-golge-motiflerle-donatan-isikli-kup/)



Figure 7. Shadow-light interaction
(https://www.mimarimedya.com/lubnanli-sanatcidan-mimarlik-ve-golge-temali-calisma/)



Figure 8. Shadow-light interaction (http://cindrebay.blog/light-and-shadow-in-interiors/)



Figure 9. Shadow-light interaction (http://cindrebay.blog/light-and-shadow-in-interiors/)



Figure 10. Shadow-light interaction (http://cindrebay.blog/light-and-shadow-in-interiors/)

5. CONCLUSION

As a result, if a lighting designer finds just lighting and lighting the spaces sufficient for the design, it will result in bad design. However, it is possible to obtain well-designed rich environments by accepting shadow-induced darkness as a part of the design and having knowledge about the shadow. The presence of shadows in the volume is important for the comfortable and complete perception of the shape and texture properties of the objects in a volume or space. In this context, soft and illuminated light-colored shadows contribute to the creation of visual comfort.

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USING SYMMETRIC AND ASYMMETRIC LENS IN URBAN LIGHTING

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ABSTRACT

Today, there are many lighting elements with symmetrical and asymmetrical light distribution. Symmetrical light sources distribute the light equally in all directions, while asymmetric light sources gather and illuminate the light in one direction. The main difference between symmetrical and asymmetrical lighting is the direction of the light. The light to be directed in asymmetrical light sources provides illumination at the desired angle. Directing light prevents light pollution and inefficient energy use in cities by preventing light from escaping from luminaires. In functional lighting applications such as road lighting in urban lighting, the light on the roadside poles is used by directing it to illuminate the required area, namely the road surface. What makes this possible is the use of asymmetric lenses in luminaires designed for road lighting. In this way, the distance between the poles can be increased by using asymmetric lenses. As a natural consequence of this, the number of poles and fixtures needed for road lighting can be reduced. The use of asymmetrical lighting, street lighting, stadiums, sports fields, and theaters can contribute to energy efficiency.

Keywords: Urban Lighting, Symmetrical Lighting, Asymmetrical Lighting, Physical Environment Inspection

1. INTRODUCTION

Today, there are many lighting elements with symmetrical and asymmetrical light distribution. Symmetrical light sources distribute the light equally in all directions, while asymmetric light sources concentrate the light in one direction and illuminate.

The main difference between symmetrical and asymmetrical lighting is the direction of the light. Thanks to the equal distribution of light in all directions in symmetrical lighting, general illumination of large areas are made. In symmetrical lighting, different types of lenses and reflectors are produced to control light distribution from very narrow angles to very wide angles, depending on their function.

In asymmetrical light sources, the light to be directed provides illumination at the desired angle. Directing light prevents light pollution and inefficient energy use in cities by preventing light from escaping from luminaires. Figure 1 shows asymmetrical and symmetrical lighting. Figure 2 shows the view of symmetrical and asymmetrical lighting in the simulation environment.

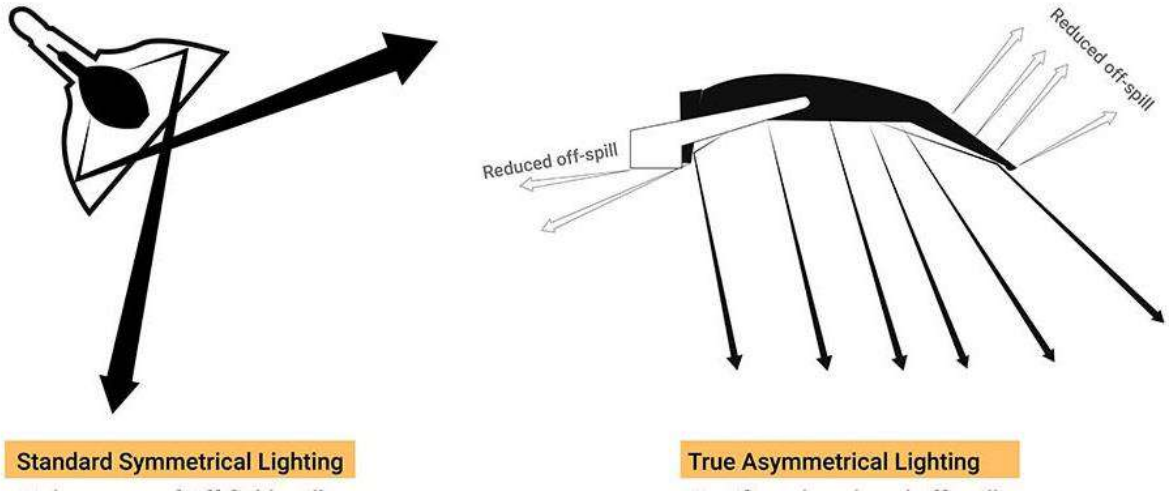

Figure 1. Asymmetrical and symmetrical lighting

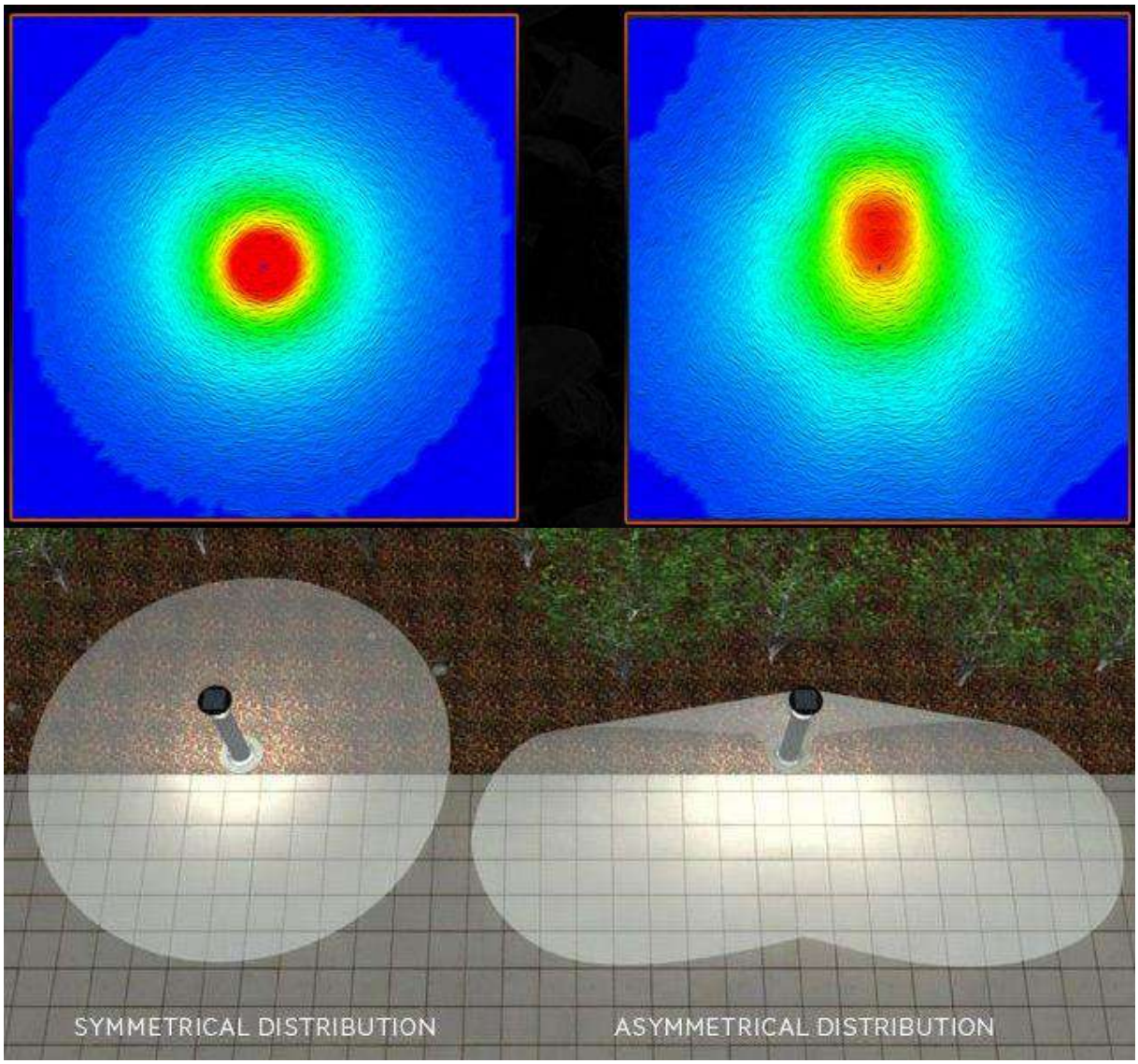

Figure 2. The view of symmetrical and asymmetrical lighting in the simulation environment

2. USING LENS IN LIGHTING

In urban lighting, in functional lighting applications such as road lighting, the light on the roadside poles is used by directing it to illuminate the required area, namely the road surface. What makes this possible is the use of asymmetric lenses in luminaires designed for road lighting. If the refraction angle of the light is 60*100 in a luminaire with asymmetric lenses, the light coming out of this luminaire is illuminated at an angle of 60 degrees across the width of the road and at an angle of 100 degrees along the length of the road, thanks to the asymmetric lens/lens. In this way, the distance between the poles can be increased by using asymmetric lenses. As a natural result of this, the number of poles and fixtures needed for road lighting can be reduced. Figure 3 shows the use of lamps with symmetrical and asymmetrical lenses in outdoor lighting. Figure 4 shows the use of symmetrical lighting in the tunnel.

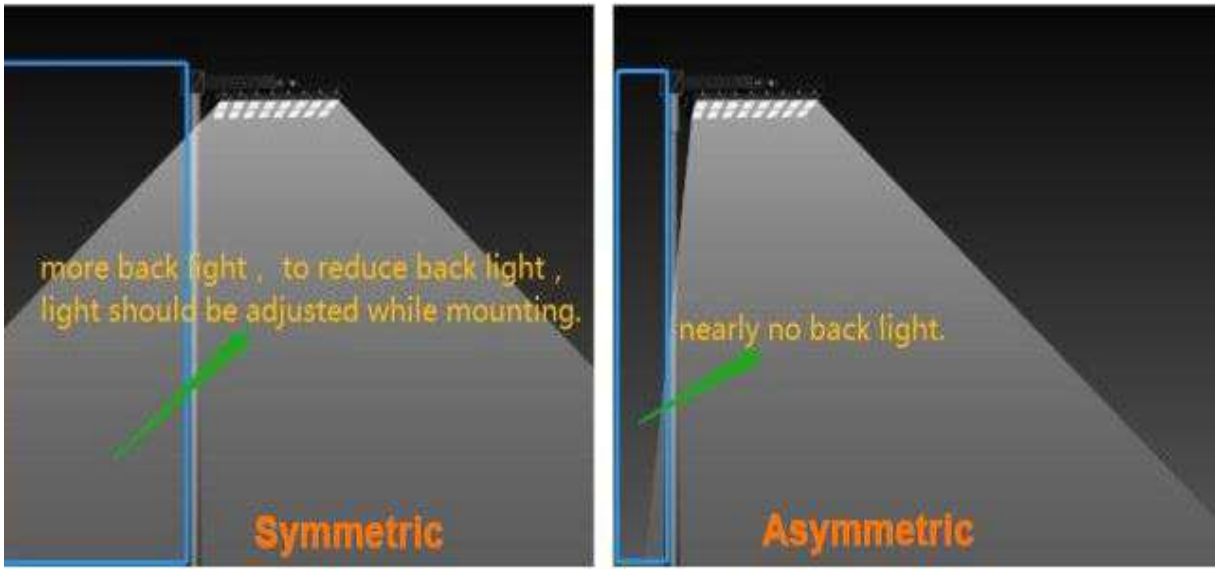

Figure 3. The use of lamps with symmetrical and asymmetrical lenses in outdoor lighting

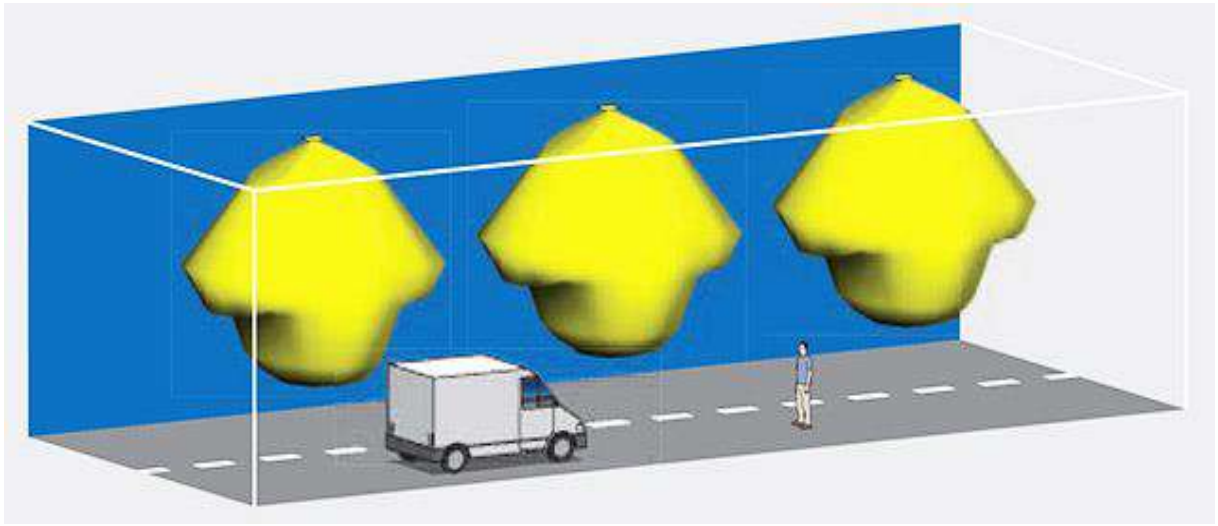

Figure 4. The use of symmetrical lighting in the tunnel

3. ASYMMETRIC LIGHTING

Asymmetric lighting can contribute to energy efficiency by using street lighting, stadiums, sports fields, and theaters. By choosing asymmetrical lighting in such areas, for example, the spectators in a football field can be prevented from being disturbed by bright lights. In other words, thanks to the use of symmetrical or asymmetrical lenses in urban lighting, light leakage is prevented and light pollution is prevented.

In addition, thanks to the reflective properties of the lenses at an angle, energy savings are achieved by using less energy light sources. Although symmetrical light sources are generally used for indoor lighting, asymmetrical light distribution can also be used indoors as needed. For example, a patient who is accompanying a patient in a hospital can use the feature of directing the light to illuminate only the needed area and continue all their activities without disturbing the patient in the room.

- **Opposite Asymmetric Lighting**

The light coming out of the luminaires used in these systems is directed in the opposite direction to the traffic and towards the driver. Asymmetrical narrow-angle and high power lamps are used in opposite lighting systems. The opposite tunnel lighting system does not create glare while providing maximum illumination. This is one of the advantages of the system. The opposite direction of the light causes the tunnel entrance to be dark, which negatively affects the adaptation of the drivers to the light in the tunnel. In addition, the shadow of large vehicles falling on small vehicles is one of the disadvantages of the system. The opposite asymmetric lighting system is not suitable for bidirectional tunnels. Figure 5 shows the use of opposite asymmetric lighting in the tunnel.

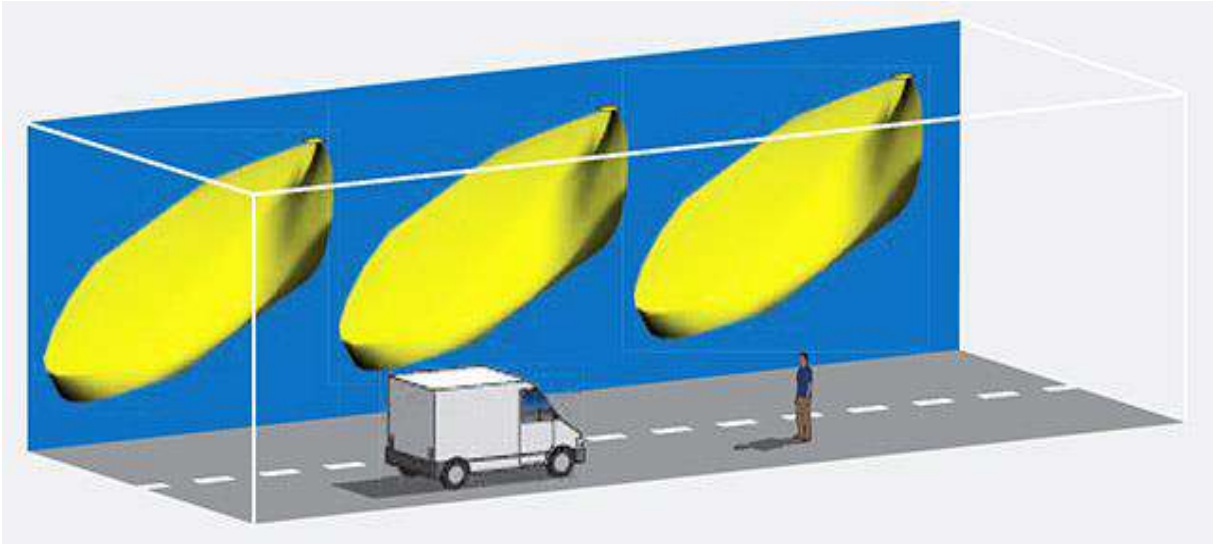

Figure 5. The use of Opposite Asymmetric lighting in the tunnel

- **Isometric Asymmetric Lighting**

In the is the directional lighting system, the light falling on the object is in the same direction as the traffic flow. Figure 6 shows the use of isometric asymmetric lighting in the tunnel.

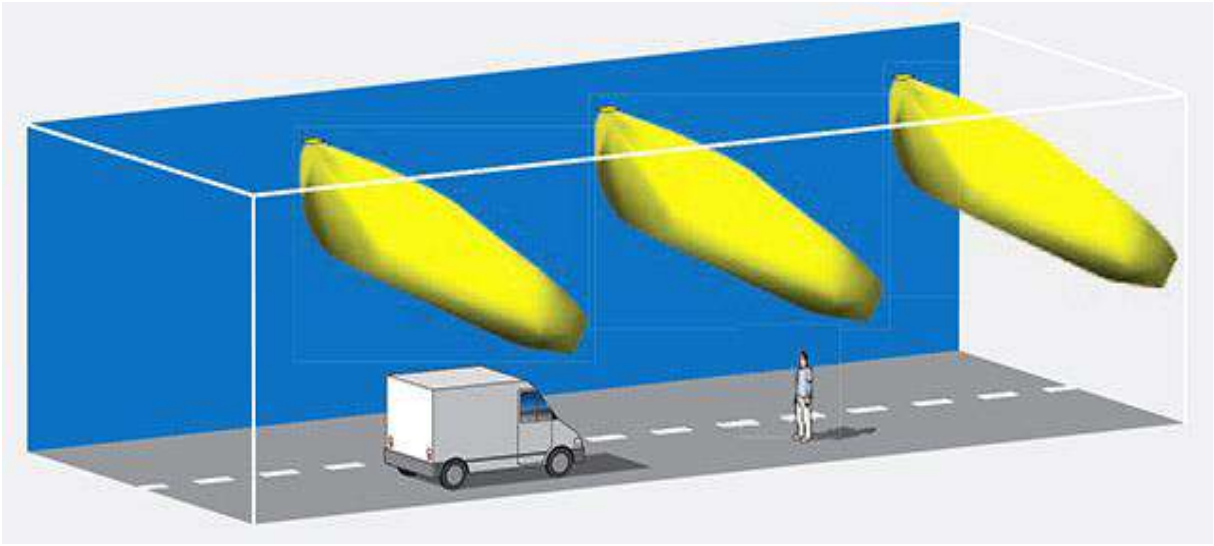

Figure 6. The use of isometric asymmetric lighting in the tunnel

The iso-directional lighting used in the exit area in tunnels serving two-way traffic also serves as opposite lighting in the entrance area for traffic flowing from the opposite direction. Controlling the light by changing the luminaire direction may cause some of the light to be lost and cause glare. Lighting fixtures can be oriented to avoid irritating glare, while actually causing inefficient use of some of the light. Because the direction of the changing light is used inefficiently, the light is directed to the areas that do not need lighting. Again, although it is possible to hide the light source, namely the lamp, with a diffuser to prevent glare, in fact, the diffuser method also indirectly results in a loss of efficiency in lighting.

4. CONCLUSION

Indoor or urban outdoor lighting; It is possible to choose the optimum light distribution and light angle in order to minimize glare, improve visual performance, prevent light pollution and provide homogeneous illumination, with the use of symmetrical or asymmetrical lenses suitable for the need.

Thanks to the use of symmetrical or asymmetrical lenses, light pollution can be prevented by preventing light leakage in outdoor lighting.

Thanks to the angled reflection properties of the lenses, less energy, and less light source are used to save energy.

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RISE OF ILLIBERAL DEMOCRACY: THE CASE OF HUNGARY IN COMPARATIVE PERSPECTIVE

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ABSTRACT

There has been decline in the number of democratic regimes around the globe. Unlike the Cold War era, the threat to democracies no longer come predominantly from elites who fear redistributive pressures from below. Instead, democratic backsliding in our current age tends to come from popularly elected governments that skew the playing field to lower the opposition's chances of electoral success. Although they do not resort to outright repression, these governments abolish institutions of checks and balances, exert pressure on civil society and media and politicize state institutions. What accounts for the rise of these conservative populist parties in recent years? How do these regimes consolidate their rule when so many previous governments in the same countries failed to do so? This paper addresses these questions based on a case study of Fidesz rule in Hungary. Having first come to power in 2010, Fidesz quickly consolidated its authority in the following years and controlled the government until now. Led by Victor Orban, a charismatic right-wing populist leader, the party promised to introduce what Orban calls as illiberal democracy in Hungary. Despite pressure from the European Union, Fidesz government remain popular and strong against what seems to be a divided opposition.

BÜTÜNLEŞİK AFET YÖNETİMİNDE TOPLUMSAL CİNSİYET PERSPEKTİFİ VE KADINLAR

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ÖZET

Toplumun tamamı veya belli bir kesimi için kayıplar doğuran, insan, flora ve faunayı olumsuz etkileyen afetler teknolojik, ekolojik ve sosyolojik değişimlerle birlikte farklı özellikte ve şiddette karşımıza çıkmaktadır. İnsan varlığını dışlayan yönetim modelleri yaşadığımız yüzyılda başarılı ve etkin çözümler sunmamakla birlikte yeni krizlerin ortaya çıkmasına da neden olmaktadır. Uluslararası araştırmalarda sunulan veriler, dünyanın farklı coğrafyalarında kadınların ve erkeklerin afetlerden farklı şekillerde etkilendiklerini ve baş etme kapasitelerindeki farklılıkları ortaya koymaktadır.

Bütünleşik afet yönetiminde kadınlar, sahip oldukları beceri, bilişsel farkındalık ve deneyimleri ışığında güçlü aktörler olarak katkı sağlamaktadır. Toplum içinde kadınların sosyal konumları ve toplumsal rolleri itibariyle hem afetler karşısındaki savunmasızlıkları ve kırılganlıkları hem de bütünleşik afet yönetiminin tüm aşamalarındaki katkıları ve başarıları, afetlere toplumsal cinsiyet perspektifinden bakılmasının gerekliliğini gündeme getirmektedir. Toplumsal olarak kadına ve erkeğe yüklenen, atfedilen rollerden kaynaklı oluşan sorunlar kırılganlığın ve savunmasızlığın en önemli nedenlerindendir. Toplumsal cinsiyet körlüğü ve mitleri, afetlerde kadınların mağdur, savunmasız, kırılgan, dezavantajlı olarak görülmesine sebep olmaktadır. Kadınların cinsiyet farklılıkları sebebiyle kaynaklara ve fırsatlara erişimlerinin kısıtlı olması afetlerle baş etme kapasitelerinin de zayıflanmasına neden olmaktadır. Bütünleşik afet yönetimine metodolojik olarak feminist kuram çerçevesinde bakabilmek, kadının sesinin duyulur kılınması açısından önemli olmakla birlikte bu çalışmada, kadınların karşılaştıkları sorunlar ve bu sorunlara yönelik futuralist çözüm önerileri sunulması hedeflenmektedir.

Anahtar Kelimeler: Bütünleşik Afet Yönetimi, Afet, Toplumsal Cinsiyet, Kadın

GENDER PERSPECTIVE AND WOMEN IN INTEGRATED DISASTER ADMINISTRATION

ABSTRACT

Disasters, which cause losses for the whole or a certain part of the society and negatively affect people, flora and fauna, appear with different characteristics and severity together with technological, ecological and sociological changes. Although administration models that exclude human existence do not offer successful and effective solutions in the century we live in, they also cause new crises to emerge. The data presented in international studies reveal that

women and men are affected by disasters in different ways in different geographies of the world and the differences in their coping capacities.

In integrated disaster administration, women contribute as powerful actors in the light of their skills, cognitive awareness and experience. The vulnerabilities and vulnerabilities of women in the face of disasters, as well as their contributions and achievements in all stages of integrated disaster administration, in terms of their social positions and social roles in society, raise the necessity of looking at disasters from a gender perspective.

Problems arising from the socially imposed and attributed roles to women and men are among the most important causes of fragility and vulnerability. Gender blindness and myths cause women to be seen as victims, vulnerable, fragile and disadvantaged in disasters. The limited access of women to resources and opportunities due to gender differences also weakens their capacity to cope with disasters. Being able to look at integrated disaster administration methodologically within the framework of feminist theory is important in terms of making women's voices heard.

Keywords: Integrated Disaster Administration, Disaster, Gender, Women

AZERBAYCAN'DA SOSYALİST EKONOMİK SİSTEMİN YAPILANMASI VE İŞLEYİŞİ (1920-1940)

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ÖZET

Birinci Dünya Savaşı sürecinde Rusya'da gelen Şubat Devrimi sonucunda Çarlık rejimi yıkıldı. Ardından, Bolşeviklerin gerçekleştirdiği Ekim Devrimi ülkede tamamen yeni bir sistemin – sosyalizm sisteminin yolunu açtı. Birinci Dünya Savaşı'nın getirdiği tahribat ve yıkım, ayrıca İç Savaş ortamında yeni sisteme geçiş bir hayli zordu. Tarım ve kapitalist sanayi ülkesi olan Rusya'nın yeni sosyalist ekonomik sisteme geçişinde yaşanan denemeler büyük zorluklarla karşılaşmaktaydı. Bu bağlamda "savaş komünizmi" olarak adlandırılan politika ise ekonomik çöküşü de beraberinde getirdi. 1921 de Lenin, Yeni Ekonomik Politika (NEP) olarak bilinen paketi uygulamaya koyarak serbest ticarete izin verdi ve böylece hem özel hem de yabancı sermaye destekli çeşitli işletmeler, kooperatifler kurarak ekonominin canlanmasını sağladı. Lakin uygulamaya konulan NEP'in toplumda ayrıcalıklı bir sınıfın ortaya çıkmasına neden olmasından dolayı Stalin tarafından kaldırıldı. Sosyalist ekonomik sistemin yapılanması, bir taraftan sanayi alanındaki işletmelerin devletleştirilmesi (millileştirilmesi), diğer taraftan tarım alanındaki kolektifleşme yoluyla gerçekleştirilmeye çalışıldı. Petrol ve maden çeşitliliği bakımından zengin olan Azerbaycan Cumhuriyeti Moskova yönetiminin yeni sömürge politikası uygulamalarına maruz kaldı.

Anahtar Kelimeler: Azerbaycan, NEP, sosyalist ekonomi

THE RECOVERY AND PROCESS OF THE SOCIALIST ECONOMIC SYSTEM IN AZERBAIJANI (1920-1940)

ABSTRACT

Tsarist regime was overthrown as a result of the February Revolution which was happened in Russia during the first world war. Afterwards, February Revolution gave way to a new system- social system which it was happened by the Bolshevists. February revolution was happened by the Bolshevists which it gave way to a new system-social system. With the collapse and destruction of the first World war, the process of moving into a new system was considerably problematic during the civil war. Russia is a country having agricultural and capitalist industry its experiments in the process of moving into a new system met with difficulties. In this context, the politic brought with economic collapse that it was called " war communism ". In 1921, Lenin allowed free trade to make applicable known as New

Economic Politicy (NEP), and so Lenin provided recovery while he was establishing several business and cooperative supported by both private and foreign capital. As the implentation NEP emerged a privileged class in the society, it was removed by Stalin. The structing of socialist economy system tried to happen not only the way of business nationalised in industrial area, but also the way of collectivisation in cultivated area . Azerbaijani republic exposed to Moskow regime's new colonial policy implementation because of Azerbaijan having oil and mine wealth.

Keywords: Azerbaycan, NEP**,** socialist economy

SEÇİLMİŞ ÜLKELERİN YOKSULLUK, DIŞ BORÇ VE SANAYİ ÜRETİM ENDEKSİ HESAPLAMA YÖNTEMLERİNE YÖNELİK BİR DEĞERLENDİRME

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ÖZET

Makroekonomik göstergeler bir yandan ekonomideki değişimleri sistematik şekilde gösterirken diğer yandan ülkeler arasında ekonomik performansın analiz edilmesine imkan sağlayarak geleceğin planlanmasında yardımcı olan bütüncül bir sistemdir. Küresel düzeyde rekabet edebilmek, yatırımlar çekebilmek, finans piyasalarını geliştirebilmek için ülkelerin makro anlamda başarılı bir performans göstermeleri beklenmektedir. Makro veriler aracılığıyla yerel yatırımcılar içinde bulundukları ekonomiyi daha iyi algılayabilmekte, yabancı yatırımcılar ise söz konusu ülke hakkında kaynakların etkin kullanımından, yatırım fırsatlarının değerlendirilmesine kadar birçok bilgiye sahip olabilmektedirler. Ayrıca ülkeler arası karşılaştırılmaların da makroekonomik göstergeler aracılığıyla yapılması bu göstergelerin önemini bir kat daha artırmaktadır.

Özellikle ülke ekonomikkarşılaştırılmalarında kullanılan bu temel makroekonomik göstergelerin tanımlanması ve hesaplanması noktasında ortak yöntemler belirlenmeye çalışılmıştır. Ancak ülkeleri spesifik olarak incelediğimizde birçok ülkenin makro ekonomik göstergeleri tanımlama ve hesaplama yöntemlerinde farklılıklar olduğunu görmekteyiz. Bu bilgi eksiklikleri tamamlandığı takdirde sadece rakamsal verilere bakılarak yapılan yüzeysel karşılaştırmalar yerini bu farklılıklar dikkate alınarak yapılacak daha rasyonel değerlendirmelere bırakabilecektir. Bu göstergelerin tanımları, bileşenleri, hesaplanma yöntemleri ve yayınlanma zamanlarının makroekonomik hesaplamaları değiştirmede oldukça büyük bir güce sahip olduğu unutulmamalıdır. Bu güç ise doğru bilgiye dayanan güvenilir bir değerlendirme sayesinde kazanılabilir.

Bu bağlamda çalışmamız bir yandan araştırmacıların bu farklılıkları dikkate almaları gerekliliğine vurgu yaparken diğer yandan da göz ardı edilen farklılıkların giderilmesi noktasında araştırmacılara yol gösterici olacağını düşünmekteyiz. Böylece makroekonomik göstergelerin tanımlamaları, hesaplama yöntemleri, kapsamları, zaman aralıkları, vb. kriterlerdeki farklılıklar dikkate alındığında elde edilen veriler daha sağlıklı şekilde değerlendirilebilecektir. Bu amaç doğrultusunda dünyanın farklı bölgelerinden seçilmiş on dört ülkenin (Türkiye, Almanya, Arnavutluk, Avustralya, Bulgaristan, Çin, Danimarka, Fransa, İngiltere, Japonya, Jamaika, Katar, Kuzey Makedonya, Romanya)üç temel makro ekonomik göstergesi(Yoksulluk, dış borç ve sanayi üretim endeksi) incelenerek teorik bilgiler sunulmaya çalışılmıştır.

Anahtar Kelimeler: Makro Ekonomik Göstergeler, sanayi üretim endeks, yoksulluk, dış borç.

AN ASSESSMENT ON THE CALCULATION METHODS OF POVERTY, EXTERNAL DEBT AND INDUSTRIAL PRODUCTION INDEX OF SELECTED COUNTRIES

ABSTRACT

While macroeconomic indicators systematically show the changes in the economy, it is an integrated system that helps in the planning of the future by enabling the analysis of economic performance among countries. Countries are expected to show a successful macro performance in order to compete at the global level, attract investments and develop financial markets. Through macro data, local investors can better perceive the economy they are in, while foreign investors can have a lot of information about the country in question, from the effective use of resources to the evaluation of investment opportunities. In addition, making comparisons between countries through macroeconomic indicators increases the importance of these indicators even more.

It has been tried to determine common methods for defining and calculating these basic macroeconomic indicators, which are especially used in country economic comparisons. However, when we examine the countries specifically, we see that there are differences in the methods of defining and calculating macroeconomic indicators in many countries. If these information deficiencies are completed, superficial comparisons made by only looking at numerical data will be replaced by more rational evaluations based on these differences. It should be noted that the definitions, components, calculation methods and publication times of these indicators have a great power in changing macroeconomic calculations. This power can be gained through a reliable assessment based on accurate information.

In this context, while our study emphasizes the need for researchers to take these differences into account, we also think that it will guide the researchers in eliminating the ignored differences. Thus, definitions, calculation methods, scopes, time intervals, etc. of macroeconomic indicators. Considering the differences in the criteria, the obtained data can be evaluated more healthily. For this purpose, three basic macroeconomic indicators (Poverty, foreign debt) of fourteen countries selected from different parts of the world (Turkey, Germany, Albania, Australia, Bulgaria, China, Denmark, France, England, Japan, Jamaica, Qatar, North Macedonia, Romania) and industrial production index) were examined and theoretical information was tried to be presented.

Keywords: Macro Economic Indicators, industrial production index, poverty, foreign debt.

1.GİRİŞ

Ülke mukayeselerinin makro ekonomik gösterge sonuçlarına göre yapılması gelişmişlik seviyesinin belirlenmesi noktasında önem arzetmektedir. Bu nedenle, ülkelerin ekonomik göstergeleri bizlere o ülkenin ekonomik yapısı ile ilgili önemli ipuçlarıvermektedir. Sadece ülkelerin gelişmişlik açığının kapatılmasında değil aynı zamanda ulusal ve uluslar arasıyatırımcıların kararlarında da etkili olmaktadır. Ancak göstergelerin sadece rakamsal değerlerüzerinden okunması hatalı ya da eksik değerlendirme yapılmasına neden olabilmektedir. Ülkelerin ekonomik verilerini kaydeden uluslararası kuruluşların dahi sadece rakamsal verileri dikkate alarak ekonomik yorumlar ve raporlar sunmaları ciddi bir handikap olarak karşımıza çıkmaktadır. İşte bu noktada makro ekonomik göstergelerin ülkeler arasındakitanımlama ve hesaplama yöntemlerindeki farklılıkların ne kadar önemli sonuçlar doğurduğu görülmektedir. Bu noktada ülkelerde makroekonomik göstergelerin doğru biçimde hesaplanabilmesi için ülkelerin bu verileri hesaplamada kullandığı yöntem ve tekniklerin de bilinmesi bir zorunluluk olarak karşımıza çıkmaktadır. Bu nedenle seçilmiş ülkeler bazında

(Türkiye, Almanya, Arnavutluk, Avustralya, Bulgaristan, Çin, Danimarka, Makedonya, Romanya) makro ekonomik dengeleri etkileyen seçilmiş göstergelerin tanımları, bileşenleri, hesaplanma şekilleri ve yayınlanma zamanları kriterleri incelenerek benzerlik ve farklılıklarının ortaya konulması gerekmektedir.

2.YOKSULLUK

Yoksulluk, bir kişinin temel ihtiyaçları için yeterli maddi varlığa veya gelire sahip olamamasıdır. Yoksulluk sosyal , ekonomik ve politik unsurları içerebilir. Farklı kriterler göz önüne alınarak yoksulluk kavramına farklı anlamlar katan yoksulluk türleri mevcuttur. Mutlak Yoksulluk: Temel fiziksel kriterleri karşılamak için minimum tüketim standardına ulaşabilme yeteneğinin olmamasına olarak tanımlanabilir. Az gelişmiş ve gelişmekte olan ülkelerde daha çok görülen mutlak yoksulluk kavramı; birey veya hanehalkının yaşamını asgari seviyede devam ettirebilmesi için zorunlu olan en temel insani gereksinmelerini dahi elde edememesi durumu olarakta ifade edilebilir. 1995'te Kopenhag'daki Dünya Sosyal Kalkınma Zirvesi'nde açıklanan BM bildirisine göre mutlak yoksulluk, gıda, güvenli içme suyu, sanitasyon tesisleri, sağlık, barınma, eğitim dahil olmak üzere temel insan ihtiyaçlarından ciddi şekilde yoksun bırakılma ile karakterize edilen bir durumdur. Bu sadece gelire değil, aynı zamanda hizmetlere erişime de bağlıdır" (INSAMER,2021).

Buna karşılık Göreli Yoksulluk, mutlak olarak temel ihtiyaçlarını karşılayabilse de bireysel kaynakların yeterli olmaması nedeniyle (eğitim, sağlık, sosyal katılım yönünden yetersizlerdir) toplumdaki genel ortalama refah seviyesinin altında kalmış ve sosyal yönden topluma katılımlarının engellenmesi durumu olarak tanımlanabilir (Yıldırım, 2019;18-19).

Tanımında bile ortak bir fikir birliğine ulaşılamamış olan yoksulluk kavramının hesaplanması da zordur. Ülkelerin kendi ülkeleri için kabul etmiş oldukları yoksulluk kriterlerine geçmeden önce yoksulluk tanımlamalarında kullanılan medyan değeri tanımlayalım. Medyan değer, bir örneklem verisini küçükten büyüğe ya da büyükten küçüğe sıraladığımızda veriyi ortadan ikiye bölen değerdir. Duyarsız bir ortalama türü olan medyan, sıralamaya önem vermesinedeniyle aritmetik ortalamaya kıyasla daha tutarlı sonuç verir (Terzi,2018:72). O halde tanımımızda ülke fertlerinin gelirleri küçükten büyüğe sıralandığında ortadaki gelir bize ortanca yani medyan geliri vermektedir.

Dünya Bankası'nın Uluslararası Para Fonu (IMF) ve Birleşmiş Milletler (BM) verilerinden aldığı bilgilere göre günlük geliri 5.50 doların altındakiler yoksul kabul edilirken kazancı 1.90 doların altında olanlar da aşırı yoksul olarak kabul edilmektedir (World bank,2021). Ekonomik gelişmenin artması toplumsal refahı toplumsal refahında yaşam standartlarını yükselttiği bir gerçektir. Böyle olunca bir toplumda ihtiyaç olmayan ürünler bir diğeri için ihtiyaç olabilmektedir. Ekonomik gelişmeler her nekadar mutlak yoksulluğu ortadan kaldırabilse de gelirde yaşanan eiştsizlikler devam ettiği sürece göreli yoksulluğun ortadan kaldırılması mümkün görünmemektedir.

Küreselleşen dünyamızda yaşanan ekonomik gelişmeler gelir düzeyi düşük olan yoksul birçok ülkeyi orta gelir grubuna taşırken asgari düzeydeki ihtiyaçların karşılanma maliyetini de artırmıştır. Bu nedenle en yoksul ülkeleri esas alarak belirlenmiş olan günlük 1.90 dolar sınırına göre yoksulluğu ölçmeye çalışmak doğru bir sonuca ulaşmamıza engel olmaktadır. Bu nedenle bin yıl kalkınma hedefleri içinde yer alan 2030 yılına kadar yoksulluğun ortadan kaldırması hedefi doğrultusunda aşırı yoksul tanımı için belirlenen kriter değil daha geniş bir yoksulluk tanımına göre hareket edilmesi bir gereklilik haline gelmiştir(Arabacı,2019:123-140).Bu bağlamda Dünya Bankası'nın IMF ve Birleşmiş Milletler verilerine göre yoksulluk tanımlamasında temel aldığı kriter "günlük 5.50 doların altında geliri olanlar" olmasına rağmen incelediğimiz ülkelerden sadeceDanimarka, Jamaika ve Katar bu kriteri kullanmaktadır. Diğer ülkeler bu kriterlere uygun açıklama yapmamaktadır. Tablo 1'e

baktığımızda seçilmişülkelerdeki yoksulluk sınırı tanımları şöyledir: Türkiye'de eşdeğer kullanılabilir fert medyan gelirin %40'ı, %50'si, %60'ı ve %70'i alınarak hesaplanan dört ayrı yoksulluk sınırı sözkonusudur. Almanya ve Arnavutluk yoksulluk sınırını, meydan gelirin % 60'ından daha az olan insanların oranı olarak tanımlar. Avustralya'da yoksulluğu ölçmek içinmedyan gelirin %50'si ve %60'ı alınarak hesaplanan iki yoksulluk sınırı kullanılmaktadır. Bulgaristan'da yoksulluk oranı, medyan eşdeğer kullanılabilir gelirin%60'ı olarak tanımlanan yoksulluk sınırının altındaki hanehalklarının payıdır. Çin' deki yoksullukla ilgili literatürün çoğu, temel gıda ve gıda dışı tüketim ihtiyaçlarının maliyetine dayalı mutlak yoksulluk sınırını kullanarak yoksulluğu ölçmektedir. Resmi yoksulluk sınırı, kişi başına yıllık 2.300 yuan'dır (Ekim 2021 itibariyle 1 yuan, yaklaşık 0,13 Euro ve 0,16 ABD dolarına eşittir). Çin kendi hesaplarında bunu dolara dönüştürmeden yuan olarak açıklamaktadır. Ama diğer ülkeler hem ulusal para olarak açıklamakta hem de dolar bazında açıklamaktadırlar. Danimarka' da yoksulluk göstergesi, düşük gelir, düşük refah ve sosyoekonomik statü kriterlerini birleştirir. Gösterge, BM tanımına dayanmaktadır ve günde 5.50 dolardır. Fransa yoksulluk oranı; medyan gelirin %60'ından daha az olan insanların oranıdır. İngiltere'de harcanabilir hane halkı gelirine dayalı çeşitli yoksulluk ölçütleri kullanılmaktadır. Bunlardan yaygın olan ölçütler: Görece düşük gelire sahip kişiler, o yılki medyanın%60'ının altında gelire sahip hanelerde yaşayanlardır.Jamaika'da, günde 5.50 ABD dolarının altında yaşayan nüfus yoksul olarak kabul edilmektedir. Japonya, yoksulluğu medyan gelir kullanılarak hesaplanan "asgari yaşam standardına" dayalı olarak ölçer. Buda bir hane halkının gelirinin, ortalama hane gelirinin yarısı veya altında olduğu bir eyalet olarak tanımlanmaktadır. Japonya'nın resmi bir yoksulluk sınırı yoktur, bu da yoksullukla ilgili doğru rakamları elde etmeyi zorlaştırmaktadır. Araştırmamıza konu olan diğer ülkelerde ise yoksulluk sınırı; Katar'da günde 5,50 doların altı olarak, Kuzey Makedonya'da, medyan eşdeğer gelirin% 60'ı olarak, Romanya'da da, ulusal medyanın %60'ından az bir gelir olarak tanımlamaktadır.

Tablo 1: Ülkeler arası Yoksulluk Sınırı Karşılaştırması

Ülke adı	Yoksulluk sınırı
Türkiye	Medyan gelirin %40'ı, medyan gelirin %50'sı, medyan gelirin %60'ı, medyan gelirin %70'i. .
Almanya	Eşdeğer kullanılabilir medyan gelirin %60'ı
Arnavutluk	Eşdeğer kullanılabilir medyan gelirin%60'ı
Avustralya	Eşdeğer kullanılabilir medyan gelirin%50'si
Bulgaristan	Eşdeğer kullanılabilir medyan gelirin%60'ı
Çin	Kişi başına yıllık 2,300 yuan
Danimarka	Günde 5,50 doların altında (satınalma gücü paritesine göre)
Fransa	Eşdeğer kullanılabilir medyan gelirin %60'ı
İngiltere	Eşdeğer kullanılabilir medyan gelirin%60'ı
Jameika	Günde 5,50 ABD dolarının altında (satınalma gücü paritesine göre)
Japonya	Resmi bir yoksulluk sınırı yok. Ortalama hane gelirinin yarısı veya altında olması
Katar	Günde 5,50 doların altı (satınalma gücü paritesine göre)
K. Makedonya	Eşdeğer kullanılabilir medyan gelirin%60'ı
Romanya	Eşdeğer kullanılabilir medyan gelirin %60'ı

Kaynak:(Ülkelerin İstatistik Kurumları verilerinden yararlanılarak tarafımızca hazırlanmıştır,2021).

Tablo 1'de özetlediğimiz üzere ülkeler yoksulluk hesaplamasında çoğunlukla 'göreli yoksulluk'oranlarını kullanmaktadırlar. Jamaika, Çin, Katar gibi satın alma gücü paritesini esas alarak hesaplama yapan ülkeler yanında Japonya'nın resmi bir yoksulluk sınırı bulunmamaktadır.

3.DIŞ BORÇ

Dış borç, sermaye birikimi ve tasarruf konusunda yeterli birikimi olmayan ülkeleri ekonomik açıdan yoğun şekilde etkileyen bir değişkendir. Gelişmekte olan ülkeler gelirlerinin az ve tasarruflarının da düşük olması ya da etkin olmayan politik kararlar nedeniyle yatırımlarını dış borçlanma ile gerçekleştirmek zorunda kalmaktadırlar. Alınan borçların rantabl alanlara yönlendirilmesi sağlanabilirse; yatırım ve tüketim kapasitesinin artmasıyla birlikte ekonomik refah ve gelişim artar, dış borçların geri ödenmesi kolaylaşır. Aksi halde dış ödemelerde oluşan açıklar ekonomik ve siyasi krizlere sebep olabilir. Son yıllarda birçok ülkeyi etkileyen küresel mali kriz ve buna bağlı büyük mali açıklar dış borcun sürdürülebilirliği açısından kamu sektörü borcunun önemini gözler önüne sermiştir.

Dış borç konusunda ülkeler karşılaştırılırken sadece rakamsal veriler dikkate alınarak değerlendime yapılmamalıdır. Dış borç kavramının ana bileşenleri kapsamının da tespit edilmesi önemlidir. Borçları öncelikle özel ve kamu borcu olarak iki gruba ayırmak mümkündür. Borçlanma kavramı gündeme geldiğinde her ne kadar hepimizin aklına kamu kesimi ve merkez bankasının borçları gelse de günümüzde borçlanmaların büyük bölümünün bankalar, finans kurumları ve reel kesimin oluşturduğu özel kesim tarafından yapıldığı bilinmektedir (Alagöz ve arkadaşları,2021:67).

IMF, OECD, Eurostat gibi uluslararası kuruluşlarca ortaklaşa hazırlanan “Kamu Sektörü Borç İstatistikleri Kılavuzu”nda beş temel sektöre bölünen toplam ekonomi ayrıca kamu ve özel sektör olarakta iki gruba ayrılmaktadır.

1. Finansal olmayan işletmeler (kamu sektörü)
2. Finansal işletmeler (kamu sektörü)
3. Genel yönetim (kamu sektörü)
4. Hanehalkı (özel sektör)
5. Hanehalkına hizmet veren kâr amacı olmayan işletmeler (özel sektör) (IMF,2020).

Kamu sektörünü oluşturan temel alt sektörler şunlardır: Genel yönetim (Merkezi yönetim, mahalli idareler, sosyal güvenlik kurumları, bütçe dışı kurumlar, eyaletler), finansal kamu işletmeleri ve finansal olmayan kamu işletmeleri. Farklı ülke uygulamalarına göre bütçe dışı kurumlar ya da eyaletler gibi alt sektörler bu kapsamın içinde ya da dışında yer alabilmektedir (Turan,2013;169). Uluslararası kuruluşların yaptığı çalışmalarda ve ülkelerarası karşılaştırmalar içeren analizlerde çoğunlukla baz alınan kamu borcunun “genel yönetim” borcunu kapsadığı ve bu verilerin de brüt stok verileri olduğu görülmektedir. Kamu borcunun en dar kapsamlı, çekirdek olarak nitelendirilebilecek kısmı “merkezi yönetim” borcudur. Türkiye’de genel yönetim borcunu yansıtan istatistik; “AB tanımlı genel yönetim borç stoku” verisidir. Toplam kamu borcuna yönelik olarak ise “kamu net borç stoku” göstergesidir. Bu borç göstergesi, kamu borcunun sürdürülebilirliği ve riskliliği anlamında sadece bu amaca hizmet eden spesifik bir bilgi üretmektedir. Nitekim bu tür veri yayınlayan az ülke olması ve hesaplama yöntemindeki farklılıklar sebebiyle ülkelerarası karşılaştırma şansı olmayan bir veri olduğu söylenebilir (Turan,2013;172).

Tablo 2: Ülkeler arası Dış Borç Kavramının Karşılaştırması

Ülkeler	Ana Bileşenleri	Yayınlanma Sıklığı
Türkiye	Genel hükümet,Merkez Bankası, finansal kuruluşlar (Merkez Bankası hariç), finansal olmayan kuruluşlar.	3 ayda bir
Almanya	Genel hükümet,Merkez Bankası, finansal kuruluşlar (Merkez Bankası hariç), finansal olmayan kuruluşlar.	3 ayda bir
Arnavutluk	Genel hükümet,Merkez Bankası, finansal kuruluşlar (Merkez Bankası hariç), finansal olmayan kuruluşlar.	3 ayda bir
Avustralya	Genel hükümet,Merkez Bankası, finansal kuruluşlar, finansal olmayan kuruluşlar.	3 ayda bir
Bulgaristan	Genel Hükümet, Merkez Bankası, finansal kuruluşlar, finansal olmayan kuruluşlar	Aylık
Çin	Genel Hükümet, finansal kuruluşlar, finansal olmayan kuruluşlar.	Aylık
Danimarka	Genel hükümet, Merkez Bankası, finansal kuruluşlar, finasal olmayan kuruluşlar, haneler	Aylık
Fransa	Genel hükümet, Merkez Bankası, finansal kuruluşlar, finansal olmayan kuruluşlar	Üç ayda bir
İngiltere	Genel hükümet, finansal olmayan kuruluşlar	Aylık
Jamaika	Merkezi hükümet, finansal kuruluşlar, finansal olmayan kuruluşlar.	Aylık
Japonya	Genel hükümet, Merkez Bankası, finansal kuruluşlar (Merkez Bankası hariç), finansal olmayan kuruluşlar	Üç ayda bir
Katar	Veriler dağıtılmamaktadır.	
Kuzey Makedonya	Genel hükümet, Merkez bankası, finansal kuruluşlar (Merkez Bankası hariç) finansal olmayan kuruluşlar	Üç ayda bir
Romanya	Genel hükümet, Merkez bankası, finansal kuruluşlar (Merkez Bankası hariç), finansal olmayan kuruluşlar	3 ayda bir

Kaynak:(Ülkelerin İstatistik Kurumları verilerinden yararlanılarak tarafımızca hazırlanmıştır,2021).

Tablo 2'de dış borç göstergesi ana bileşenler, yayınlanma sıklığı ve istisnalar açısından özetlenmiştir. Borç tanımına giren kalemlerin hangilerinin dahil edilip edilmediğine bağlı olarak borç stoku büyüklüğü ve ortaya koyduğu ekonomik sonuçlar da değişmektedir. Seçilmiş ülkelerde borç stoku hesaplayan ve ilan eden ülkelere bakıldığında dış borç kapsamı içinde Merkez Bankası borcu yeralmış olsada dış borç hesaplanırken Merkez Bankası verilerinin hariç tutulduğu (Türkiye, Almanya, Arnavutluk, Japonya, Kuzey Makedonya ve Romanya), bir diğer kısmının ise Merkez Bankası tarafından basılan dolaşımdaki parayı finansal yükümlülük olarak hesaplara dahil ettiği görülmektedir. İngiltere ve Jamaika'nın dış borç veri kapsamı içinde Merkez Bankası yer almamaktadır.

Dış borç göstergesine yayınlanma sıklığı açısından baktığımızda ise Bulgaristan, Çin, Danimarka, İngiltere ve Jamaika'da verinin aylık olarak açıklandığını, diğer ülkelerde ise üç aylık olarak açıklandığını görmekteyiz. Verilerin aylık olarak yayınlanması dış borcun gidişatının daha doğru şekilde takip edilmesine yardımcı olmaktadır.

4.SANAYİ ÜRETİM ENDEKSİ

Bilindiği üzere Sanayi Üretim Endeksi, sanayi sektörü içindeki kuruluşların üretimlerinde meydana gelen değişimleri ölçen bir endekstir. Yıldan yılakarşılaştırmalı olarak üretim faaliyetlerindeki artış ve azalışların takip edilebilmesini sağlayan bu gösterge sanayi

sektörünün durumunun analiz edilmesinde yaygın olarak kullanılmaktadır. Bu endeks sayesinde ekonomide meydana gelen gelişmelerin ve ekonomi politikalarının olumlu veya olumsuz etkileri ölçülebilir. Böylece mevcut ekonomik faaliyetin gözlemlenmesi ve analizi için yaygın olarak kullanılmaktadır. Sanayi Üretim Endeksi göstergesinin hesaplanmasında ülkeler arasında endeksin kapsadığı sektörler, baz yılı, endeks hesabında kullanılan örneklem büyüklüğü kriterlerinde farklılıklar sözkonusu olmaktadır. Bu farklılıklarda ülkelerin birbiriyle karşılaştırmalı olarak yapılan analizlerde dikkate alınmadığı takdirde sağlıklı ve doğru bir değerlendirme yapılması mümkün olmamaktadır. Bu bağlamda çalışmamızda seçilmiş olan ülkeler üzerinden bu farklılıklar dikkate alınarak sanayi üretim endeksi göstergeleri şu şekilde özetlenebilir;

Türkiye'de ekonominin sanayi kesiminde meydana gelen gelişmelerin ve uygulanan ekonomik politikaların, kısa dönemde olumlu veya olumsuz etkilerinin ölçülebilmesi için "Sanayi Üretim Endeksi" hesaplanmaktadır. Sanayi üretim endeksi hesaplamasına dahil edilecek kuruluşlar: 1-Madencilik ve taşocakçılığı, 2-İmalat, 3-Elektrik, gaz, buhar ve iklimlendirme üretimi ve dağıtımı olmak üzere üç alt sektörü kapsamaktadır. Referans dönemi ve sıklık: T+43. Türkiye Sanayi üretim endeksi büyüme oranı verileri aylık olarak güncellenmektedir. Türkiye İstatistik Kurumu, 2015=100 bazında sanayi üretim endeksi vermektedir. Endeks hesabında 3444 ürün için 7296 işletme ankete tabi tutulmuştur. Almanya'da üretim endeksi; madencilik ve taşocakçılığı, imalat, enerji ve inşaat sektörlerini içerir. Referans dönemi ve sıklık: T+38. Endeks verileri, aylık olarak güncellenmektedir. Federal İstatistik Ofisi Almanya, 2015 = 100 temelli sanayi üretim endeksini sağlar. Endeks hesabında 5600 ürün, 20.000'den fazla işletme ankete tabi tutulmuştur. Arnavutluk sanayi üretim endeksi; imalat, madencilik, kamu hizmetleri sektörlerini kapsamaktadır. Arnavutluk İstatistik Enstitüsü, 2015=100 temelli sanayi üretim endeksini sağlamaktadır. Referans dönemi ve sıklık: T+75. Endeks verileri, üç ayda bir güncellenmektedir. Endeks hesabında 2000 işletme ankete tabi tutulmuştur. Avustralya sanayi üretim endeksi; madencilik, taş ocakçılığı, imalat, elektrik, gaz, buhar, su temini, inşaat sektörlerini kapsamaktadır. Referans dönemi ve sıklık: T+38.Endeks verileri, aylık olarark güncellenmektedir. Avustralya İstatistik Enstitüsü, 2015 = 100 temelli sanayi üretim endeksini sağlamaktadır. Endeks hesabında 5200 ürün, 10.500 işletme ankete tabi tutulmuştur.Bulgaristan sanayi üretim endeksi; madencilik, taş ocakçılığı, imalat, elektrik, gaz, buhar, iklimlendirme, su toplama arıtma ve temini kapsamktadır. Referans dönemi ve sıklık: T+37- 40. Endeks verileri aylık olarak güncellenmektedir. Bulgaristan Ulusal İstatistik Enstitüsü, 2015 = 100 bazında sanayi üretim endeksi sağlar. Endeks hesabında 3800 ürün,9200 işletme ankete tabi tutulmuştur. Sanayi üretim endeksi su ve atık yönetimini içermez. Çin sanayi üretim endeksi; maden ve taş ocakçılığı, imalat, ileri teknoloji, sanayi imalatı, elektrik, ısıtmagücü, gaz, su üretim ve dağıtımı sektörlerini kapsmaktadır. Referans dönemi ve sıklık: T+60. Endeks verileri üç aylık olarak güncellenmektedir. 2015=100 temelli sanayi üretim endeksini sağlamaktadır. Örnek büyüklükleri: Yaklaşık 700 ürün,700 işletme ankete tabi tutulmuştur.Danimarka endüstriyel üretim endeksi;maden ve taş ocakçılığı, kamu hizmetlerini kapsamaktadır.Referans dönemi ve sıklık: T+40. Endeks verileri aylık olarak güncellenmektedir. İstatistik Danimarka, 2015= 100 temelli sanayi üretim endeksini sağlamaktadır. Endeks hesabında 5417 ürün,1000 işletme ankete tabi tutulmuştur.Fransa sanayi üretim endeksi; maden ve taş ocakçılığı, imalat ve elektrik, gaz ve su teminini kapsamaktadır.Referans dönemi ve sıklık: T+40. Endeks verileri aylık olarak güncellenmektedir. Ulusal İstatistik ve Ekonomik Çalışmalar Enstitüsü, 2015 = 100 temelli sanayi üretim endeksini sağlar. Endeks hesabında 520 temsili ürün, 4800 işletme ankete tabi tutulmuştur.İngilteresanayi üretim endeksi; madencilik,taş ocağı,enerji tedariki,su temini,atık yönetimi sektörlerini kapsamaktadır.Referans dönemi ve sıklık: T+60. Endeks verileri aylık olarak güncellenmektedir.Ulusal İstatistik Ofisi, 2016=100 temelli sanayi üretim endeksini sağlar. .Endeks hesabında 3800 ürün,21500 işletmeden oluşanörneklem

toplanmıştır.Japonya sanayi üretim endeksi; madencilik ve imalat endüstrileri, elektrik, gaz ve buhar hizmetlerini kapsamaktadır.Referans dönemi ve sıklık: T+30. Endeks verileri aylık olarak güncellenmektedir. Ekonomi, Ticaret ve Sanayi Bakanlığı, sanayi üretim endeksini 2015=100 bazında vermektedir.Endeks 412 ana ürün ve 1600 işletmeyi kapsamaktadır.Katar sanayi üretim endeksi sadece petrol sektörünü kapsıyor.Referans dönemi ve sıklık: Yaklaşık dokuz ay. Endeks verileri yıllık olarak güncellenmektedir. Uluslararası Para Fonu, sanayi üretim endeksini 2001=100 bazında sağlamaktadır. Sanayi üretim endeksi sadece petrol sektörünü kapsamaktadır. 15-20 önemli endüstriyel ürüne dayanmaktadır.Ürünler çoğunlukla petrokimya veya ilgili ürünlerdir, ancak endeks ayrıca tahıl değirmeni ürünleri, çimento ve çeliği de içerir.Kuzey Makedonya sanayi üretim endeksi; maden,taş ocakçılığı,imalat sanayi,elektrik,gaz sektörlerini kapsamaktadır. Referans dönemi ve sıklık: T+25- 28. Endeks verileri aylık olarak güncellenir. Kuzey Makedonya Cumhuriyeti Devlet İstatistik Ofisi, Önceki Yılın Aynı Ay=100 bazında sanayi üretim endeksini sağlamaktadır. Endeks 500 işletmeyi kapsamaktadır.Romanya sanayi üretim endeksi; madencilik ve taş ocakçılığı, imalat ve elektrik, gaz,buhar ve havalandırma üretimi ve tedarik sektörlerini kapsamaktadır.Referans dönemi ve sıklık: T+25.Endeks verileri aylık olarak güncellenmektedir. Ulusal İstatistik Enstitüsü, 2015=100 temelli sanayi üretim endeksini sağlar.Endeks hesabında 718 temsili ürün,10800 işletme ankete tabi tutulmuştur.

Tablo 3: Ülkeler arası Sanayi Üretim Endeksi Karşılaştırması

Ülke	Sektör kapsamı	Sıklık	Baz yılı	Örneklem büyüklüğü	Yayın Zamanı
Türkiye	Madencilik ve taşocakçılığı, imalat ile elektrik, gaz, buhar ve iklimlendirme üretimi ve dağıtımı sektörleri	Aylık	2015	3444 ürün, 7296 işletme.	T + 43
Almanya	Madencilik ve taşocakçılığı, imalat, enerji ve inşaat sektörleri	Aylık	2015	5600 ürün, 20000'den fazla işletme	T+ 38
Arnavutluk	İmalat, madencilik, kamu hizmetleri	Üç aylık	2015	2000 işlerme	T+75
Avustralya	Madencilik, taş ocakçılığı, imalat, elektrik, gaz, buhar, su temini, inşaat.	Aylık	2015	5200 ürün, 10500 işletme.	T+38
Bulgaristan	Madencilik, taşocakçılığı, imalat, elektrik, gaz, buhar, iklimlendirme, su toplama arıtma ve temini.	Aylık	2015	3800 ürün, 9200 işletme	T+37/40
Çin	Maden ve taş ocakçılığı, imalat, ileri teknoloji, sanayi imalatı, elektrik, ısıtma gücü, gaz, su üretim ve dağıtımı	Üç aylık	2015	700 ürün, 700 işlerme	T+60
Danimarka	Maden ve taş ocakçılığı, kamu hizmetleri	Aylık	2015	5417ürün, 1000 işletme	T+40
Fransa	Maden ve taş ocakçılığı, imalat ve elektrik, gaz ve su temini	Aylık	2015	520 ürün, 4800 işletme	T+40
İngiltere	Madencilik, taş ocakçılığı, enerji tedariki, su temini, atık yönetimi.	Aylık	2016	3800 ürün, 21500 işletme	T+6
Jamaika	Derlenmiş üretim endeksi yok	Üç aylık	1990		
Japonya	Madencilik ve imalat endüstrileri, elektrik, gaz ve buhar hizmetleri, atık yönetimi	Aylık	2015	412 ürün, 1600 işletme	T+30
Katar	Sadece petrol sektörünü kapsıyor	Yıllık	2001	15-20 önemli endüstriyel ürüne dayanır	T+270
Kuzey Makedonya	Maden, taşocakçılığı, imalat sanayi, elektrik, gaz.	Aylık	Önceki yılın aynı ayı	500 işletme	T+25-28
Romanya	Madencilik ve taş ocakçılığı, imalat ve elektrik, gaz, buhar ve havalandırma üretimi ve tedarik.	Aylık	2015	3359 ürün, 10800 işletme	T+41

Kaynak:(Ülkelerin İstatistik Kurumlarından yararlanılarak tarafımızca hazırlanmıştır,2021).

Sanayi üretim endeksi, sektörde yer alan kuruluşların üretimlerindeki değişimi göstermesi açısından önemli bir göstergedir. Ekonomide meydana gelen değişmelerin ve ekonomi politikalarının, etkilerinin doğru ölçülebilmesi açısından Tablo 3'de ülkeler arasında sanayi üretim endeksi; sektör kapsamı, baz yıl, örneklem büyüklüğü kriterlerine göre özetlenmiştir. Jameika'da derlenmiş bir üretim endeksi bulunamamştır. Katar'da sektör kapsamı sadece petrol sektörünü kapsamaktadır. Japonya'da diğer ülkelerde olmayan atık yönetimi sektör kapsamına alınmıştır. Kuzey Makedonya, Fransa ve Çin'de Sanayi üretim endeksi bileşenleri 'maden, taş ocakçılığı, imalat sanayi, elektrik ve gaz' şeklinde birbirine benzer kalemlerden oluşmaktadır. Arnavutluk ve Danimarka'da da endeks kapsamı benzer şekilde 'maden ve taş ocakçılığı, kamu hizmetleri'ni içermektedir. Ayrıca Almanya ve Avustralya'da diğer ülkelerde bulunmayan inşaat hizmetleri endeksin kapsamı içinde yer almaktadır. Örneklem büyüklüğü açısından ise ankete katılan işletme sayısı ve ürün sayısının fazla olması endeksin doğru bir değerlendirme yapılabilmesi noktasında daha güvenilir sonuçlar elde edilmesinde yardımcı olacaktır. Bu bağlamdaişletme sayısı en az olan ülke "500 işletme" ile Kuzey Makedonya iken işletme sayısı en yüksek olan ülke ise "21.500 işletme" ile İngiltere'dir.Endeks kapsamındaki ürün sayısı en az olan ülke "412 ürün" ile Japonya, en fazla olan ülke de "5600 ürün" ile Almanya'dır.Verinin yayınlanma sıklığı açısından bakıldığında en hızlı açıklayan ülke T+6 ile İngiltere iken en geç açıklayan ülke ise T+270 ile Katar'dır. Verilerin açıklanma süresi uzadıkça (üç aylık) ülkelerin ekonominin gidişatını hızlı şekilde ölçmekte zorlanacağı ekonomik birimlerin de tutum, davranış ve stratejik karar vermedeki tutarlılıklarının olumsuz yönde etkileneceği de ifade edilmelidir. Ayrıca endeksi aylık olarak hesaplayan ülkelerin uyguladıkları politikaların kısa vadedeki sonuçlarını (toplam sipariş miktarı, mamul mal stok miktarı, üretim hacmi, toplam istihdam, toplam sipariş miktarı, ihracat sipariş miktarı, sabit sermaye yatırım harcaması, genel gidişat) görmeleri ve gerekli önlemleri almaları noktasında diğer ülkelere göre daha avantajlı oldukları söylenebilir.

SONUÇ

Makro ekonomik göstergeler, ekonomideki değişimleri sistemli ve ekonomik analize imkan verecek şekilde sunmayı amaçlayan, ekonominin performansının değerlendirilmesine imkan tanıyan ve bu göstergeler aracılığıyla belirlenen ilişkileri kullanarak ileriye yönelik tahmin ve planlamaya yardımcı olan bütüncül bir sistemdir. Literatürde makroekonomik göstergelerin ortak tanımları sözkonusu ise de, ülkeler bu tanımları kendi ülke realitelerine göre kabul edilebilir farklı yöntemler kullanarak ifade etmektedir. Dolayısıyla ülkelerin uyguladıkları kabul edilebilir bu değişiklikler, ülkeler arası karşılaştırmalar yapılırken birtakım zorlukların doğmasına yol açmaktadır. Yapılan bilimsel çalışmalarda doğru ve güvenilir bir sonuç elde edebilmek için araştırmacıların bu farklılıkları göz önünde bulundurmaları bir zorunluluktur. Ülkelerin ekonomileri karşılaştırılırken kullandığımız makroekonomik göstergelerimizden biri olan yoksulluk küreselleşmenin beraberinde getirdiği gelir eşitsizliğindeki artışın sonucu olarak önemini artmıştır. Çalışmamızda öncelikle ülkelerin yoksulluk hesaplamasında çoğunlukla "göreli yoksulluk" oranlarını kullandığını Jameika, Çin, Katar gibi satın alma gücü paritesini esas alarak hesaplama yapan ülkeler yanında Japonya'nın resmi bir yoksulluk sınırı bulunmadığı tespit edilmiştir. Bu bağlamda Türkiye, Çin, Danimarka, Jamaika ve Katar ile karşılaştırılması sağlıklı görünmemektedir. Türkiye'de dört faklı göreli yoksulluk oranı hesaplaması yapıldığı için bu dört ülke dışındaki ülkelerle uygun medyan değer üzerinden karşılaştırma yapılması mümkün olabilecektir. Değerlendirmelerin bu faklılıklar dikkate alınarak yapılması daha doğru olacaktır.Seçilmiş ülkelerin karşılaştırılması için belirlediğimiz bir diğer gösterge olan dış borç göstergesi değerlendirilirken; ana bileşenler veyayınlanma sıklığı dikkate alınmıştır.Borç tanımına giren kalemlerin hangilerinin dahil edilip edilmediğine bağlı olarak borç stoku büyüklüğü, bu büyüklükten elde edilen makroekonomik

göstergelerin değerlendirmeleri ortaya koyduğu ekonomik sonuçlar da değişmektedir.Seçilmiş ülkeler içinde net borç stoku hesaplayan ve ilan eden ülkelere bakıldığında Türkiye,Almanya, Arnavutluk,Japonya,Kuzey Makedonya ve Romanya'da Merkez Bankası verilerinin hariç tutulduğu, diğerülkelerin ise Merkez Bankası tarafından basılan dolaşımdaki parayı finansal yükümlülük olarak hesaplara dahil ettiği görülmektedir. Dolayısıyla analizler yapılırken bunların dikkate alınması, sonuçların daha sağlıklı şekilde değerlendirilmesine yardımcı olacaktır.

Seçilmiş ülke karşılaştırmalarında bir diğer gösterge olansanayi üretim endeksi değerlendirilirken; endeksin kapsadığı sektörler, baz yılı, örneklem büyüklüğü kriterleri dikkate alınmıştır. Ülkelerdeki sanayi üretim endeksininin belirlenmesinde bu kriterlerde farklılık göstermektedir. Seçilmiş ülkelere bakıldığında Almanya'nın 20000'denfazlaişletme ve 5600 üründen oluşan örneklem büyüklüğü ile pek çok ülkeye göre değişimleri daha iyi tespit edecek şekilde veri topladığı görülmektedir. Sanayi üretim endeksini T+6 ile en hızlıaçıklayan ülke ise İngiltere'dir.Verilerin açıklanma süresi uzadıkça(üç aylık) olarak hesaplayan ülkelerin ekonominin gidişatını doğru şekilde ölçmekte zorlanacağı ekonomik birimlerin de tutum, davranış ve stratejik karar vermedeki tutarlılıklarının olumsuz yönde etkileneceği de ifade edilmelidir.Ayrıca Katar'da endeksin kapsamı sadece petrol sektörüyle sınırlı iken Japonya'da diğer ülkelerde olmayan atık yönetimi sektör kapsamına alınmıştır.Dolayısıyla ülkeler arası karşılaştırmalarda bu kriterler göz önüne alınarak yapılan değerlendirmeler daha sağlıklı sonuçların ortaya çıkmasına yardımcı olabilecektir.

Ülkelerin temel makroekonomik göstergeleri, yatırımcıların karar aşaması ve bu anlamda dış yatırım akışlarının ve doğrudan yabancı yatırımların çekilmesi, sermaye piyasaları, ülkenin kredi derecesi, ülke riski ve özelde ise devlet borçlanma maliyetleri gibi çok çeşitli gösterge, işlem ve aşamalar açısından önem arz etmektedir. Makroekonomik açıdan diğer ülkelere nazaran gösterilen üstünlük, başta ülke riskinin azaltılması olmak üzere; daha çok doğrudan yabancı yatırım çekilmesi, sermaye piyasalarında pozitif gelişme sağlanması gibi birçok faktör üzerinde etkili olmaktadır. Diğer yandan ülkelerin makroekonomik açıdan karşılaştırılması, büyük-küçük ülke makroekonomik performanslarında farklılaşma gibi birçok faktörü de açıklamaktadır. Bu nedenledir ki, ülkeler arasında makro ekonomik göstergeler karşılaştırılırken gerçekçi ve doğru bir değerlendirme yapılabilmesi için salt rakamsal veriler yerine göstergenin yorumlanmasını tamamen değiştiren kapsam, hesaplanma yöntemi, yayınlanma sıklığı gibi kriterlerin dikkate alınması bir zorunluluktur.

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TURİZM SANAT İLİŞKİSİ- GRAFİTTİ SOKAK SANATI

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ÖZET

Turizm ülkeler için gelir kaynağı sağlayan, kültürel ve çevresel faydaları olan önemli bir sektördür. Turizm tek bir disiplinin ilgi alanına sığmayacak kadar geniş ve farklı konuları kapsamaktadır. Turizm sayesinde insanlar vakitlerini en iyi şekilde geçirirken ülkeler de ekonomik açıdan kazanç elde ederler. Bu nedenle son yıllarda insanların, şehirlerin ve ülkelerin turizmden sağladığı faydalar ve turizmin önemi her geçen gün daha da artmaktadır.

Turizm disiplininin ilgi alanına giren konulardan bir tanesi de sanat dallarından bir olan "Grafitti Sokak Sanatıdır". Grafik kökenli bir sözcük olan grafiti veya grafitti resimler ve şekillerle yazının birleştirilerek kişinin kendini ifade etmesinden doğan bir sokak sanatıdır.

Grafitti sokak sanatı dünya ülkelerinde çeşitli şekillerde ortaya çıkmış bir sanattır. Bu sanat dalı özellikle 1980'li yıllardan sonra yasal olarak genç nesiller tarafından tanınmış ve sevilerek yapılmaya başlanmıştır. Bu nedenle günümüzde de grafitti sokak sanatı turizmin tanıtılmasına ve gelişmesine olumlu katkı sağlayan görsel bir sanat dalı haline gelmiştir.

Çalışmanın amacı, ülkelerin ve bölgelerin turizminin tanıtılması, geliştirilmesi sürecinde sokak sanatı olan grafitinin ne şekilde katkı sağlayabileceğini değerlendirmektir. Bu bağlamda grafitti sokak sanatını önemli bir turizm potansiyeli olarak kullanan bazı şehir ve bölgelerdeki grafiti sanatına yer verilmiş ve bunu geliştirmek için neler yapılabileceği araştırılmıştır.

Anahtar kelimeler: Turizm, Grafitti, Grafiti, Sanat, Ekonomi.

TOURISM ART RELATIONSHIP- GRAPHITE STREET ART

ABSTRACT

Tourism is an important sector with cultural and environmental benefits that provides an important source of income for a country. Tourism encompasses a wide variety of subjects that are too broad to fit within the scope of a single discipline. Thanks to tourism, while people spend their time in the best way, countries also gain economically. For this reason, in recent years, the benefits of people, cities and countries from tourism and the importance of tourism are increasing day by day.

One of the subjects of interest of the tourism discipline is "Graffiti Street Art", which is one of the branches of art. Graffiti or graffiti, which is a word of graphic origin, is a street art that arises from the combination of pictures and figures and writing to express oneself.

Graffiti street art is an art that has emerged in various forms in the countries of the world. This branch of art has been legally recognized and loved by younger generations, especially after the

1980s. For this reason, Graffiti Street Art has become a visual art branch that contributes positively to the promotion and development of tourism.

The aim of the study is to evaluate how graffiti, which is street art, can contribute to the promotion and development of tourism in countries and regions. In this context, graffiti art in some cities and regions that use graffiti street art as an important tourism potential has been included and what can be done to improve it has been researched.

Keywords: Tourism, Graffiti, Art, Economy.

Giriş

Turizm faaliyeti dünyada ve Türkiye'de sürekli büyüyen ve gelişen sektörlerden birisidir. Turizm faaliyetleri bir taraftan ülkeler için döviz girdisi, gelir, istihdam, az gelişmiş bölgelerin gelişmesi, altyapı ve üstyapı gelişimi gibi olumlu ekonomik faydalar sağlarken diğer taraftan da doğal ve kültürel mirasın ve çevrenin korunmasına, geliştirilmesine ve böylece ülkelerin kalkınmasına katkıda bulunmaktadır. Aynı zamanda turizm faaliyeti ülkeler, kültürler ve bireyler arasındaki barış, dostluk ve hoşgörü duygularını geliştirmek; insanların fiziksel ve ruhsal sağlığını korumak ve iyileştirmek; insanların verimliliklerini, hoşgörülerini, bilgilerini, kültürlerini ve eğitimlerini arttırmak için de önemli bir araçtır.

Turizm tek bir disiplinin ilgi alanına sığmayacak kadar geniş ve farklı konuları kapsamaktadır. Bu nedenle de turizmin akademik alanı, birçok disiplinin kesiştiği bir noktada durmakta ve turizm disiplininin ilgi alanına giren konular, aynı zamanda iktisat, sosyoloji, antropoloji, coğrafya, tarih, eğitim, tarım, mimarlık, şehir bilimi, çevre bilimleri, hukuk, mimarlık, şehir ve bölge planlaması, siyaset bilimi, yönetim bilimleri ve çeşitli sanat dalları gibi daha birçok disiplininin de ilgi alanına girmektedir (www.researchgate.net).

Turizmin ilgi alanlarından biri de sanat dallarından olan grafitti sokak sanatıdır. Grafiti sokak sanatı toplumsal alanlarda yaratılan ve içerik olarak sanat çevresinin dışında yer alan bir görsel sanat türüne verilen addır. Grafitti sokak sanatı dünya ülkelerinde çeşitli şekillerde ortaya çıkmış bir sanat dalıdır. Grafik kökenli bir sözcük olan grafiti veya grafitti resimler ve şekillerle yazının birleştirilerek kişinin kendini ifade etmesinden doğan bir sokak sanatıdır. Bu sanat dalı özellikle gençler nesiller tarafından tanınmakta ve sevilerek yapılmaktadır. Grafitti sokak sanatı bir görsel bir sanat dalı olup ülkelere bölgelere daha fazla turist çekmek, var olan turistlere farklı alternatifler sunarak en iyi bir şekilde turizmi geliştirmek ve tanıtmak amacıyla rol oynamaktadır.

Grafitti sokak sanatı ilk başlarda çok fazla tepki alan özellikle illegal (yasadışı) olarak kabul edilirken, son zamanlarda ise bütün dünya ülkelerinde legal (yasal) olarak yapılmaktadır. Aslında grafitti çok sevilerek yapılan görsel bir sokak sanatıdır. Grafitti sokak sanatı son yıllarda birçok şehirlere çok ziyaretçi çekmek amacıyla değerlendirmeye başlamıştır. Sokakları ve duvarları süsleyen grafit sanatı şehirlerin hem havasını değiştirerek hem de şehirlere gelen turistlere görsel deneyim yaşatarak olumlu yönde algının oluşmasına yol açmaktadır. Grafitti Sokak sanatı çoğunlukla kamusal bir alanda yer alan bir duvar ya da yüzeye çizilmiş, kazınmış veya püskürtülmüş yazı ve çizimler olarak bilinmektedir (https://tr.wikipedia.org).

Grafiti sokak sanatı son yıllarda hiç görmediği kadar ilgi gören bir sanat türü haline gelmiştir. Bu sanat aracılığı ile grafiti sokak alanları izleyicilere bazı mesajlar ileten mekânlar haline gelmiş ve sanatçılarla ile izleyiciler arasında iletişim sağlayan etkili bir araç olmuştur.

Grafitti Sokak Sanatı

Grafiti, Latince 'de "yazmak" anlamına gelen "grafik"ten türetilmiştir. İtalyanca "duvar yazısı" anlamına gelen "graffito" ile ilişkili olup kelime olarak "çizmek" anlamına gelir (White, 2018, s. 2). Bu nedenle "grafiti", kamuya açık alanlarda bir duvara veya başka bir yüzeye karalanmış, çizilmiş veya yasa dışı olarak sprey ile boyanmış yazıları veya çizimleri ifade eder (Gordon, 2015), Grafiti ya da sokak sanatları Sokak sanatı sprey boyamalar, çıkartmalar, yazılarla oluşturulduğu gibi, görsel yerleştirmeler, heykeller, ses yerleştirmeleri ile de yapılmaktadır.

Grafitti sanatının tarihçesine bakıldığında çok eski zamanlara dayandığı görülmektedir. Grafiti sanatı özellikle Mısır ve Roma'da bulunan duvar örnekleri ile başlamıştır. Arkeologlar tarafından yapılan araştırmalar sonucunda elde edilen verilerde Mısır'da, Roma'da hayvan figürleri, semboller ve yazılar bulunmuştur. Arkeologlar tarafından bu sanat türüne grafiti sokak sanatı adı verilmiştir.

Modern anlamda grafitinin ise, 1960'lı yılların başında, Amerika'nın Philedelphia şehrinde yaşayan CORNBREAD ve COOL EARL takma isimli yazarların şehrin her yerine isimlerini yazmalarıyla başladığı söylenebilir (Ehrlich ve Ehrlich, 2007). Bu iki grafiti yazarının, şehirde sokak duvarlarına kendi 'tag'lerini yazmaları insanlarda ilgi uyandırmıştır. New York şehrinde ise grafitinin sokak duvarları dışında metrolarda görülmesi ve popülerleşmesi söz konusu olmuştur. Demitrius isimli Yunan asıllı postacı bir genç, işi gereği metroları sık kullanmış, metroların içine-dışına ve geçtiği her yere TAKİ 183 'tag'ini atmıştır. TAKİ bu gencin takma adı, 183 ise yaşadığı caddenin numarasıdır. 1971 yılında New York Times'da TAKİ 183'ün kim olduğuna dair bir makale yayınlanmıştır. Bu haberin ardından pek çok genç, TAKİ 183 gibi ünlü olmak istemiş ve duvarlara, metrolara, trenlere kendi 'tag'lerini atmaya başlamışlardır (İnal, 2011; Jöntürk, 2003). Bu ünlü olma isteği gençler arasında rekabeti doğurmuş ve farklı stillerde grafitiler yapılmaya başlanmıştır. İki renkli, kalın büyük harflerin sadece içinin boyanmasıyla oluşan, basit olması nedeniyle hızlıca ve çokça yapılabilen 'throw up' stilinin yanı sıra okunması zor olan, harflerin iç içe girdiği ve oldukça karmaşık olduğu 'wild style' adı verilen tarzda grafitiler de ortaya çıkmıştır (Üzüm Tan, 2010).

Günümüzde bu sanat dalı Amerika Birleşik Devletleri'nde, New York'un şehrinin dış mahallelerinin arka sokaklarında daha fazla görülmektedir. Aslında Grafiti, sanatı göçmenlerin kendilerine yeni bir alan oluşturma ve var oluşlarını ifade etme gereksinimi doğrultusunda içinde yaşadıkları bölgeyi kendi amblem veya takma adlarını boyalarla yapmasıyla ortaya çıkmıştır. Bugün bilinen anlamıyla grafiti 'sokak sanatı' Amerika Birleşik Devletleri'nin hip hop kültürüyle birlikte doğmuştur. Yani Grafitinin genel olarak beslendiği felsefe hip-hop kültürü olmuştur. Çoğu insan tarafından hip-hop, bir müzik türü olarak algılansa da sanıldığının aksine bir müzik türü değil, genel anlamda bir kültürün ve yaşam biçiminin adıdır. Bu kültürün görsel karşılığı da grafitidir (Ünal, 2019, s. 17; Bağış, 2019, s. 1289). Grafiti aynı zamanda sokakta yaşama kültürünün bir parçasını oluşturmuştur. Bu bağlamda sokaktaki break dance, rap/hip hop ve kaykay (Amerika), punk/rock (Avrupa) kültürüyle organik bir bağ içindedir (Gökova, 2020, s. 99

Grafiti, uygulama alanları açısından değerlendirildiğinde, şehir meydanları gibi nüfusun yoğun olarak kullandığı, kentsel etkinlik ve eylemlere konu edilen kamusal mekânlardaki yapısal elemanların yaygın kullanım yüzeyleri olarak kullanıldığı görülür. Sokak sanatları için "görünür olmak" olgusunun önemli bir unsur olduğu düşünülürse, duvarlar, yollar, kayalar, trafolar, panolar, otobüs durakları, tren vagonları, garaj duvarları, kepenkler, çöp bidonları vb. materyaller grafiti için uygun yüzeyler olarak değerlendirilir (Erdoğan, 2017, s. 54; Yıldırım, 2013, s. 61)

Grafitinin 'Sokak Sanatı' Sanatında Kullanılan Bazı Teknik Terimler:

- Sketch: Kâğıt üzerine taslak, karalamaya verilen teknik terimdir.
- Outline: Ana çizgilere denir.
- Fill in: Graffitinin içini boyamaktır.
- Second Outline: Dış çerçevedir.
- Highlights: Graffiti'nin istenilen belli bölümlerinde yapılan aydınlatma, parlatma işlemi demektir.
- Tag: Kendi kullandığınız takma isim
- Cap: Sprey boyayı farklı boyutlarda püskürtmeye yarayan sprey başlıklarıdır.
- İllegal: Yasal olmayan, kaçak
- Legal: Yasalara aykırı olmayandır.
- Crew: Graffiti sanatçılarının grubuna denilir.

Grafitinin Sokak Sanatı Türleri

- End2End: Tren boyunca yapılan çalışmalara denir.
- Texture Graffiti: Yazıdan ibaret olan çalışmalardır.
- WildStyle Graffiti: Bu Türk karmakarışık ve harflerin harmanlanmış olan bir tarzdır.
- BlockBuster: Büyük harfli harfler ile yapılır, okunması zor değildir. Genellikle trenlere yapılır.
- Cartoon Graffiti: Çizgi film karakterlerinin yapıldığı çalışmalardır.
- Donut: Tren kapısına yapılan çalışmalar.
- Simple style: Basit çalışmalara denir.
- Top to Bottom (T2B): Baştan aşağı boyanan tren paneli çalışmalarına denir.
- Bubble Graffiti: Balon efekti verilerek yapılan çalışmalardır.
- Stencil Graffiti: Kalıp veya şablon kullanarak yapılan çalışmalardır.

Bu teknik terimler ve graffiti türleri genellikle en çok bilinen terimlerdir. Bu terimlerin ve türlerin yanında sanatçıların ya da crewlerin geliştirdikleri farklı türler ve farklı terimler de ve mevcut bulunmaktadır (https://tr.wikipedia.org/).

Grafiti Sokak Sanatının Uyulması Gereken Genel kuralları

Grafitide insanların duygularını incitebilecek saldırgan ifadeler kullanılmaz ve aşağıdaki gibi alanlara grafiti sokak sanatı yapılamaz.

- Camilerde, mescitlerde, türbelerde,
- Kiliselerde,
- Okullarda,
- Arabaların üzerine,
- Özel mülkiyetlerde (mülk sahibi talep etmedikçe),
- Grafiti üzerine grafiti yapılmaz

Grafiti sanatı çok fazla yetenek gerektiren bir sanat olmamakla birlikte bu yetenek düzenli çalışmayla ve bu işi benimsemekle geliştirilebilir.

Yöntem ve Bulgular

Bu çalışmada nitel yöntem kullanılmıştır. Öncelikle literatür taraması gerçekleştirilmiştir. Elde edilen veriler görsel analiz, gözlem ve değerlendirme süreçlerinden geçirilerek yorumlanmıştır. Yasal ve illegal yöntemlerle her geçen gün isimlerini duyuran birçok grafiti sanatçısı bu sanatın gelişimini devam ettirmektedir. Çalışmada ilk olarak grafiti sokak sanatı uygulamaları açısından Türkiye ve diğer ülkelerdeki uygulamalar incelenmiştir. Grafiti Sokak Sanatı konusunda başarılı sayılabilecek ve ön plana çıkan örneklerden yararlanılmıştır. Örnekler kapsamında özellikle dünya ülkelerinden Kolombiya / Bogota, Arjantin / Buenos Aires, Almanya / Berlin, Belçika / Doel gibi yerlerde ve İstanbul, Ankara, İzmir, Antalya, Çanakkale

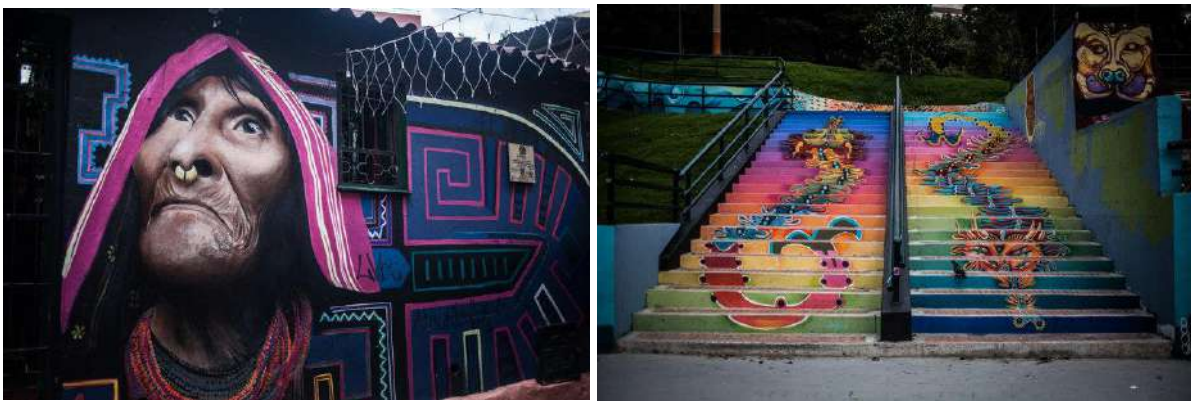
gibi şehirlerdeki estetik ögelere yer verilmiştir. Diğer çalışmalardan elde edilen ikincil verilerin görsel düşünme süreci ile desteklenmesi hedeflenmiştir. Elde edilen veriler sonucunda Türkiye için öneriler çıkarılmaya çalışılmıştır.

Dünyada Grafitti Sanatı Uygulamaları

Günümüz de başta Amerika olmak üzere birçok Avrupa ülkesinde ve uzak doğuda grafiti sanatı oldukça üst seviyelerde bir gelişim göstermektedir. İnternetin yaygınlaşması ve insanların ün arayışı dünyada grafittiyi hızlı bir şekilde geliştirmiştir. Yasal ve illegal yöntemlerle her geçen gün isimlerini duyuran birçok grafiti sanatçısı bu sanatın gelişimini devam ettirmektedir. Özellikle dünya ülkelerinden Kolombiya / Bogota, Arjantin / Buenos Aires, Almanya / Berlin, Belçika / Doel gibi yerlerde grafitti sokak sanatına önem verildiği görülmektedir.

Kolombiya'nın başkenti Bogota'da bir grafiti mahallesi bulunmakta ve mahalle rengârenk görüntüsüyle dikkati çekmektedir. Uzak mesafelerden bile dikkat çeken grafiti çalışmaları ziyaretçilerin ilgi odağı olmaktadır. Bogota sokaklarını süsleyen grafiti çalışmaları 13 Kolombiyalı sanatçının yanı sıra Brezilya, Peru, Meksika, Fransa ve ABD gibi ülkelerden de sanatçıların katılımıyla yapılmıştır (www.haberturk.com).

Şekil 1. Kolombiya/Bogota Grafitti Örnekleri



www.haberturk.com

Bogota'da grafitinin daha çok turist çekmek amacıyla kullanıldığı ve bir nevi grafiti turizminin başlatıldığı dikkati çekmektedir. Örneğin internet üzerinden dünyanın farklı şehirleri için etkinlik ve paket tur satışı yapan "GetYourGuide" adlı küresel şirketin web sitesine bakıldığında Bogota'daki sokak sanatı ve grafiti turlarının satıldığı görülmektedir (Aydın, 2020, s.245). Bunun yanında 2011 yılından beri "The Original Bogota Graffiti Tour" da ücretsiz turlar düzenlemektedir. Turdan keyif almış insanlardan alınan bağışlarla (genellikle 20-30 milyon peso (7-10 USD) arasında) topluluğa sürekli olarak yeniden yatırım yapılmaktadır. Tur, Kolombiya'nın her yerinde ve diğer ülkelerde topluluk projeleri oluşturmak için yerel, ulusal ve uluslararası sanatçılarla çalışmaktadır. Bunun dışında da sabit bir ücretle La Candelaria ve şehir çevresinde kişisel özel turlar veya indirimli fiyatlarla okul turları hizmetleri sunulmaktadır (http://bogotagraffiti.com/).

Arjantin'in başkenti Buenos Aires Sokak sanatı konusunda dünyanın en popüler şehirlerinden biri haline gelmiştir. Dünyanın en ünlü sanatçıları grafiti çalışmaları yapmak üzere Buenos Aires'e gitmekte, şehirde sık sık düzenlenen sokak sanatı festivallerine katılmakta ve oradaki sanatçılarla iş birliği yapmaktadır. Buenos Aires'in bu kadar popülerliğe ulaşmasındaki temel nedenlerden biri sokak sanatı çalışmaları için belediyelerden herhangi bir izin alma zorunluluğu olmaması; yalnızca bina sahibinden izin almanın yeterli olmasıdır. Ayrıca şehirde "Buenos Aires Street Art" adlı sokak sanatı projeleri ve turları düzenleyen popüler bir kurum bulunmakta; Buenos Aires'te grafiti çalışmaları yapmak ve yaptırmak isteyen çoğu kişi bu

kurumla iletişim kurmaktadır. Bu kurum, şehrin dört bir yanında çalışma yapılabilecek alanları belirlemekte, çalışma yapmak için yer arayışı olan sanatçıları o alanlara yönlendirmekte ya da evinin / mekânının duvarına grafiti yaptırmak isteyenlere sanatçı bulmaktadır (Skopbülten, 2015; Oitheblog, 2016). Yerel düzeyde düzenlenen turlar dışında şekilde görüldüğü gibi internet üzerinden de tur satışları yapılmaktadır.

Şekil 2. Arjantin/ Buenos Aires Grafitti Örnekleri



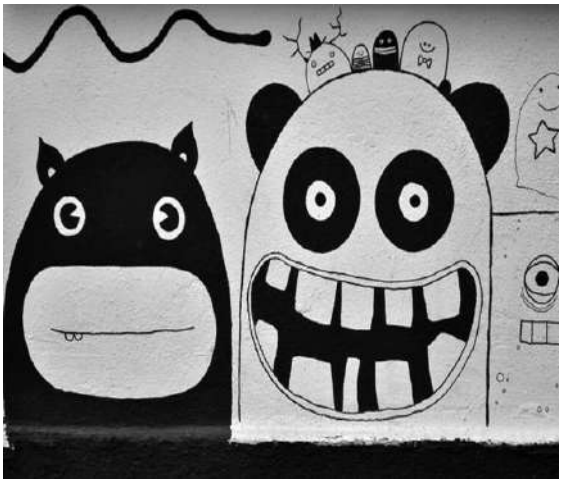
www.viator.com



http://haberbin.com

Günümüzde grafitlilerle kaplı Berlin Duvarı, şehre gelen turistlerin ziyaret etmek istediği noktalar arasında yer almaktadır (Dindar, 2017). Berlin'de grafitti turunu, "Alternative Berlin" diye bir şirket düzenliyor. Kreuzberg'i karış karış rehber eşliğinde gezip isteğinize göre sonrasındaki grafitti workshopuyla turu tamamlıyorsunuz. Ayrıca yürüyerek gezerken tur rehberi size etraftaki grafittiler ve grafitti sanatı konusunda bilgiler veriyor. (worldtourismgroup.com).

Şekil 3. Almanya/Berlin Grafitti Örnekleri





www.milliyet.com https://www.tripadvisor.com.tr/

Grafitti sokaklarıyla ünlü yerlerden birisi de Doel'dir. Belçika'nın kuzeyindeki Doel'de ev ve sokakları süsleyen grafitiler, turistlerin de ilgisini çekmeye başlamıştır. Doel'de bugün her evin grafiti sanatının en ilginç örneklerinin sergilendiği bir tuvale dönüştüğü söylenebilir (Aydemir, 2019). Doel, grafiti sanatçılarının katkılarıyla şimdilik turistler için Belçika'da ziyaret edilmesi gereken mekânlar arasında ilk sıralarda gelmektedir (www.hurriyet.com.tr).

Belçika'nın Hollanda sınırı yakınındaki küçük yerleşim yeri Doel, uzun yıllardır terk edilmiş "hayalet kasaba" gibi kaderinin şekillenmesini bekliyor. Kasabadaki binaların duvarlarında bugün yüzlerce irili ufaklı grafiti bulunuyor. Hem bu hayalet kasabayı hem de grafitileri görmek için birçok turist Doel'e geliyor.

Şekil 4. Belçika/Doel Grafitti Örnekleri





www.haber7.com

Aslında eski çağlardan beri var olan grafiti, bir zamanlar olumsuz yönde bakılsa da bugün artık turizm potansiyeli olarak varlık göstermektedir. Özellikle çeşitli şehirlerin düzenlediği grafiti festivalleri, hem dünyaca ünlü sokak sanatçılarının hem de bu sanata ilgi duyan kişilerin o şehirlere gitmesine yol açarak şehrin tanıtılmasına katkı sağlamaktadır (Aydın, 2020, s.248). Çalışma kapsamında örnek olarak incelenen şehirlere bakıldığında şekil 5'te görüldüğü gibi grafiti sokak sanatı çalışmaları sayesinde dünyanın farklı yerlerinden turist çektikleri görülmektedir.

Şekil 5. Grafitti Turları



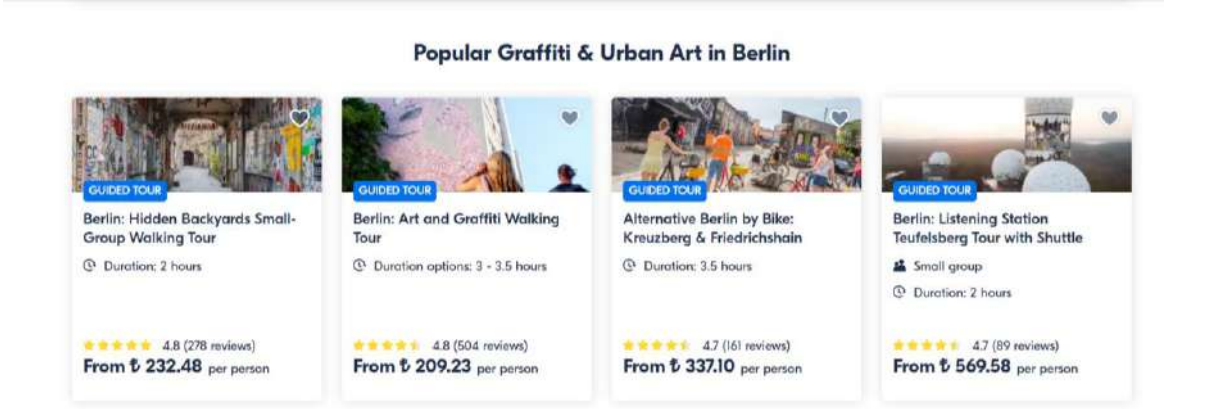
www.tripadvisor.com



www.freetour.com

Hatta şekil 6'daki örneklerde görüldüğü gibi de internet üzerinden sokak sanatı ve grafiti turlarının paket olarak satıldığı görülebilmektedir.

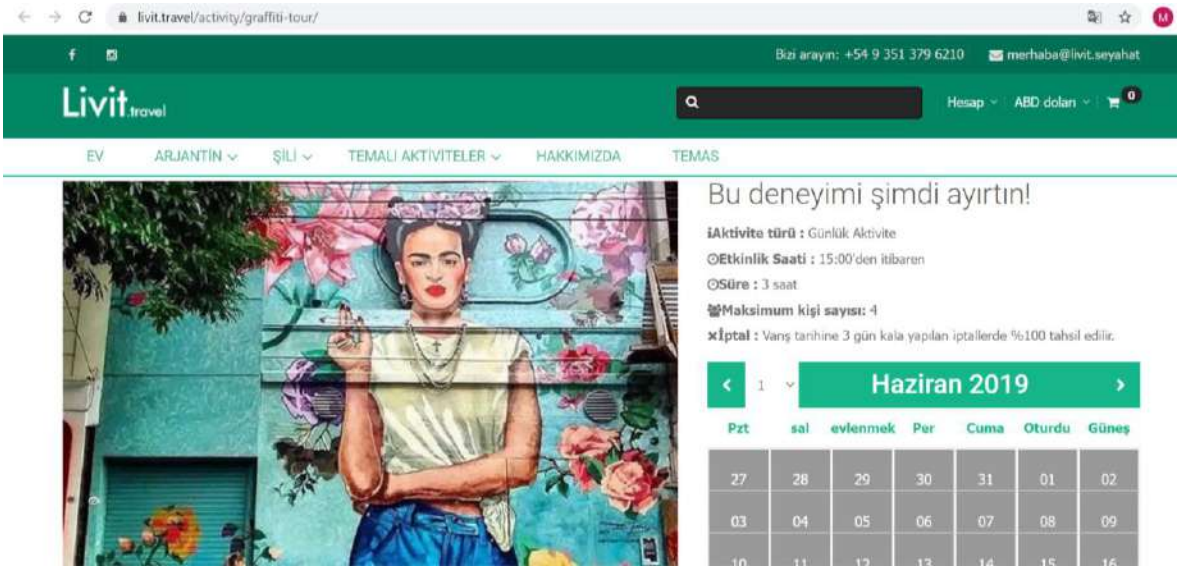
Şekil 6. Grafitti Tur Satışları



https://www.getyourguide.com



www.viator.com



https://livit.travel/activity/graffiti-tour/

Türkiye'de Grafiti Sanatının Durumu ve Uygulamaları

Türkiye'de grafiti gelişme göstermiş bir sanattır. Türkiye'nin grafiti ile tanışması ilk olarak Almanya sınırları içerisindeki Türk toplulukların, onlar tarafından dışlanması ile olmuştur. Bu aşamadan sonra hip hop kültürüne yönelen Türkler, bu sayede grafiti ile tanışma fırsatına sahip olmuşlardır. Grafitiyi öğrenen Türk vatandaşlar Türkiye'ye geldiklerinde bunu akrabalarına ve çevrelerine de göstererek, Türkiye'de grafiti akımının öncüsü olmuşlardır.

Günümüzde grafiti sanatı büyük değişmeye ve bağlı olarak büyük şehirlerde başta İstanbul olmak üzere Bursa, İzmir, Ankara vs. gibi şehirlerde legal olarak profesyonel şekilde icra edilmektedir. Her geçen günde ilgi daha fazla artmaktadır.

İzmir'de Bornova Belediyesi 2015 yılında 'Konuşan Duvarlar' adlı bir proje başlatarak ilçenin tarihini resimle anlatma yoluna gitmiştir. Golf ve tenisin Türkiye'de ilk kez Bornova'da oynandığı, bisiklet ve atletizm yarışmalarının da yine Türkiye'de ilk kez Bornova'da yapıldığı yaklaşık 40 metre uzunluğundaki grafiti çalışmasıyla anlatılmıştır. Yapılan bu çalışmaların ise büyük ilgi çektiği görülmüştür. İlk etabı Yakaköy Mahallesi'nde başlatılan proje, ilçenin pek çok mahallesinde binaların penceresiz cephelerini renklendirmiştir (CNN TÜRK, 2018).

Şekil 7. İzmir/Bornava Grafiti Örnekleri



www.hurriyet.com

Ankara'da kendilerini 'İkinci Dalga' olarak tanımlayan genç sokak sanatçıları, eski binalar ve boş duvarlarda grafiti sanatına hayat veriyor. Ankara Kalesi ve çevresi ile ile Kavaklıdere'de 1940-50'li yılların mimari izlerini taşıyan binaları ve apartmanların dış duvarlarını boyayarak, rengârenk eserler ortaya çıkarıyor. 'İkinci Dalga' grafiti sanatçıları, Ankara'nın da diğer dünya

başkentleri gibi rengârenk olmasını amaçlıyor. İkinci Dalga' grafiti sanatçıları, 'gri şehir' benzetmesi yapılan Ankara'nın eski binaları ve boş duvarlarına hem renk hem de hikâye katıyor (www.hürriyet.com).

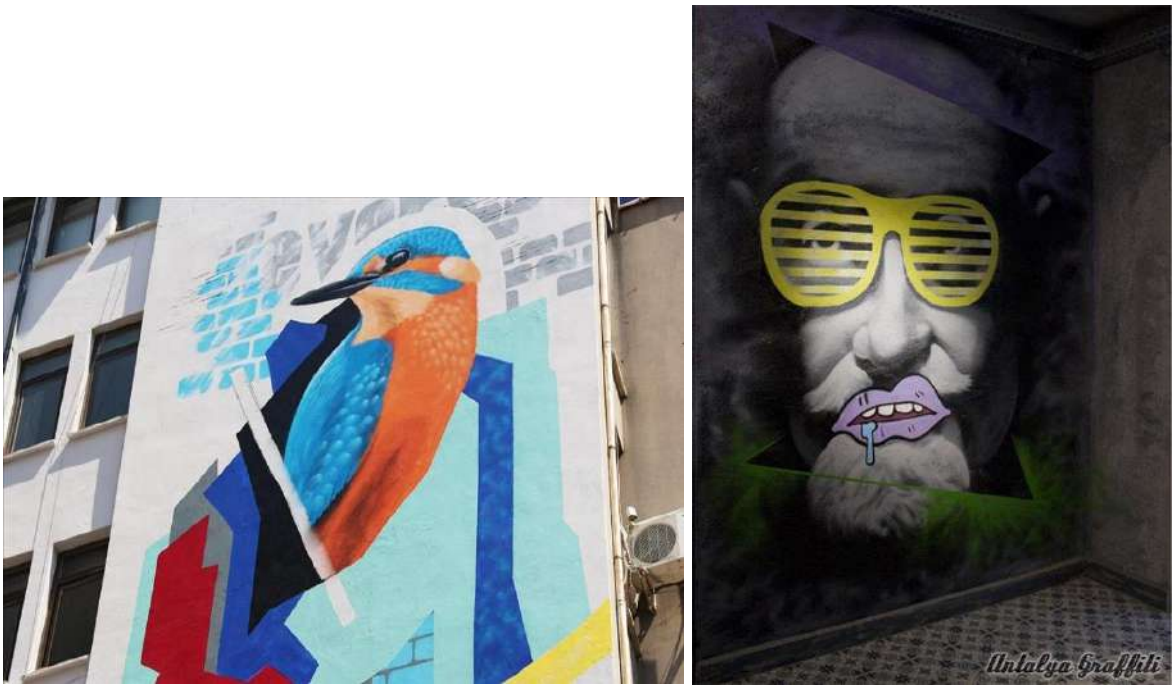
Şekil 8. Ankara Grafiti Örnekleri



www.hurriyet.com

Antalya'da ise binalara estetik katmak amacıyla "mural art" (duvar sanatı) projesi ile yapılar renklendirilmesi amaçlanmıştır. Antalya Ticaret ve Sanayi Odası (ATSO) tarafından yürütülen projede, 6 sanatçı kentin farklı noktalarında bulunan binalara 5 farklı görseli yansıtmaktadır. Projenin teması ise, Antalya'nın doğal ve kültürel mirası ele almak olarak belirlenmiştir. Projede, dünyadan ve Türkiye'den sanatçıların bir araya getirilerek "Dünyanın dört bir yanından gelen misafirlerin ilgisini çekecek" kalıcı bir proje olması hedeflenmiştir. Aynı zamanda, farklı kültürden insanların ve sanatçıların bu çalışmaları görmesi, şehrin estetiğinin sanatla ön plana çıkması istenmektedir. Street Art (sokak sanatı) turizmi ile Antalya'ya yeni bir turizm kültürü katmak amacı ile proje yürütülmektedir (https://www.aa.com.tr/).

Şekil 9. Antalya Grafitti Örnekleri



https://antalyacityzone.com

Şekil 10. İstanbul Grafitti Örnekleri

Karaköy (www.themagger.com)



Galata



Beyoğlu



https://onedio.com/haber/

Bozcaada şipşirin sokaklarıyla muhteşem fotoğraflara davetiye çıkarıyor. Adanın sokaklarının başka bir güzel özelliği ise farklı farklı grafitlere sahip olması. Buradaki grafitlerin sanatçısı genelde Cemil Onay'dır. Bunlardan biri "Saçlı Kız Grafittisi" ve Grafiti Rum mahallesinde Latife Hanım Konağı'nın olduğu sokakta bulunuyor. Bahar ve yaz aylarında kızımızın saçları oldukça gür, görsel açısından bir şölen sunuyor.

Şekil 11. Çanakkale/Bozcaada'da Moss Grafitti ile Duvar Örneği



www.charmoftrip.com

*Ülkemizde Yaşayan Grafitti Sokak sanatı Sanatçıları (*https://fikirsiz.net)

1. Türkiye'de grafiti sanatçıları sorulunca akla gelen ilk isim Tunç Dindaş'tır. Türkiye'de grafiti sanatının öncüsü olan sanatçı 'Turbo' imzasıyla tanınmaktadır. Turbo ilk çalışmasını 1985 yılında 'Soğanlık-Yakacık'ta gerçekleştirmiştir. Turbo ilk başladığı zamanlarda sprey boya olmadığı için yaptığı çalışmaları eskiz ve taslaklar şeklinde yapmıştır. Sanatçı kendi söylemince bir sene boyunca şehrin hemen hemen her köşesinde ve ya uygun bulduğu bütün alanlarda kendi çalışmalarını sergilemiştir.
2. Günümüz sokak sanatçılarından bir tanesi de Funk'dır. Sanatçının asıl ismi Atakan Özdemir'dir. Sanatçı grafiti yapmaya ilkokul zamanlarından başlamıştır. Sanatçı sokak çalışmalarını hem Türkiye genelinde hem de Avrupa'da icra etmektedir. 14 yıldır sokak sanatı ile uğraşan sanatçı Poker lakaplı Almanyalı sanatçıyla birlikte uzun yıllar ortak çalışmalar yapmıştır. Funk 50'den fazla ülkede kendi çalışmalarıyla sokakları süslemiştir. Sanatçı gittiği farklı ülkelerde 200'den fazla sanatçıyla birlikte çalışmalar yapmıştır. Sanatçı kendi söylemince Avrupa'da 'Mode2', 'Amok', 'HerAkut', 'Nychos' ve 'Taps&Moses' gibi sokak ve grafiti sanatçılarından çok fazla etkilenmiştir.
3. Türkiye'nin en aktif sokak sanatçılarından biri de İbrahim Kurtuluş olmuştur. Sokaklarda Leo Lunatic takma ismini kullanan sanatçı çalışmalarına ilkokul yıllarında başlamıştır. Sanatçının Türkiye genelinde İstanbul ağırlıklı olmak üzere diğer illerde de çalışmalarını görmek mümkündür. Sanatçı kendi çalışmalarında daha çok Pandalara yer vermektedir. Büyükten küçüğe, dev kızgın pandalar İstanbul sokaklarını süslemektedir. Kendine has Pandalarla ün kazanan sanatçı Türkiye'nin önemli sokak sanatçılarından biri haline gelmiştir. Sanatçı çalışmalarında Pandalara ağırlık verme nedenini farklı stiliyle onu tanımalarını istediği için Pandaları seçtiğini söylemiştir. Leo'nun Pandalarını Galata Kulesi ve Beyoğlu sokaklarında sıklıkla görebiliriz. Leo Lunatic büyük ölçülerde çalışmalar yapan nadir sokak sanatçılarında bir tanesidir.

Sonuç ve Öneriler

Günümüz dünyasında yoğun rekabetin yaşandığı ülkelerin ve bölgelerin sürdürülebilir kalkınma sağlayabilmesi, daha çok yatırım ve turist çekebilmesi için çeşitli sanat dallarına önem vermeleri, bölgenin farklı özelliklerini farklı şekillerde sunabilmeleri gerekmektedir. Bu bağlamda son yıllarda gerek ülkemizde gerekse yurt dışındaki çoğu ülkelere bölgeler sanat bakımından daha iyi olmak ve daha çok turist çekmek amacıyla çeşitli çalışmalara yön vermektedir.

Ülkeler ve bölgelere yönelik çalışmalar bütünsel ve kapsamlı bir süreçten oluşur. Çünkü çeşitli sanat dallarından olan grafitti sokak sanatı doğal akışına bırakılamayacak kadar planlı ve ciddiyetle yapılması gereken iletişimsel bir süreçtir. Bu süreci sadece ülkeleri bölgeleri reklam ve tanıtımla ya da övecek söylemlerle geçiştirmek ve birkaç kişinin çabasıyla yürütmeye çalışmak, profesyonellikten uzak bir yaklaşım olup bu da önemli bir sanat dalı olan grafitti sokak sanatı için yeterli değildir. Bunun bir ekip çalışmasını gerektirdiği göz önüne alınarak ülkelerde ve bölgelerde mülki idarenin yansı sıra belediyeler, sivil toplum örgütleri, ticari kuruluşlar ve üniversiteler gibi tüm paydaşların iş birliği ve uyum içerisinde çalışması gerekir (Aydın, 2020, s.251). Grafittiler de şehirlerde kullanılan ve estetik algıyı etkileyen unsurlardan biridir ve doğru uygulandığında hem yöre halkı hem de turistler için ilgi uyandırmaktadır (Mercin, 2013, s. 4).

Çeşitli bölgelerde grafitti sokak sanatının turizm açısından bir marka haline gelebilmesi için işin uzmanı kişilerle birlikte hareket etmek büyük önem taşımaktadır. Ülkemizde çeşitli bölgelerin fiziki, kültürel ve tarihi zenginlikler açıdan güçlü ve öne çıkan özelliklerinin tespit edilmesi ve bunun sanatla buluşturulması ve bu özelliklere ilişkin grafitti sokak sanatı yapılması gerekir. Böylece planlı yapılacak grafitti sokak sanatı iletişim ve görsel tasarım çalışmalarıyla

birlikte belli bir bölgede vurgulanmak istenen belirgin bir özelliği ya da özellikleri, kişilerin zihinlerine yerleştirilerek olumlu algı oluşturulmalarına katkı sağlayacaktır. Bununla birlikte pek çok dünya ülkesinde olduğu gibi bölgelerin turistik tasarım süreçlerinde bölge halkının bu süreçlerde bilinçlendirilmesi ve sürece katılmaları önem taşımaktadır.

Aynı zamanda çeşitli ülkelerin düzenlediği grafiti festivalleri örnek alınarak hem dünyaca ünlü sokak sanatçılarının hem de bu sanata ilgi duyan kişilerin o şehirlere gitmesine yol açarak şekilde festivaller ve farklı turlar düzenlenerek şehirlerimizin veya bölgelerimizin tanıtılmasına çalışılmalıdır.

Kısaca grafiti sokak sanatı ülkelerde bölgelerde birçok görsel, iletişim, kültürel değer alanına katkı sağladığı gibi turizmin tanıtımına ve gelişmesine olumlu yönde katkı sağlamaktadır. Türkiye de bulunduğu konum ve içerdiği doğal ve tarihi güzellikler ile eşsiz bir yapıdadır ve sahip olunan değerlerin yeterince etkin kullanılması ve farkındalığının oluşabilmesi için toplum bilincini geliştirecek çalışmalara önem verilmeli ve çalışmalarda ülke yönetimi, sivil toplum kuruluşları, mimarlar, sanatçılar, üniversiteler, bölge halkı ortak bir paydada buluşmalıdır. Böylece Türkiye'nin estetik imajını üst düzeye çıkarılabilir ve turizm gelirlerinde ciddi bir artış yaşanabilir.

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BİR KAMU KURUMU ÇALIŞANLARININ GÖRÜŞLERİ IŞIĞINDA KURUMUN E-DEVLET HİZMETLERİNİN DEĞERLENDİRİLMESİ

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ÖZET

Bu çalışmanın amacı kamu çalışanlarının kurumun sunduğu e-devlet hizmetleri konusundaki farkındalık düzeylerini ve sunulan e-devlet hizmetleri hakkındaki düşüncelerini ortaya çıkarmaktır. Nitel araştırma yöntemi kullanılmış olup veriler altı bölüm ve 18 sorudan oluşan yarı yapılandırılmış görüşme formu ile toplanmıştır. Ankara'da bir kamu kurumunda çalışan 17 katılımcı bu araştırmanın çalışma grubunu oluşturmaktadır. Çalışma sonucunda çalışanların kurumlarının sundukları e-devlet ve dijital dönüşüm süreci hakkındaki farkındalıklarının düşük olduğu görülmüş ve bu konuda eğitim ihtiyaçları olduğu ortaya çıkmıştır. Buna ragmen çalışanlar e-devlet hizmetlerini sunmada kurum performansının çok iyi olduğunu düşünmektedirler.

Anahtar Kelimeler: E-devlet hizmetleri, nitel araştırma yöntemi, farkındalık, kurum e-devlet performansı.

EVALUATION OF THE E-GOVERNMENT SERVICES OF A PUBLIC INSTITUTION IN THE LIGHT OF THE OPINIONS OF EMPLOYEES

ABSTRACT

The aim of this study is to reveal the awareness levels of public employees working about the e-government services and their thoughts about the e-government services offered by the institution. Qualitative research method was used and data were collected with a semi structured interview form consisting of six sections and 18 questions. 17 participants working in a public institution in Ankara constitute the study group of this research. As a result of the study, it was seen that the awareness of the employees about the e-government and digital transformation process offered by their institutions was low and it was revealed that they needed training in this regard. On the other hand, employees think that the performance of the institution in providing e-government services is very good.

Keywords: E-government services, qualitative research method, awareness, institution's e-government performance.

GİRİŞ

Bilgi toplumunun ortaya çıkardığı dijital dünyada, dijital dönüşüm kavramının önemi gittikçe artmaktadır. Günümüzde yaşanan teknolojik ilerlemeler hem devletleri hem de bireyleri etkisi altına almakta ve insanların hayatlarını dijital araçlar çevrelemektedir. Bu bağlamda kamu kurumları da dijital teknolojileri kullanarak hizmet ve süreçlerine bu teknolojileri entegre etmektedirler. Bu durum daha hızlı, etkin, verimli, hesap verebilir bir kamu yönetimi anlayışını geliştirmiş ve gelişen bu anlayış doğrultusunda elektronik devlet (e-devlet) ortaya çıkmıştır ve önemi de her geçen gün artmaktadır.

E-devlet, kurumlar arası dijital işbirliğinin olduğu, kamudan kamuya, kamudan personeline, kamudan vatandaşa, kamudan şirketlere, kamudan sivil toplum kuruluşlarına, yönelik dijital uygulamaların sunulduğu akıllı devlet yapısıdır (Avaner ve Fedai, 2019). E-devlet kamu ile toplum arasındaki ilişkiyi pozitif yönde değiştirmek için bilgi ve iletişim teknolojilerinin (BİT) kullanılmasıdır (Veit ve Huntgeburth, 2014: 1). E-devlet BİT'i kullanarak kamunun, sivil ve politik davranışı olarak da tanımlanabilir (Marchionini vd., 2003: 26-27).

BİT ağırlıklı olarak e-devletin yaygınlaştığı devlet kurumlarında kullanılmaktadır. Devletler de kamu sektörlerinde gerçekleştirmek istedikleri dijital dönüşüm için politikalar oluşturmaya, mevzuatı düzenlemeye ve bilgi teknolojilerine yatırımlar yapmaktadırlar. Kamu çalışanları da bu sürecin bir parçası olup herhangi bir teknolojiyi uygulamadan önce eğitim ihtiyaçları ve tercihlerinin belirlenmesi gerekmektedir (Amrouni, Arshah ve Kadi, 2017). Eğitim ve danışmanlık eksikliği, çalışanlarda özellikle devletten çalışana (G2E) olan hizmetlere karşı olumsuz algılara ve düşük benimseme oranına neden olacaktır (Waititu ve Du Plessis, 2021).

Literatür taraması sonucu çalışılan konuların ağırlıklı olarak iki grupta toplandığı görülmektedir. İlk grupta vatandaş bakış açısıyla e-devletin benimsenmesini araştıran çalışmalar olduğu görülmüştür (AlAwadhi ve Morris, 2009; Almaiah ve Nasereddin, 2020; Alshehri ve Drew, 2010; Al-Adawi, Yousafzai ve Pallister, 2005; Al-Shafi ve Weerakkody, 2009; Elkheshin ve Saleeb, 2020; Meftah, Gharleghi ve Samadi, 2015; Mensah ve Adams, 2020; Rana, Dwivedi ve Williams, 2015; Sánchez-Torres, Arroyo-Cañada, Varon-Sandoval ve Sánchez-Alzate, 2021; Zhang ve Zhu, 2020). Diğer grupta ise, çalışanların bakış açısıyla e-devlet sürecinin benimsenmesini araştıran çalışmalar bulunmakta olup sayısı da örneğin 2000–2011 yılları arasında yayınlanan 448 makale ile oldukça fazladır (Rana ve Dwivedi, 2013). Fakat literatür taraması sonucunda kurumun sunduğu e-devlet hizmetlerinden kurum çalışanlarının ne kadar bilgisi olduğu ya da farkında olduğunu araştıran bir çalışma bulunamamıştır.

E-devlet üzerinden kamu kurumlarının sundukları hizmetler hakkında doğal olarak çalışanlarının bilgileri olmalı ve farkındalık düzeylerinin de yüksek olması beklenendir. Çalışanların bilgi ve farkındalık düzeylerinin beklenildiği kadar yüksek olup olmadığı bu çalışmanın konusudur. Bu çalışmanın amacı da literatürdeki bu boşluğu doldurup kamu çalışanlarının kurumun sunduğu e-devlet hizmetleri konusundaki farkındalık düzeylerini ve sunulan e-devlet hizmetleri hakkındaki düşüncelerini ortaya çıkarmaktır.

YÖNTEM

Bu bölümde araştırmanın yöntemi, çalışma grubu, veri toplama aracı, verilerin toplanma aşaması ve veri analiz aşaması bulunmaktadır. Ayrıca araştırmanın geçerliği ve güvenilirliğine de yer verilmiştir.

Araştırmanın Yöntemi

Bu araştırmada nitel araştırma yöntemi kullanılmıştır. Ankara'daki bir kamu kurumu personeli ile görüşme yapılması planlandığı için bu yöntem tercih edilmiştir.

Çalışma Grubu

Araştırmanın evrenini kamu kurumu çalışanları oluşturmaktadır. Kovid-19 salgını nedeniyle sosyal mesafe ile fiziki kısıtlamaların olması ve Türkiye'deki tüm kamu kurumu çalışanlarına ulaşmak ve bu kişilerle görüşme yapmak zaman, maliyet ve müsaitlik açısından imkansızdır. Bu nedenle Ankara'daki bir kamu kurumunda çalışan 17 kamu personeli bu araştırmanın çalışma grubunu oluşturmaktadır. Çalışma grubu seçiminde gelişigüzel örnekleme yöntemi kullanılmıştır.

Katılımcılar gönüllü olarak çalışmaya katkıda bulunmuşlardır. Katılımcıların kişisel bilgilerine kişisel veri güvenliği nedeniyle çalışmada yer verilmemiş olup araştırmaya gönüllü olarak katılmışlardır. Ayrıca katılımcılar K1, K2, K3…K17 şeklinde numaralandırılmıştır.

Veri Toplama Aracı

Araştırmada veri toplama aracı olarak yarı yapılandırılmış görüşme formu kullanılmıştır. Araştırmacılar tarafından gerçekleştirilen literatür taraması sonucunda taslak görüşme formu oluşturulmuştur. Taslak görüşme formunda 18 soru bulunmaktadır. Soruların konuya uygunluğu için e-devlet alanında akademik çalışmaları olan dört uzmandan sorular hakkında görüşlerini bildirmeleri istenmiş ve uygun olduğu teyit edildikten sonra görüşme formu son haline getirilmiştir. Tablo 1'de görüşme formunda bulunan bölüm, bölüm başlığı ve soru sayısı görülmektedir.

Tablo 1: Görüşme Formu Bölümleri ve Soru Sayıları

Bölüm	Bölüm Başlığı	Soru
1	Demografik bilgiler	5
2	Farkındalık	4
3	Bürokrasinin azaltılması	2
4	Performans	2
5	Eğitim	1
6	Genel değerlendirme	4
Toplam soru sayısı		18

Tablo 1'de görüldüğü gibi görüşme formunun birinci bölümü katılımcıların demografik bilgilerinin sorulduğu beş sorudan (cinsiyet, yaş, eğitim durumu, kamuda çalışma süresi, kurumda çalışma süresi) oluşmaktadır.

İkinci bölüm farkındalık olup, bir kişinin çevresinde ki olayları devamlı olarak bilme, öğrenme, algılama ve duyumsama yeteneği olup kısaca bir şeyin veya konunun bilincinde olması olarak açıklanabilir (Boğday, 2020). Bu çalışmadaki farkındalık çalışanların sunulan e-devlet hizmetleri hakkında olup beş soru bulunmaktadır.

Üçüncü bölümde bürokrasinin azaltılması başlığı altında iki soru bulunmaktadır. Bürokrasinin azaltılması kamu ile ilgili işlerin yürütülmesinde süreç içerisinde yer alan kamu çalışanlarının rol düzeyi olup üçüncü kişilere verilen hizmet süresinin keyfi olarak geciktirilmesi, kırtasiyeciliğin arttırılması, idarenin her kademesindeki memurun keyfi karar vermesi yoluyla süreci uzatmasıdır. Bürokrasinin azaltılması ile kamunun üçüncü kişilere vermiş olduğu hizmetleri en kısa ve kolay yoldan yerine getirilmesidir (Candan,

2012). Kurumun sunduğu e-devlet hizmetleri ile bürokrasiyi azaltıp azaltmadığı araştırılmış ve katılımcılara iki soru sorulmuştur.

Performans görüşme formunun dördüncü bölümü olup bir kimsenin, herhangi bir işin üstesinden gelebilmek amacıyla sarf ettiği çaba ve muvaffakiyet için kendi üzerine düşen görevi etkili bir biçimde tamamlama çabasıdır. Günümüzde şirketler, örgütler, firmalar, kurum ve kuruluşlar, hizmet vermekte olan elemanlarının mümkün olan en yüksek seviyede performans göstermelerini beklemektedirler ki, yoğun rekabet ortamı içerisinde etkili bir şekilde çalışmalarını yürütebilsinler (Yılbay, 2019). Sunulan e-devlet hizmetlerinin performansına ilişkin kurum çalışanlarının görüşlerini ortaya çıkarmak için iki soru sorulmuştur.

Beşinci bölüm eğitim olup kurumun sunduğu e-devlet hizmetleri hakkında çalışanlarının uyumunu sağlamak için bilgi ve becerilerinin arttırılmasını hedefleyen planlı faaliyetler olup bu konuda bir soru bulunmaktadır. Bu soru ile çalışanların sunulan e-devlet hizmetleri hakkında eğitim ya da herhangi bir bilgilendirici faaliyete katılıp katılmadıkları araştırılmıştır.

Son ve altıncı bölüm genel değerlendirme olup bir işletme veya kuruluşun faaliyetlerinin ve faaliyet sonuçlarının kapsamlı, sistematik ve düzenli olarak gözden geçirilmesini ifade etmektedir (Baydemir, 2020). Değerlendirme bölümünde katılımcılara sorulan dört soru yer almaktadır. Sonuç olarak Tablo 1'de de görüldüğü gibi görüşme formu 6 bölümden oluşmakta ve 18 soru bulunmaktadır.

Verilerin Toplanması

Araştırmanın verileri yarı yapılandırılmış görüşme formuyla toplanmıştır. Görüşmeler ilgili kurumda çalışanlarla yüz yüze görüşmeler yapılarak gerçekleştirilmiştir. Görüşmeler, araştırmacılar tarafından doğrudan yapılmış olup, katılımcılara yönlendirmeden uzak, yansız olarak araştırmaya ilişkin sorular sorulmuştur. Her bir görüşme yaklaşık 20 ila 45 dakika arasında sürmüştür. Veri toplama süreci 15 Mayıs-30 Haziran 2021 tarihleri arasında gerçekleştirilmiştir. Görüşme sonrası her bir görüşme için transkriptler hazırlanmıştır. Görüşme transkriptleri katılımcılarla paylaşılmış ve katılımcıların teyidi alındıktan sonra transkriplere son hali verilmiş ve veri toplama süreci sonlandırılmıştır.

Verilerin Analizi

Katılımcılar ile yapılan görüşmeler sonucunda elde edilen bütün verilerde, nitel veri analiz yaklaşımlarından olan; içerik analizi ve betimsel analiz yöntemleri kullanılmıştır. Betimsel analiz yönteminde katılımcıların sorulara ilişkin görüşleri doğrudan aktarılarak katılımcıların görüşlerinin etkinliğinin arttırılması amaçlanmıştır. İçerik analiziyle; katılımcıların vermiş oldukları cevaplar hem bir bütün olarak değerlendirilmiş, hem de bütün katılımcıların aynı soruya vermiş oldukları cevaplar kendi içerisinde değerlendirilmiştir. Buna ilaveten daha önceden belirlenmiş Tablo 1'deki kavramlara (bölüm başlıkları) göre analizler gerçekleştirilmiştir. Ayrıca verilerin anlaşılabilirliğini arttırmak ve özetlemek için tablolardan ve yüzdelerden (%) faydalanılmıştır.

Geçerlik ve Güvenirlik

Araştırmanın geçerliği için görüşme formundaki bütün sorular için uzman görüşü alınmıştır. Görüşmeler yüzyüze yapılmıştır. Ayrıca betimsel analiz kullanılarak katılımcıların vermiş olduğu cevaplardan bazılarına doğrudan alıntılar yapılarak yer verilmiştir.

Araştırmanın güvenilirliğini sağlamak için öncelikle katılımcılara araştırmanın tarafsız ve yansız olduğu belirtilmiştir. Çalışmanın güvenirliği için de ilk olarak araştırmacıların

yansız ve tarafsız olduğu katılımcılara ifade edilmiştir. Araştırmacılar tarafından katılımcılara araştırma hakkında açıklama yapılmış ve katılımcıları yönlendirmekten kaçınmışlardır. Sonolarak araştırmaya ilişkin tüm veriler (görüşme notları ve hesaplamalar) ihtiyaç duyulması halinde incelemeye sunulmak üzere saklanmıştır.

BULGULAR

Bu bölümde ilk olarak katılımcıların demografik bilgileri sunulmuştur. Daha sonra görüşme formunda yer alan bölümlerdeki sorulara verilen cevapların betimsel analiz ve içerik analiz sonuçlarına yer verilmiştir.

Görüşme formunun ilk bölümünde katılımcılara demografik bilgileri sorulmuş olup verdikleri cevaplar Tablo 2'de özetlenmiştir.

Tablo 2: Katılımcıların Demografik Bilgileri

Cinsiyet	**Sayı**	**%**	**Yaş**	**Sayı**	**%**
Kadın	2	12	23-27	2	11
Erkek	15	88	28-37	4	24
			38-42	8	47
Eğitim Durumu	**Sayı**	**%**	43-47	3	18
Orta Öğretim Mezunu	-	-			
Lise Mezunu	-	-	**Kamuda Çalışma Süresi**	**Sayı**	**%**
Ön Lisans Mezunu	4	24	1-5 yıl	2	12
Lisans Mezunu ve üzeri	13	76	6-10 yıl	3	18
			11-15 yıl	6	35
Kurumda Çalışma Süresi	**Sayı**	**%**	16-20 yıl	3	18
1-5 yıl	12	70	21-25 yıl	1	6
6-10 yıl	3	18	26-30 yıl	2	11
11-15 yıl	2	12			

Tablo 2'ye göre katılımcıların yaş ortalaması 37,8 olup ortalama kamuda çalışma süresi 14,7 yıldır. Bu durum kamu kurumlarında uzun süredir çalıştıklarını ve iş süreçleri hakkında bilgilerinin yüksek olduğu şeklinde yorumlanabilir. Ayrıca katılımcıların bulundukları kurumda çalışma görev süresi ortalaması 3,58 yıl şeklindedir.

Görüşme formunun ikinci bölümünde katılımcıların kurumlarının e-devlet hizmetleri konusundaki farkındalıklarını araştıran dört soru sorulmuştur. Katılımcılara bu bölümde e-devlet hakkındaki düşünceleri, e-devletin faydaları, kurumlarının e-devlette hizmet sunmaya hangi yıl başladıkları ile katılımcıların bu verilen hizmetleri hangi sıklıkla kullandıkları sorulmuştur. Katılımcıların verdikleri cevaplar değerlendirildiğinde, genel olarak katılımcıların e-devlet konusunda genel bir bilgiye sahip oldukları gözlemlenmiştir. Örneğin K8 numaralı katılımcı bu soruya "*E-devlet günlük yaşamımın bir noktasından kamu veya bazı özel sektörler için lazım olan belge ve bilgilere en kısa sürede ulaşmamıza yardımcı olan platformdur. Zamandan ve maliyetten büyük ölçüde tasarruf sağlamamıza yarar*" şeklinde yanıtlamıştır. E-devletin faydaları da katılımcılar tarafından maliyetleri azaltması (%41), hız (%18), uzaktan erişim sağlama (%12), hataların azalması (%6) şeklinde sıralarken katılımcıların %23'ü de bu soruya cevap vermek istememiştir. Kurumlarının e-devlet hizmetlerini sunmaya ne zaman başladığına ilişkin olarak 4 katılımcı bilmediğini, 2 katılımcı 1999, 3 katılımcı 2004, 3 katılımcı 2008, 2 katılımcı 2010, 1 katılımcı 2016 ve 2 katılımcı da 2018 yılı olarak cevap vermiştir. Ayrıca katılımcıların kurumlarının sundukları e-devlet hizmetlerini hangi sıklıkla kullandıklarına

ilişkin verdikleri cevaplar incelendiğinde katılımcıların %46'sı her gün, %46'sı nadiren %8'i de hiç kullanmadığını belirtmiştir.

Görüşme formunun üçüncü bölümü bürokrasinin azaltılması olup, ilk olarak katılımcılara e-devletin kurumlar arası veri paylaşımına etkileri sorulmuştur. Katılımcıların %46'sı kurumlarının, kurumlar arası veri paylaşımı önündeki engelleri kaldırdığını, diğer %46'sı ise tam tersini ifade ederek kaldırmadığını ve katılımcıların %8'i de bir fikrinin olmadığını belirtmiştir. Bu bölümün ikinci sorusunda e-devlet hizmetlerini kullanmanın basılı belge sayısına etkileri sorulmuştur. K4 numaralı katılımcı bu durumu "*Kurumumuzda gizlilik ön planda olduğundan talep edilen belgelerde azalmaya gidilebileceğini düşünmüyorum*" şeklinde ifade ederken, K11 numaralı katılımcı da "*Hizmet envanteri yaparak talep edilen belgelerin diğer kurumlardan alınarak belki belge sayısı azaltılır*" olarak ifade etmiştir. Katılımcıların verdikleri tüm cevaplar değerlendirildiğinde %35'inin fikrinin olmadığı, %26'sı basılı belge sayısının azaltılamayacağını dikkat çekerken %39'u ise basılı belge sayısını azalttığını belirtmiştir.

Görüşme formunun dördüncü bölümünde katılımcılara e-devlet hizmetlerinin performansı ile alakalı iki soru sorulmuştur. Katılımcılara kurumlarının e-devlet hizmetleri sunumu için yeterli altyapı ve donanıma sahip olup olmadıkları hakkındaki düşünceleri sorulmuştur. Katılımcıların %47'si kurumlarının yeterli altyapı ve donanıma sahip olduğunu düşünürken, %41'i yetersiz olduğunu ve %12'si de fikrinin olmadığını ifade etmiştir. Bir diğer soruda katılımcılara kurumlarının sunduğu e-devlet hizmetleri performansı için 1 ila 10 arasında bir puan vermeleri istenmiştir. Katılımcıların %65'i kurumun performansına 7 ve üzeri (çok iyi), %24'ü 5 veya 6 (iyi) puan verirken % 12'si kurumun performansının çok kötü olduğunu düşünerek 1 ila 3 arasında puan verdiği görülmüştür.

Görüşme formunun beşinci bölümü eğitim olup katılımcılara kurumlarının e-devlet alanında vermiş olduğu hizmetlere ilişkin herhangi bir eğitim alıp almadıkları sorulmuştur. Katılımcıların %82'si kurumu tarafından kendisine bu konuda eğitim verilmediğini, %18'i ise bu alanda hizmet içi eğitim verildiğini ifade etmiştir.

Görüşme formunun altıncı bölümü değerlendirme olup katılımcılara ilk olarak dijital dönüşüm kapsamında kurumlarının kamu, özel sektör, üniversite ve sivil toplum kuruluşları yaptığı işbirlikleri hakkındaki düşünceleri sorulmuştur. Katılımcıların %47'si kurumunun dijital dönüşüm kapsamında paydaşlarıyla olumlu işbirliği yaptığını, %29'u olumsuz yönde ve başarısız olduğunu % 24'ü ise bu konuda fikrinin olmadığını ifade etmiştir. Bu bölümün diğer üç sorusunda kurumun sunduğu e-devlet hizmetlerinin vatandaşlara tanıtımı, sürecini, bilinirliğini ve genel olarak hizmetleri değerlendirmeleri istenmiştir. Katılımcıların her üç soruya verdileri cevaplar Tablo 3'de sunulmuştur.

Tablo 3: E-devlet Hizmetlerinin Tanıtımı, Bilinirliği ve Genel Değerlendirme Sonuçları

Değerlendirme Kriterleri	Hizmetlerinin Vatandaşa Tanıtımı (%)	Hizmetlerinin Bilinirliği (%)	Hizmetlerinin Genel Değerlendirmesi (%)
Çok iyi	18	12	12
İyi	18	29	29
Orta	53	47	59
Kötü	6	12	-
Çok Kötü	5	-	-
Toplam	100	100	100

Tablo 3'de görüldüğü gibi e-devlet hizmetlerin vatandaşa tanıtımı (%53), kurumun sunduğu hizmetlerin bilinirliği (%47) ve hizmetlerin genel değerlendirmesi (%59) sorularının her üçü için de çalışanlar orta derece olarak görüş bildirmişlerdir.

Tablo 4: Çalışma Sonuçları

Bölüm Başlığı	Analiz Sonuçları
Farkındalık	Düşük
Bürokrasinin azaltılması	Çok kötü
Performans	Çok iyi
Eğitim	Çok kötü
Genel Değerlendirme	Orta seviye

Tablo 4'de görüşme formundaki bölüm başlıkları ve her bölümün çalışma sonucunda ulaşılan sonuçları görülmektedir. Tablo 4'e göre çalışanların kurumlarının sundukları e-devlet ve dijital dönüşüm süreci hakkındaki farkındalıklarının düşük olduğu görülmüş ve bu konuda eğitim ihtiyaçları olduğu ortaya çıkmıştır. Diğer taraftan çalışanlar kurum performansının da çok iyi olduğunu düşünmektedirler.

SONUÇ ve ÖNERİLER

Bu çalışmada bir kamu kurumunda çalışanların kurumun sunduğu e-devlet hizmetleri hakkındaki farkındalık düzeyleri ve değerlendirmeleri araştırılmıştır. Katılımcılar bir kamu kurumundaki 17 çalışandan oluşmaktadır. Katılımcılar ile yüz yüze görüşmeler yapılıp 18 soru sorulmuştur.

Çalışmadaki kamu kurumu, kurum içi ve kurum dışı yazışmalarında, analizlerinde, raporlarında ve kritik çalışmalarında e-devlet portalı üzerinden 2008 yılından beri hizmet vermektedir. Ayrıca kurum 1980'lerin sonları 1990'ların başlarında merkez ve taşra teşkilatında bilgisayar kullanımına geçmiş olmasına rağmen sadece üç katılımcı 2008 yılı olarak bu soruya cevap vermiştir. Kamu kurumu e-devlet portalı üzerinden üçüncü kişilerin erişimine yönelik 111 adet hizmet veriyor olmasına rağmen katılımcıların bu hizmetlerden haberdar olmadığı veya çok azı (2 ya da 3 hizmet) hakkında bilgi sahibi oldukları görülmüştür. Bu durum kurumun dijital dönüşüm ve e-devlet hizmetleri konusunda çalışanlarına hizmet içi eğitimi vermediği ayrıca gerekli tanıtım ve bilgilendirme faaliyetlerini yapmadığını göstermektedir. Aynı parallellikte katılımcıların büyük çoğunluğu da e-devlet alanında kurumun vermiş olduğu hizmetlere ilişkin hizmet içi eğitim almadıklarına dikkat çekmişlerdir. Ayrıca çalışanların bu konularda bilgi sahibi olmak için herhangi bir araştırma yapmadığı, kurumun dijital alanda vermiş olduğu hizmetler bir yana kendi bağlı olduğu birimlerin dijital faaliyetlerinden dahi haberlerinin olmadığı da görülmektedir. Bu sorunlar çalışanlara bu konularda hizmetiçi eğitim, tanıtım materyali gibi çalışmaların yapılması gerektiğini göstermektedir. Ayrıca çalışanlarının e-devlet hizmetleri konusundaki fikirlerini toplayabileceği ve uygun olanların hayata geçirilebileceği online başvuru mekanizması geliştirmesinin faydalı olacağı önerilebilir.

Çalışmanın önemli bulgularından birisi de e-devlet hizmetlerinin kullanımının kurumda bürokrasiyi azaltmadığıdır. E-devletin temel amaçlarından biri bürokrasiyi azaltıp işleri hızlandırmasıdır. Lakin bu temel amacın sağlanmadığı açıktır. Buna ilaveten kurumlar arası veri paylaşımı önündeki engelleri kaldırmadığı da görülmüştür. E-devlet hizmetlerinin başarısını etkileyen bir diğer faktör teknolojik alt yapı olup bu kurumda da teknolojik altyapıyı katılımcıların yarısı yeterli görmemektedir. Diğer taraftan katılımcıların yarıya yakını kamu, özel sektör, üniversite ve sivil toplum kuruluşları ile kurumlarının yaptığı işbirlikleri hakkında olumlu görüş bildirmiş olmalarına rağmen hangi

konularda işbirliği yaptıklarına ilişkin genel bir bilgiye sahip olmadıkları sonucuna ulaşılmıştır.

Bir diğer önemli bulgu da kurumun sunduğu e-devlet hizmetlerinin vatandaşlara tanıtım sürecini, bilinirliğini ve genel olarak e-devlet hizmetlerini değerlendirdiklerinde orta seviye olduğu görülmüştür. Genel olarak kurum çalışanlarının kuruma aidiyet duygusunun çok zayıf olduğu hatta olmadığı görülmüştür. Bu nedenle kurumlar gerek e-devlet çalışmalarında gerekse diğer olağan hizmetlerine verimlilik artışını ve çalışan mutluluğunu arttırmaya yönelik personel politikaları geliştirmelidir.

Bu çalışmada nitel araştırma yöntemi kullanılmış ve veriler yarı yapılandırılmış görüşme formu ile toplanmıştır. Gelecekte araştırmacılar nicel araştırma yöntemi kullanıp bir anket uygulayabilirler. Bu çalışma tek bir kurum çalışanları ile gerçekleştirildiğinden çalışma sonuçları ile genellemeler yapılamaz. Gelecek çalışmalarda araştırmanın kapsamı genişletilebilir ve sonuçlar ile genellemeler yapılabilir.

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İKLİM DEĞİŞİKLİĞİ MÜZAKERELERİ VE TÜRKİYE

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ÖZET

Günümüz dünyasının en önemli sorunlarından biri olan iklim değişikliği sorunu; son 30 yılda üzerinde uzlaşılmaya çalışılan bir olgu olarak karşımıza çıkmaktadır. 1992 Rio Birleşmiş Milletler Çevre ve Kalkınma Konferansı iklim değişikliği farkındalığının oluşması ve küresel anlamda bir çözüm sürecinin başlatılması açısından önemlidir. BM İklim Değişikliği Çerçeve Sözleşmesi, bu konferansın önemli çıktılarından biri olmuştur. BM İklim Değişikliği Çerçeve Sözleşmesi atmosferdeki sera gazı salınımlarının belirli bir seviyeye indirilmesini ve belirlenen seviyeye sabitlenmesini amaçlamıştır. 1994 yılında yürürlüğe giren BM İklim Değişikliği Çerçeve Sözleşmesi'nin hemen akabinde 1995 yılından itibaren her yıl Taraflar Konferansları (COP) düzenlenmektedir. 2021 yılında Glasgow'da 26'cısı (COP 26) gerçekleştirilecek olan konferanslardan en önemlileri hiç kuşkusuz COP 3 Kyoto ve COP 21 Paris'tir. Bu iki konferans hemen hemen tüm dünya ülkelerinin üzerinde uzlaşmaya varabildiği çıktıları oluşturmuşlardır. COP 3 Taraflar Konferansı sonucunda Kyoto Protokolü kabul edilmiş ve protokole taraf olan sanayileşmiş ülkelere sera gazı salınım sınırlama ve azaltım yükümlülükleri getirilmiştir. COP 21 Taraflar Konferansı; Paris İklim Anlaşmasını beraberinde getirmiş ve küresel ölçekte temiz enerjiye geçişle beraber daha sürdürülebilir, daha adil, daha yaşanabilir bir dünyayı oluşturmak için yapılması gerekenleri belirlemiştir.

Bu çalışmada dünya ülkelerini iklim değişikliği konusunda çözüm aramaya iten nedenler ele alındıktan sonra BM tarafından iklim değişikliği konusunda gerçekleştirilen konferanslar sonucu ortaya çıkan metinler, protokol ve anlaşmaların bağlayıcılıkları ile ülkelerin ve özelinde Türkiye'nin tutumu irdelenecektir.

Anahtar Kelimeler: İklim Değişikliği, Birleşmiş Milletler, Taraflar Konferansı, Paris Anlaşması

CLIMATE CHANGE NEGOTIATIONS AND TURKEY

ABSTRACT

The problem of climate change, which is one of the most important problems of today's world; It is a phenomenon that has been tried to be agreed upon in the last 30 years. 1992 Rio United Nations Conference on Environment and Development is important in terms of raising awareness of climate change and starting to be discussed globally. The UN Framework Convention on Climate Change has been one of the important outputs of this conference. The UN Framework Convention on Climate Change aimed to reduce the accumulation of greenhouse gases in the atmosphere to a certain level and fix it to the determined level. Conferences of the Parties (COP) have been held every year since 1995, right after the UN Framework Convention on Climate Change, which came into force in 1994. 26th conference to be held in this year is in Glasgow.The most important conferences are undoubtedly COP 3

Kyoto and COP 21 Paris. These two conferences created outputs on which almost all countries of the world could agree. As a result of the COP 3 Conference of the Parties, the Kyoto Protocol was accepted and the industrialized countries that were party to the protocol were obliged to limit and reduce greenhouse gas emissions. COP 21 Conference of the Parties; It brought the Paris Climate Agreement with it and determined what needs to be done to create a more sustainable, fairer and more livable world with the transition to clean energy on a global scale.

In this study, after the reasons that push the countries of the world to seek solutions on climate change will be discussed, the texts, the bindingness of the protocols and agreements and the attitudes of the countries and in particular Turkey will be examined.

Keywords: Climate Change, United Nations, Conference of the Parties, Paris Climate Agreement.

GİRİŞ

Günümüz dünyasının en önemli sorunlarından biri olan iklim değişikliği için 1970'li yıllardan itibaren üzerinde düşünülmeye ve çareler aranmaya başlanmıştır. 1970'li yıllar önemli diyoruz. Çünkü o zamana kadar yaşanan çevre sorunları yerel ölçekli sorunlar olmaktaydı ve politika olarak önce sorunun veya kirliliğin ortaya çıkması ve sonrasında bu soruna/kirliliğe sorun bulunmaktaydı. Yerel ölçekli olan sorunlar sınıraşan sorunlar haline geldi. Ayrıca politika değişikliğinin de olduğunu görmekteyiz. Sorunun ortaya çıkması ve akabinde aksiyon alınması politikasının yerine tahmin ve önleme politikası yine bu dönemin en önemli değişimlerinden bir tanesi olmuştur. Bu duruma bağlı olarak dünya kamuoyunda bilinç artırma girişimleri de yine 1970'li yıllarda oldu. Roma Kulübü'nün 1972 yılında yayınladığı "Büyümenin Sınırları" raporu tüm dünyada yankı uyandıran önemli bir gelişme olarak nitelendirilmektedir. Rapor; doğal kaynakların ve hammaddenin belirli yıllar içerisinde tükeneceği vurgusunu yapmış ve çeşitli tartışmaları da beraberinde getirmiştir[1]. Aynı yıl içerisinde BM tarafından Stockholm'de düzenlenen İnsan Çevresi Konferansı'nda, çevrenin korunması ve geliştirilmesi düşüncesinin ortaya atılması; çevreye ve çevre sorunlarına karşı kamuoyu oluşturması açısından değerlidir[2].

Çevre ve doğal kaynaklar üzerindeki baskının dizginlenmediği sürece tüm dünya ülkelerinin ve insanlarının ve hatta gelecek nesillerin bu durumdan olumsuz etkileneceği düşüncesi sonucu "sürdürülebilir kalkınma" fikri ortaya çıkmış ve 1987 yılında BM Çevre ve Kalkınma Komisyonu tarafından yayınlanan "Ortak Geleceğimiz (Our Common Future)" raporuyla kavramsallaştırılmıştır. Raporun 27. Maddesi sürdürülebilir kalkınmayı kısaca; bugünün ihtiyaçlarını karşılarken gelecek nesillerin de kendi ihtiyaçlarını karşılayabilmelerini göz önünde bulundurmak olarak tanımlamaktadır[3]. Bu tanım sonrası sürdürülebilir kalkınma dünyanın geleceği açısından ortak bir değer olarak kabul edilmiş ve neredeyse tüm BM toplantı ve konferanslarında vurgulanmıştır.

İnsanların binlerce yıl boyunca çevreye yaptığı müdahaleler sanayi devrimi öncesine kadar sınırlı kalmış ve çevre üzerinde çok fazla tahribata neden olmamıştır. Sanayi devrimi ile çevrenin ve doğal kaynakların tahribatının hızlandığını görmekteyiz. Nitekim son yüzyıl boyunca insanların faaliyetleri doğanın kendini yenileyebilmesinin üzerine çıkmış ve tüm dünya ülkeleri çevresel sorunlarla karşı karşıya kalmıştır. Sanayi devrimi sonrası yaşanan

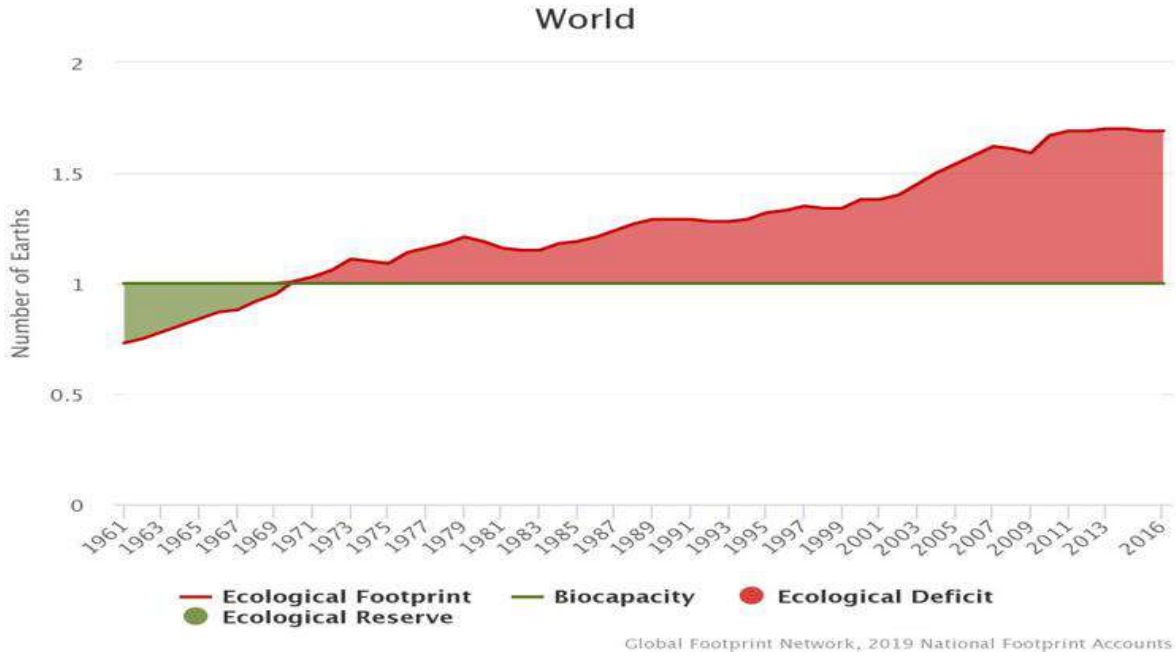
[1] Ayrıntılı bilgi için bknz. Donella H. Meadows vd. **The Limits of The Growth**, Universe Books, New York, 1972

[2] Ayrıntılı bilgi için bknz. **Report of the United Nations Conference on the Human Environment**, UN, New York, 1973

[3] **Report of the World Commission on Environment and Development: Our Common Future**, s.14 https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf Er. Tar. 12.10. 2021

üretimdeki artış, sanayi kentlerinde oluşan nüfus artışı, çevre ve doğal kaynaklar üzerindeki baskıyı artırmıştır. 1973 yılı bir dönüm noktası olarak kabul edilebilir. Çünkü bu tarihten sonra ekolojik ayak izi biyokapasitenin üzerine çıkmıştır (Şekil 1).

Şekil 1. Ekolojik Ayak İzi



Kaynak: Ecological Footprint, https://theanthropocenedashboard.com/2019/08/02/ecological-footprint/

Tarihsel süreç içerisinde gelişmelere bakıldığında insan-çevre ilişkilerini şu şekilde değerlendirebiliriz: Paleolitik dönemin tamamı ve neolitik dönem içerisinde Sanayi Devrimine kadar olan süreçte insan doğaya tamamen bağlı olarak bir hayat sürmüştür. Sanayi Devrimiyle doğadan/çevreden kopuş başlamış ve doğa bilinçsizce kullanılmaya başlanmıştır. 1970'li yıllarla beraber insan; doğayla/çevreyle barışık yaşama yollarını aramaya başlamıştır. Barışık yaşama noktasında yapılması gerekenlerin ne kadar yapıldığı ise tartışmaya açıktır.

1. RİO'YA GELENE KADAR ÖNEMLİ OLAYLAR

İklim değişikliği konusunda BM İklim Değişikliği Çerçeve Sözleşmesi ve akabinde gelişen Taraflar Konferansları önemli görülmektedir. Ancak daha öncesinden de önemli konferanslar ve paneller düzenlenmiştir. Tablo 1 bu önemli olayları bize göstermektedir.

Tablo 1 Rio Öncesi Önemli Olaylar

Yıl	Konferans/Panel
1972	Stockholm-Uluslararası İnsan Çevresi Konferansı. Stockholm Deklarasyonu yayımlanmıştır.
1979	1. Dünya İklim Konferansı
1985	Villach Uluslararası Sera Gazları Toplantısı ve Ozon Tabakasının Korunması için Viyana Sözleşmesi
1987	Ozon Tabakasını İncelten Maddelere Dair Montreal Protokolü
1988	Değişen Atmosfer Toronto Konferansı
1989	Atmosferik ve İklimsel Değişiklik Konulu Bakanlar Konferansı

Kaynak: Öztürk, M. & Öztürk, A. (2019). "BMİDÇS'den Paris Anlaşması'na: Birleşmiş Milletler'in İklim Değişikliğiyle Mücadele Çabaları", Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 12(4), s. 530-531

2. RİO VE İKLİM DEĞİŞİKLİĞİ ÇERÇEVE SÖZLEŞMESİ

1992 yılında Brezilya'nın Rio de Janerio şehrinde Birleşmiş Milletler Çevre ve Kalkınma Konferansı düzenlenmiştir. Rio Zirvesi olarak da bilinen bu konferans, 108'i devlet başkanlığı düzeyinde olmak üzere 178 ülkenin katılımıyla gerçekleştirilmiştir. Zirve Gündeminde; Rio Deklerasyonu, İklim Değişikliği Sözleşmesi, Biyolojik Çeşitlilik Sözleşmesi, Gündem 21 konuları ele alınıp görüşülmüştür.

İklim Değişikliği Sözleşmesi, Rio Konferansı'nda imzaya açılmış, 1994 yılı itibariyle yürürlüğe girmiştir. Avrupa Birliği de dahil olmak üzere 186 ülke tarafından imzalanmıştır[4].Sözleşmede; insan faaliyetlerinin atmosferdeki sera gazlarını önemli ölçüde artırdığından, bu artışların sera etkisine sebep olduğundan ve bu durumun atmosferde sıcaklık artışına sebep olup ekosistemin ve insanların bu durumdan olumsuz etkileneceğine vurgu yapılmıştır[5]. Sözleşme genel olarak iklim değişikliği ile mücadelede gelişmiş ülkelerin öncülük etmesini istemektedir. Tüm ülkelerin emisyon oranlarını azaltmasını istemekle beraber iklim değişikliğine sebebiyet veren gelişmiş ülkelerin gelişmekte olan ülkelere teknoloji ve kaynak transferi yapmaları gerektiğini ifade etmektedir.

3. TARAFLAR KONFERANSLARI: COP 3 VE COP 21

İklim Değişikliği Çerçeve Sözleşmesi yürürlüğe girdikten bir yıl sonra ülkelerin iklim değişikliği konusunu tartışıp değerlendirecekleri ve özellikle yol haritası belirleyebilecekleri konferanslar serisi Berlin'de yapılan ilk konferansla başlamış oldu ve günümüze kadar toplamda 26 tane Taraflar Konferansı gerçekleştirildi. Tablo 2 günümüze dek gerçekleştirilen Taraflar Konferanslarını göstermektedir. Bu başlık altında Taraflar Konferanslarının tümü irdelenmeyecek olup bir anlaşma metni ile sonuçlanan COP 3 ve COP 21'e yer verilecektir.

Tablo 2. Taraflar Konferansları

Climate Change (Conference of the Parties COP)	
COP 1 Berlin 1995	COP 14 Poznan 2008
COP 2 Geneva 1996	COP 15 Copenhagen 2009
COP 3 Kyoto 1997	COP 16 Cancun 2010
COP 4 Buenos Aires 1998	COP 17 Durban 2011
COP 5 Bonn 1999	COP 18 Doha 2012
COP 6 The Hague 2000	COP 19 Warsaw 2013
COP 7 Marrakech 2001	COP 20 Lima 2014
COP 8 New Delhi 2002	COP 21 Paris 2015
COP 9 Milan 2003	COP 22 Marrakech 2016
COP 10 Buenos Aires 2004	COP 23 Bonn 2017
COP 11 Montreal 2005	COP 24 Katowice 2018
COP 12 Nairobi 2006	COP 25 Madrid 2019
COP 13 Bali 2007	COP 26 Glasgow 2021

Kaynak: https://www.un.org/en/conferences/environment ve https://unfccc.int/

[4] Murat Türkeş, "İklim Değişikliği: Türkiye – İklim Değişikliği Çerçeve Sözleşmesi İlişkileri ve İklim Değişikliği Politikaları" https://www.tubitak.gov.tr/tubitak_content_files/vizyon2023/csk/EK-7.pdf Er. Tar. 15.10.2021

[5] United Nations Framework Convention on Climate Change, UN, 1992, s.2

COP 3 KYOTO

Taraflar Konferanslarının üçüncüsü 1997 yılında Kyoto'da düzenlendi ve konferans sonucunda Kyoto Protokolü imzaya açıldı. İklim değişikliği açısından önemli bir adım olarak kabul edilen bu protokolle beraber taraf ülkeler için bağlayıcı olan sera gazı emisyonlarının azaltımı söz konusu oldu. İklim değişikliği tehdidini önlemeye yönelik uluslararası olarak atılmış büyük bir adım sayıldı ve taraflar, 2008-12 dönemi için sanayileşmiş ülkeler emisyon oranlarında ortalama yüzde 5,2 olan farklılaştırılmış hedefler benimsediler[6]. Kyoto Protokolü için yapılan müzakereler sırasında AB tüm sanayileşmiş ülkeler için belirli bir emisyon oranı azaltma hedefinin olması gerekliliğinden bahsetti ve bu durum diğer ülkelerden tepki çekilmesine sebep oldu. Örneğin Avustralya, diğer sanayileşmiş ülkelerle aynı tarihsel süreç içerisinden geçmediğini söyledi ve daha esnek davranılmasını talep etti. Yani Amerika gibi tarihsel süreç içerisinde aşırı emisyon oranı olan ülkelerin daha fazla özverili olmasına dikkat çekildi[7]. Protokolün 7. maddesi; 2008-2012 yılları arasında EK-1'de yer alan taraf ülkelerin kendileri için belirlenmiş sera gazı emisyon oranlarını 1990 yılı seviyesine alması gerekliliğinden bahsetmektedir[8].

Kyoto Protokolü 2005 yılında yürürlüğe girmiştir. Genel olarak bir şartname niteliğinde olup İklim Değişikliği Çerçeve Sözleşmesi ile belirlenen hedefleri somutlaştırdığı söylenebilir[9].

COP 21 PARİS

İklim değişikliği konusunda yapılan çalışmalardan bir diğer önemli olanı 2015 yılında Paris'te gerçekleştirilen Taraflar Konferansı'dır. Önemli çünkü iklim değişikliğinin zararlarını önleme ve taraf ülkelerin yapmaları gerekenler sıralanmıştır ve daha önceden İklim değişikliği konusunda elinden geleni yapmaktan çekinen ABD ve Çin gibi emisyon oranlarında üst sıralarda yer alan ülkeler de taraf olmuş ve taahhütlerde bulunmuşlardır. Toplantı sonrası Paris Anlaşması imzaya açılmış ve 2016 yılında yürürlüğe girmiştir. Anlaşmaya göre toplam sera gazı emisyonlarının %55'ini oluşturan ülkelerin anlaşmayı imzalaması koşuluyla anlaşma yürürlüğe girecekti[10]. Bu oranın gerçekleşmesi 2016 yılında oldu.

Yer kürenin belirli bir sıcaklık dilimi içerisinde kalması gerektiğini vurgulayan Paris Anlaşması'nın 2. maddesi şu şekildedir:

"(a) Küresel ortalama sıcaklıktaki artışı sanayi öncesi seviyelerin 2°C üzerinde tutmak ve sıcaklık artışını sanayi öncesi seviyelerin 1,5 °C üzerinde sınırlamak için çaba sarf etmek, bunun risk ve etkilerini önemli ölçüde azaltacağını kabul etmek.

(b) İklim değişikliğinin olumsuz etkilerine uyum sağlama yeteneğini artırmak ve gıda üretimini tehdit etmeyecek şekilde iklim direncini ve düşük sera gazı emisyonu gelişimini teşvik etmek;

(c) Düşük sera gazı emisyonları ve iklime dayalı kalkınmaya yönelik bir yol izleyerek tutarlı finansman akışını sağlamak."[11]

2050 yılına kadar gelişmiş ülkelerin emisyon oranlarını sıfırlamaları beklenmektedir ve yine gelişmiş ülkeler gelişmekte olan ülkelere teknoloji ve kaynak transferi yapacaklardır. Ayrıca ülkeler emisyon oranları noktasında şeffaf olacaktır.

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[6] Hermann E. Ott, "Kyoto Protocol: Unfinished Business", Environment: Science and Policy for Sustainable Development, 40:6,1998, s. 16

[7] Anastasia Telesetsky, "The Kyoto Protocol", Ecology Law Quarterly, 26/4, 1999, ss 797-813, s.802

[8] Kyoto Protocol To The The United Nations Framework Convention On Climate Change, UN, 1998, s. 4

[9] Uğur Sadioğlu, Erkan Ağıralan, "İklim Değişikliği Çerçevesinde 25. Taraflar Konferansı COP 25", KAÜİİBFD, cilt 11, 2020, s. 383

[10] Paris Agreement, UN, 2015, s.23

[11] Paris Agreement, UN, 2015, s.3

4. İKLİM DEĞİŞİKLİĞİ VE TÜRKİYE

1992 Rio Konferansı çıktılarından bir tanesi olan İklim Değişikliği Çerçeve Sözleşmesi'ne Türkiye taraf olmaktan çekinmiştir. Sebebine bakıldığında Türkiye hem Ek-1 hem de Ek-2 listesinde yer almaktadır. Sera gazları noktasında tarihsel sorumluluğu olan ve ayrıca gelişmiş ülkelerin bulunduğu Ek-1 listesi; gelişmekte olan ülkelere kaynak ve teknoloji transferi yapmakla yükümlüdür. Dolayısıyla Türkiye, sera gazları noktasında tarihsel bir sorumluluğunun olmadığını işaret etmiş ve yükümlü tutulamayacağını beyan etmiştir. Bir diğer taraftan Ek-2'yi oluşturan ülkeler OECD'ye bağlı olan ülkeler ve Türkiye, OECD'nin kurucu üyelerinden birisi olduğu için yine gelişmekte olan ülkelere kaynak sağlama konusunda yükümlü tutulmuştur. Yaklaşık on yıl süren müzakereler sonucunda Türkiye, 2001 yılında Marakeş'te düzenlenen Taraflar Konferansı'nda Ek-2'den çıkarılmış ve Ek-1 ülkelerinden farklı bir konuma sahip olmuştur. 2004 yılında ise İklim Değişikliği Çerçeve Sözleşmesini imzalamıştır[12]. Türkiye ile ilgili alınan karar şu şekildedir:

"• Tarafların, eşitlik temelinde ve ortak ama farklılaştırılmış sorumlulukları ve bunu karşılayan olanaklarına uygun olarak, insanoğlunun bugünkü ve gelecek kuşaklarının yararı için iklim sistemini korumak zorunda olduklarının altı çizilerek; ve

• Türkiye'nin isteği, özellikle TK-6/1. Bölümde (Lahey'de) isminin Ek II'den silinmesi amacıyla sunduğu yeni önergesi gözetilerek: TK'nın, Türkiye'nin isminin Ek II'den silinmesini kararlaştırdığı ve Tarafları, Türkiye Sözleşme'ye taraf olduktan sonra, onu Ek I'deki öteki Taraflardan farklı yapan özel koşullarını kabul etmeye davet ettiği, açıklanmıştır."[13]

Gelişmiş ülkelerden bazıları ile Türkiye'nin 1990 yılı emisyon oranlarına bakıldığında;

Türkiye: 190 milyon ton karbondioksit,

ABD: 5.5 milyar ton,

Japonya: 1 milyar ton,

Almanya: 800 milyon ton emisyon oranı görülmektedir[14].

Türkiye, Kyoto Protokolü'nü ise 5 Şubat 2009 tarihinde imzalamış ve 5836 sayılı Birleşmiş Milletler İklim Değişikliği Çerçeve Sözleşmesine Yönelik Kyoto Protokolüne Katılmamızın Uygun Bulunduğuna Dair Kanun ile yürürlüğe koymuştur. Türkiye'nin Kyoto Protokolü'ne katılma gerekçeleri:

• Türkiye'nin KP'ne taraf olması halinde, KP ve BMİDÇS'ne taraf ülkeler nezdinde saygınlığının ve 2012 sonrasına ilişkin görüşmelerde ağırlığının artacağı ve 2012 sonrasının şekillenmesinde, Türkiye'nin kendi özgün koşullarını daha iyi görüşme konusu yapabileceği,

• Türkiye KP kapsamında uluslararası rejime katılacağı için, özel sektörde sera gazı salımlarının azaltılması için yapılabilecek projelerin daha kolay desteklenebileceği ve özellikle uzun vadede başta enerji güvenliği olmak üzere ülke ekonomisine katkı sağlanabileceği,

• KP'nin AB çevre yasa ve düzenlemelerinin bir parçası olması;

[12] Nursel Berberoğlu, "İklim Değişikliği: Post-Kyoto Müzakereleri ve Türkiye", Uluslararası Ekonomik Sorunlar, Sayı 33, Dışişleri Bakanlığı Yayınları, 2011, s. 21

[13] Türkeş, a.g.e s.21

[14] Total greenhouse gas emissions (% change from 1990), https://data.worldbank.org/indicator/EN.ATM.GHGT.ZG Er. Tar. 17.10.2021

• Türkiye'nin KP'ne taraf olması durumunda, AB ile iklim değişikliği ile savaşım ve uyum konularında ve AB yasalarına uyum bağlamında işbirliği olanaklarının geliştirileceği yönündedir[15].

Türkiye'nin iklim konusundaki müzakerelerine baktığımızda genel olarak "bekle-gör" politikasının hakim olduğunu görebilmekteyiz[16]. Kararların alınması ve yürütülmesi ancak belirli şartlar ortaya çıktıktan sonra gerçekleşmektedir. Ayrıca genel olarak kalkınma durumuna atıfta bulunulmuş ve kalkınmayı etkilemeyecek şekilde yapılacakların yapılması hususunda mutabık kalmıştır.

2015 yılında Paris'te gerçekleştirilen COP 21 sonrası Paris Anlaşması imzalanmıştır. Türkiye, geçtiğimiz günlerde bu anlaşmaya taraf olduğunu açıkladı. 7335 sayılı Paris Anlaşmasının Onaylanmasının Uygun Bulunduğuna Dair Kanun & Ekim 2021 tarihinde Resmi Gazete'de yayımlanarak yürürlüğe girdi. Türkiye mevcut politikalarla atmosfere salacağı sera gazını referans senaryo kabul edip, emisyon oranlarını bu seviyenin altında tutacağını belirtmiştir. Türkiye'nin 2012 yılında sera gazı emisyonu 430 milyon ton, 2030 hedefi 929 milyon ton. Normalde 1 milyar 129 ton olacakken %21 azaltılıyor[17].

SONUÇ

Türkiye'nin iklim değişikliği anlaşmaları veya konferanslardaki genel tutumu olan " bekle gör" politikasını değiştirmesi gerekmektedir. 2000'li yıllardan itibaren iklim değişikliği ve küresel ısınmanın etkileri oldukça fazla görülmektedir ve insanların günlük hayatlarını bile etkilemektedir. Örneğin; sel felaketlerinde ciddi artış gözlemlenmektedir. Sel felaketinin şimdiye kadar yaşanmadığı yörelerde artık sel felaketleri görülmekte, hatta can ve mal kayıplarına neden olmaktadır. Artık uluslararası arenada kabul görmek veya sistemle entegre olabilmek adına karar alma ve politika üretme yerine, gerçekliği görerek çevre ve vatandaşlar ön planda tutulmalı ve aksiyon alınmalıdır.

Paris İklim Anlaşması imzalanırken ekonomi ve sosyal kalkınma hedeflerine halel getirmeyecek şekilde uygulanacağı belirtilmiş ve bu durum çekinceli yaklaşıldığının bir göstergesidir. Kalkınma hedeflerini sekteye uğratmayacak çekinceleri ortadan kaldırmak adına "yeşil ekonomi" için gerekli olan yatırımlara öncelik verilmelidir. Yeşil ekonomiye geçişi kolaylaştıracak olan teknolojik gelişmelerin yakından takibi ve uygulamaya konması önem arz etmektedir.

Türkiye, karbondioksit salınım oranları açısından dünya ülkeleri içerisinde 20. sıradadır.2030 yılı için planlanan emisyon oranı 929 milyon ton ama 2019 yılı için TÜİK verileri gerçekleşen emisyon oranı 506,1 milyon ton olarak göstermektedir. Dolayısıyla politika değişikliğine gidilmeksizin 2030 yılı azaltılmış hesaplanan orana anca yaklaşılabileceği görünmektedir. Bu duruma bakıldığında Türkiye, aslında emisyon oranlarını azaltmak yerine artırmıştır. Emisyon oranlarının tekrardan gözden geçirilmesi ve daha makul oranlara göre yeniden belirlenmesi, yerkürenin sıcaklığının 1.5 derece artışında sabitlenmesi açısından önemlidir. Her ülkenin emisyon oranlarının bu derecede artış göstermesi; ulaşılması beklenen orana uzaklaştıracak ve 1.5 derece hayal olarak kalacaktır.

[15] Gülcan Erektan, Berna Yelen, Hasan Arısoy, "Kyoto Protokolü, Türkiye'nin Yükümlülükleri ve Beklentiler", Türkiye 9. Tarım Ekonomisi Kongresi, 2010, s.186

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[17] 10 Soruda Türkiye ve Paris İklim Anlaşması, https://wwftr.awsassets.panda.org/downloads/10_soruda_paris_anlamas_web.pdf Er. Tarihi. 20. 10. 2021

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GIDA İSRAFININ İSTATİSTİKSEL OLARAK İNCELENMESİ

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ÖZET

Gıda israfı, insanların tüketimine uygun olan gıdanın, genellikle perakende ve tüketim aşamasında kullanılmadan atılmasıdır. Günümüzde gıda ısrafı, gelişmiş ülkelerde daha sıklıkla görülmesine rağmen, tüm dünya ülkelerini tehdit eden problem olarak karşımıza çıkmaktadır. Ülkelerin artan gelir seviyelerine bağlı olarak gıda ile ilgili tüketim miktarları ve çeşitleri artmaktadır. Gıda ısrafı, son yıllarda tüm dünyayı tehdit eden küresel iklim krizi ile birlikte ülkelerin daha fazla dikkatini çeken bir konu haline gelmiştir. Bu çalışmada, gıda israfı açısından ülkelerin sınıflandırılması amaçlanmıştır. Bu sınıflandırma için lojistik regresyon analizinden yararlanılmıştır. Klasik bir sınıflandırmadan farklı olarak gıda israfı üzerinde etkili olan anlamlı değişkenlerin tespitine olanak sağladığı için lojistik regresyon analizi sonuçları belirlenecek politikalar açısından önemlidir. Ayrıca veri yapısına bağlı olarak lojistik regresyonun sağlam alternatifi olan sağlam lojistik ve sağlam lojistik ridge regresyon analizleri de tanıtılacaktır. Bu yöntemler, bağımsız değişkenler arasında yüksek korelasyon olması ya da veri setinde aykırı değer olması durumlarında kullanılmaktadır. Böylelikle gıda israfına neden olan faktörlerin doğru tespit edilmesi amaçlanmıştır. Bu amaçla, 2020 yılında 86 ülkenin gıda israfı ve gelişmişlik değerleri üzerinde etkili değişkenler belirlenmiştir. Analiz sonucunda, ele alınan bağımsız değişkenler arasında yüksek korelasyonların mevcut olduğu ve verilerin aykırı değer içerdiği tespit edilmiştir. Gıda israfına sebep olan unsurların belirlenmesi için yapılan bu çalışmada sağlam lojistik ridge regresyon analizi daha etkin sonuçlar vermiştir.

Anahtar Kelimeler: Gıda İsrafı, Lojistik Regresyon, Sağlam yöntemler, Çoklu iç ilişki

STATISTICAL EXAMINATION OF WASTE FOOD

ABSTRACT

Waste food is to dispose of food by people's consumption, often without being used in retail and consumption. Today, waste food is more common in developed countries, although it is seen more often, as the problem threatening all the world countries. Depending on the increasing income of countries, the amounts and types of food are increasing. Waste food has become a subject of countries that threaten the whole world in recent years with the global climate crisis of countries. This study aimed to classify countries in terms of waste food. The logistics regression analysis was used for this classification. As unlike a classical classification, logistics regression analysis results are important for the policies to be determined as they allowed to determine the effective variables on waste food. In addition, depending on the data structure, robust logistics and robust logistics ridge regression analysis will be introduced with the robust alternative to logistic regression. These methods are used in cases of high correlation between independent variables or outliers in the data set. Thus, the factors that cause waste food

are intended to be identified correctly. For this purpose, effective variables on the waste food and values of 86 countries in 2020 were determined. As a result of the analysis, it has been found that high correlations are present between the independent variables, and the data contains outliers. In this study to determine the elements that cause food waste, robust logistics ridge regression analysis has given more effective results.

Keywords: Waste food, Logistic Regression, Robust techniques, Multicollinearity

1.GİRİŞ

Gıda; organizmaların kendi hayatlarını devam ettirmesi, büyümesi ve gelişimlerini sürdürebilmelerini sağlamaları için tüketmeleri gerekli olan organik ve inorganik maddelerdir. Bir başka deyişle, insanlar tarafından tüketilmesi için sunulan yarı işlenmiş ya da işlenmemiş halde bulunan tüm yiyecek ve içecekler gıda olarak tanımlanmıştır (TDK, 2020).

Israf ise; zaman, emek gibi değerlerin yanı sıra, ham madde ve doğal kaynakların lüzumsuz yere tüketilmesini ifade etmek için kullanılan bir kavramdır (İlyasov, 2017). Israf, her türlü maddi ve manevi varlığın olması gerekenden fazla miktarda kullanılması anlamına da gelmektedir (Sancaklı, 2013; Aydın, 2021).

Gıda ısrafı konusunda çok çeşitli tanımlamalar olmasına rağmen Birleşmiş Milletler Gıda ve Tarım Örgütü (FAO) (2013) tanımı ön plana çıkmaktadır. Buna göre gıda ısrafı, insanların tüketimine uygun olan gıdanın, genellikle tüketim sırasında kullanılmadan atılmasıdır. Gıda ısrafı, World Resources Institute (WRI) (2015)'in tanımına e göre, insanların tüketimi için uygun olan gıdaların, gıda tedarik zinciri boyunca herhangi bir nedenle kullanılmadan atılması olarak tanımlanmıştır. Bir başka gıda ısrafı tanımı, insan tüketimi için üretilen ürünlerin, gıda tedarik zinciri boyunca bazı nedenlerle veya kullanılabilir olması durumda olmasına rağmen, son kullanma tarihinin yaklaşması gibi sebeplerle imha edilmesi ya da atılmasıdır (European Commision, 2021). Gıda israfı tanımı üzerinde fikir mutabakatının olmamasının nedeni, ısraf kavramı için, bazı terimlerin birbiri yerine kullanılmasıdır (Schneider, 2013).

Günümüzde gıda ısrafı, gelişmiş ülkelerde daha sıklıkla görülmesine rağmen, tüm dünya ülkelerini tehdit eden problem olarak karşımıza çıkmaktadır. Ülkelerin artan gelir seviyelerine bağlı olarak tüketim miktarları ve tüketim çeşitleri artmaktadır. Gıda ısrafı, son yıllarda tüm ülkelerin dikkatini çeken bir konu haline gelmiştir ve uluslararası gündemde ön plana çıkmıştır. Bunun sebebi, sadece israf edilen gıdaların değil, üretimden tüketime kadar olan aşamalarda harcanan kaynakların da tüketilmesidir (Aydın, 2021). Gıda ısrafına sadece gıda açısında değil, harcanan emek, hammadde ve zaman olarak bakmak gereği ortaya çıkmıştır. Gıda ısrafına bu açıdan bakıldığında, çözülmesi gereken bir küresel sorun olduğu gerçeği ile karşı karşıya olduğumuz bilinci ile hareket edilmesi gerekmektedir. Birleşmiş Milletler Gıda ve Tarım Örgütü'nün (FAO) raporuna göre, her yıl yaklaşık 1 trilyon dolarlık gıda, tüketicilere ulaşmadan kaybedilmektedir. Dünya genelinde, çöpe giden ve ısraf olan gıda miktarının yılda 1.3 milyar ton olduğu belirlenmiştir. Gelişmiş ülkelerde marketten satın alınan gıdaların yaklaşık üçte biri evsel atık olarak israf edilmektedir.

Koronavirüs küresel salgını sırasında gıda tedariki ve dağıtımında çıkan aksaklıklar yüzünden milyonlarca insan açlığa sürüklenmiştir. Birçok kuruluş koronavirüs küresel salgınının iklim değişikliği konusunun gıda ısrafı için ne kadar önemli olduğuna ilişkin uyarılarda bulunmuştur. Türkiye'nin dünya genelinde kişi başına en çok gıda ısrafının yapıldığı ilk 10 ülke arasında yer aldığı görülmektedir. Ayrıca, Türkiye'de 22.300.000 kişi yoksulluk sınırı altında yaşamakta iken gıda ısrafının 26.000.000 ton civarında olduğu belirtilmiştir (TISVA, 2020).

Gıda ısrafının önlenmesine ilişkin her ülke çeşitli projeler üretmektedir. Türkiye'de ise, 1998 yılında kurulan Türkiye Israfı Önleme Vakfı (TISVA) ile gıda ısrafını önleme çalışmalarını kurum düzeyinde yapmaya başlamıştır. Türkiye'de genel olarak ekmek ısrafının çok olduğu düşüncesiyle, ekmek ısrafını azaltma çalışmaları yapılmıştır. Yapılan akademik çalışmalar da, ekmek ısrafı ile ilgili olmuştur (Gül, vd., 2003; Aydın ve Yıldız, 2011; Bal vd., 2013; Ertürk vd. 2015).

Bu çalışmada, gıda ısrafı verilerine uygun olarak lojistik regresyon analizinin iki yeni versiyonu tanıtılacaktır. Böylelikle veri yapısına bağlı olarak gıda ısrafına neden olan faktörlerin doğru tespit edilmesi amaçlanmıştır. Çalışmada ilk olarak, lojistik regresyon analizi açıklanmıştır. Daha sonra, veri setinden elde edilen artıkların dağılımının normal olmaması durumunda etkili sonuçlar veren sağlam lojistik regresyon analizi tanıtılacaktır. Son olarak, hem veri setinden elde edilen artıkların dağılımının normal olmaması, hem de açıklayıcı değişkenler arasında çoklu iç ilişki olması durumunda kullanılan sağlam lojistik ridge regresyon yöntemi açıklanacaktır. Gıda ısrafı verilerine uygulanacak bu analizler ile litratüre katkı sağlanması da amaçlanmaktadır. Bu amaçla, 2020 yılında Dünya ülkelerinden verilerine ulaşılan 86 ülkeye ait gıda ısrafı ve gelişmişlik değerleri ele alınarak gıda ısrafı üzerindeki etkileri araştırılmıştır. Analiz sonucunda, ele alınan bağımsız değişkenler arasında yüksek korelasyonların mevcut olduğu ve lojit artıkların dağılımının normal olmadığı tespit edilmiştir.

2.ARAŞTIRMA VE BULGULAR

Çok değişkenli istatistiksel yöntemler veri yapısını daha basit bir forma dönüştürür ve verilerin özet halde sunulmasını sağlar. Çok değişkenli istatistiksel yöntemler konusunun içinde yer alan sınıflandırma yöntemleri, analiz için gerekli varsayımların sağlanmasına bağlı olarak doğru ve güvenilir sonuçlar vermektedir. Gerekli varsayımların sağlanamaması durumunda elde edilen sonuçlar geçerli ve güvenilir olmayacaktır. Çok değişkenli istatistiksel yöntemler sınıfında sıklıkla kullanılan lojistik regresyon analizi, diğer bir yöntem olan lineer diskriminant analizine (LDA) alternatif bir yöntem olarak düşünülebilir. LDA yönteminde verilerin çok değişkenli normallik varsayımını sağlaması gerekmektedir. Uygulamada, birçok veri setinin normallik varsayımını sağlanamadığı görülmektedir. Bu nedenle lojistik regresyon analizinin son dönemlerde sınıflandırma aracı olarak çok daha yaygın bir kullanıma sahip olduğu görülmektedir. Veri yapısına bağlı olarak kullanılabilecek birçok lojistik regresyon yöntemi vardır. Bu çalışmada sağlam (robust) lojistik ve sağlam lojistik ridge regresyon yöntemleri ele alınacaktır.

2.1. Lojistik Regresyon Analizi

Lojistik regresyon analizi, grupların önceden bilindiği durumlarda kullanılan ve bağımsız değişkenler ile bağımlı değişken arasındaki nedensellik ilişkisini, diğer regresyon yöntemlerinde olduğu gibi en az değişken yardımıyla açıklamaya çalışmaktadır (Hair vd., 1995).

İkili lojistik regresyon, bağımlı değişkenin düzey sayısı iki durumlu olduğu zamanlarda kullanım için uygundur (Yan vd., 2005). Bağımsız değişkenler, lojistik regresyon analizinde kategorik veya sürekli olabilir. Lojistik regresyon analizi, bağımlı değişkenin alacağı değerlerden birinin olasılığını tahmin eder. Lojistik regresyon fonksiyonu, bağımsız değişkenlerin doğrusal kombinasyonları ile doğrusal olmayan ilişkiye sahiptir (Algamal ve Lee, 2015). Lojistik regresyon analizinde, başarısız durum için 0 ve başarılı durum için 1 değerlerini alan bir bağımlı değişken söz konusudur. $y_i \in \{0,1\}$, nx1 boyutlu bağımlı değişken değerlerini ve x_j, pxn boyutlu bağımsız değişkenler vektörünü göstersin. $\pi_i = P(y_i = 1|x_j)$ olasılık kestirimlerinin lojistik dönüşümü, doğrusal fonksiyon ile modellenir.

Buradan hareketle lojit dönüşümü;

$$\ln\left[\frac{\pi_i}{1-\pi_i}\right] = \beta_0 + \sum_{j=1}^{p} x_j^T \beta_j, i = 1,2,\dots,n \qquad (1)$$

şeklinde ifade edilir.

Burada, β_0; sabit terim ve β_j;bilinmeyen bağımsız değişken katsayıları vektörüdür. $\pi(x) / 1-\pi(x)$ oranı, odds oranı (OR) olarak adlandırılmaktadır ve lojistik regresyon analizinde katsayıların yorumlanmasında kullanılmaktadır. OR, exp (bi) 'ye eşittir (Chen vd., 2012; Tay vd., 2008; Yan vd., 2005).

Eşitlik (1) için log-olabilirlik fonksiyonu;

$$L(\beta_0,\beta) = \sum_{i=1}^{n}\{y_i ln\pi(x_{ij}) + (1-y_i)\ln(1-\pi(x_{ij}))\}, \quad j = 1,2,\dots,p \quad (2)$$

şeklinde yazılır. Parametre tahminleri log-olabilirlik fonksiyonunu maksimize eden değerlerdir ve Newton-Raphson algoritması yardımıyla elde edilebilir. Lojistik regresyonun avantajlarından birisi de de $\pi(x_{ij})$ ve $1-\pi(x_{ij})$ olasılıklarının aynı anda kestirimini yapmasıdır.

2.2.Sağlam Lojistik Regresyon Analizi

Uygulamada, ilgilenilen değişken için elde edilen artıkların normal dağılmaması, veriler için tutarsız değerlere sahip olması anlamına gelmektedir. Ölçüm hatası, insan hatası, ana kitledeki doğal değişimler gibi çeşitli nedenlerden dolayı artık değerlerin normal dağılmaması durumu ile karşılaşılabilir. Artık değerlerin normal dağılmaması, model varsayımlarının başarısız olmasına neden olur. Bu nedenle lojit artık değerlerin normal dağılmaması ile oluşturulan lojistik regresyon modelinden elde edilen sonuçlar gerçeği yansıtmayabilir. Artık değerlerin normal dağılmaması durumunda, maksimum olabilirlik (MLE) yöntemiyle elde edilen parametre tahminleri etkilidir, ancak normal dağılmama durumunda etkinliklerini kaybederler (Hadi ve Imon, 2008). Sağlam istatistiksel yöntemler, bu etkisiyi ve varsayımsal bozulmayı en aza indirgedikleri için, uygulanan istatistiksel yöntemden elde edilen sonuçların güvenilirliğini ve geçerliliğini artıran yöntemlerdir. Bu durumda, sağlam lojistik regresyon yöntemi tercih edilmelidir. Bir M-tahmincisi olan ve Bianco-Yohai (1996) tarafından tanımlanan, sağlam lojistik regresyon tahmin edicisi Eşitlik 3 da verilmiştir.

$$\beta_n = \arg\min \sum_{i=1}^{n} \phi(Y_i, \pi(x_i'\beta)) \qquad (3)$$

Burada, $d_i(\beta)$, $\phi(Y_i,\pi(x_i'\beta)) = \tilde{n}(d_i(\beta)) + \tilde{n}_0(\pi(x_i'\beta))$ fonksiyonundaki tahmin edicilerinin varyansıdır. Burada $\tilde{n}(t)$ kısıt fonksiyonudur (Hobza vd., 2012).

2.3.Sağlam Lojistik Ridge Regresyon Analizi

Çoklu doğrusal regresyon analizinin varsayımlarından birisi olan, bağımsız değişkenlerin birbirleriyle ilişkili olmama varsayımı lojistik regresyon analizi için de söz konusudur. Bağımsız değişkenler arasındaki bu ilişki, çoklu iç ilişki problemi olarak adlandırılmaktadır (Montgomery vd. 2001). Çoklu iç ilişki durumunda, parametre tahmincileri minimum varyanslı olma özelliklerini yitirmektedir. Ayrıca tahmin edilen regresyon katsayılarının varyansı artmakta ve R^2 değeri gerçekten çok daha büyük olarak elde edilmektedir. Regresyon katsayılarının varyansı sonsuza yaklaşmakta, bu nedenle modeldeki bağımsız değişken

katsayılarının tamamı yada çoğu istatistiksel olarak anlamsız olmakta hatta bu katsayıların işaretleri teoriden farklı olarak elde edilebilmektedir (Arıcan, 2010).

Hoerl ve Kennard (1970) tarafından önerilen Ridge regresyon yöntemi, çoklu iç ilişki sorunu ile karşılaşıldığında yaygın olarak kullanılan regresyon yöntemlerinden biridir. Lojistik regresyonda ridge tahmincisinin kullanımı Dufy ve Santer (1989) tarafından verilmektedir. Lojistik ridge regresyon yönteminde parametre tahminleri, kısıtlı en çok olabilirlik yöntemi ile elde edilmektedir. Lojistik ridge regresyon tahmin edicisi (4) eşitliğinde verildiği gibidir. Eşitlik 4'te verilen k sabiti (k> 0) yanlılık sabiti veya ridge parametresi olarak adlandırılmaktadır (Hoerl ve Kennard, 1970).

$$\hat{\beta}_{LRR} = \left[X' \hat{W} X + kI \right]^{-1} \left[X' \hat{W} X \hat{\beta}_{MLE} \right] \tag{4}$$

Gıda ısrafı veri setinde hem açıklayıcı değişkenler arasında çoklu iç ilişki problemi olduğundan hem de artıkların normal dağılmamasını içerdiğinden, en çok olabilirlik tahmincisi yerine sağlam lojistik ridge regresyon yöntemi kullanılmalıdır. Sağlam lojistik ridge regresyon tahmin edicisi, Croux and Haesbroeck (2003) tarafından Eşitlik 5 da verildiği gibidir.

$$\hat{\beta}_{RLRR} = \left[X' \hat{W}^{*} X + k^{*} I \right]^{-1} \left[X' \hat{W}^{*} X \hat{\beta}_{WBY} \right] \tag{5}$$

Burada $\hat{W}$, $\hat{\pi}_i(x)\left[1-\hat{\pi}_i(x)\right]$ köşegen elemanları olan diagonal bir matristir. $\hat{\beta}_{WBY}$ ise robust lojistik regresyon analizinde tanımlanan ağırlıklandırılmış Biancho-Yohai tahmin edicisidir. $\hat{\beta}_{RLRR}$ tahmin edicisi iteratif olarak hesaplanmaktadır.

2.4.Uygulama

Bu çalışmada, dünya üzerindeki 86 ülkenin gıda ısrafına ilişkin veriler, Birleşmiş Milletler Gıda ve Tarım Örgütü ve Birleşmiş Milletler Gelişmişlik raporlarından elde edilmiştir. Bağımlı değişken Y gıda ısrafı değişkeni iki düzeyli olarak tanımlanmıştır. Gıda ısrafı değişkeninin iki düzeyi aşağıdaki gibi kodlanmıştır.

$$Y_i = \begin{cases} 0, & Gıda\ ısrafı\ değeri\ düşük \\ 1, & Gıda\ ısrafı\ değeri\ yüksek \end{cases}$$

Ayrıca bu çalışmada bağımsız değişkenler aşağıda şekilde tanımlanmıştır.

X_1: Doğumda yaşam beklentisi

X_2: Okullaşma beklentisi

X_3: Kişi başı Milli gelir

X_4: Nüfus

X_5: İşgücü oranı

X_6: Göç oranı

X_7: İçilecek suya ulaşma oranı

X_8: Ev yemek atığı

X_9: *Yemek servisi atığı*

X_{10}: *Perakende yemek atığı*

Bağımsız değişkenlere ait betimleyici istatistikler Tablo 1'de verilmiştir. Tablo 1'e göre, 86 ülke için doğumda yaşam beklentisi ortalaması 76,62, standart sapması 5,64, okullaşma beklentisi ortalaması 14,89, standart sapması 2,59, kişi başı brüt milli gelir ortalaması 29294,99 $, standart sapması 21433,99 $, nüfus ortalaması 53,02 milyon, standart sapması 155,62 milyon, iş gücü oranı ortalaması 62,14, standart sapması 9,17, göç oranı (bin kişide) ortalaması 1,73, standart sapması 5,41, içilecek suya ulaşma oranı ortalaması 80,47, standart sapması 24,17, evsel yemek atığı ortalaması 3819207,21 ton, standart sapması 9012135,93 ton, yemek servisi atığı ortalaması 152123,37 ton, standart sapması 4709166,90 ton ve perakende yemek atığı ortalaması 804588,47 ton, standart sapması 2441333,80 ton olduğu görülmektedir.

Tablo 1. Gıda Israfı İçin Kullanılan Bağımsız Değişkenlere Ait Betimleyici İstatistikler

	N	Minimum	Maksimum	Ortalama	Std. Sapma
Doğumda Yaşam Beklentisi (X_1)	86	54.69	84.63	76.6171	5.64367
Okullaşma Beklentisi (X_2)	86	8.28	21.95	14.8855	2.59097
Kişi Başı Brüt Milli Gelir ($) ($X_3$)	86	2123.27	92418.23	29294.9931	21433.98597
Nüfus (milyon) (X_4)	86	.34	1366.42	53.0254	155.61924
İş gücü oranı (X_5)	86	42.02	86.82	62.1445	9.17114
Göç Oranı (1000 kişide) (X_6)	86	-11.60	31.11	1.7256	5.41224
İçilecek Suya Ulaşma Oranı (X_7)	86	7.00	100.00	80.4710	24.16609
Ev yemek atığı (ton) (X_8)	86	25826.88	68760163.39	3819207.2116	9012135.93269
Yemek servisi atığı (ton) (X_9)	86	8668.37	37778821.22	1522123.3713	4709166.90051
Perakende yemek atığı (ton) (X_{10})	86	4343.03	21371086.75	804588.4689	2441333.80315

Çalışmanın devamında, lojistik regresyon modelini geliştirmek ve bağımlı değişkeni açıklayan ve anlamlı bir artış sağlayan açıklayıcı değişkenleri belirlemek için uygulama bölümünde bahsi geçen değişkenler kullanılarak lojistik regresyon analizi uygulanmıştır. Analiz sonucunda, bağımlı değişkeni açıklamak için oluşturulan modelin uyum iyiliğini test etmek için Hosmer ve Lemeshow test istatistiği değeri kullanılmıştır. Kurulan modelin gıda ısrafı sonucunu açıklaması üzerindeki uyumunu gösteren bu istatistiklere ait sonuçlar Tablo 2'de verilmiştir. Tablo 2 incelendiğinde, Hosmer-Lemeshow testi modelin genel olarak anlamlı olduğunu belirtir (p >0.05).

Tablo 2. Lojistik regresyon analizi uyum iyiliği testleri sonuçları

Uyum İyiliği Testi	**Değeri**
Cox ve Snell R^2	0.748
NagelkerkeR^2	0.999
Hosmer and Lemeshow (p)	0.999

Ayrıca, gıda ısrafı için kurulan lojistik regresyon modeline ait iki adet R^2 değeri hesaplanmış veTablo 2'de verilmiştir. Bu değerler, bağımsız değişkenlerin bağımlı değişkeni açıklama

oranını göstermektedir. Cox&Snell R^2 istatistiğine göre bu oran % 74.8, Nagelkerke R^2 istatistiğine göre ise % 99.9'dur. Lojistik regresyon analizi sonucunda elde edilen regresyon katsayıları ve parametrelerin anlamlılık sınamalarına ilişkin istatistikler Tablo 3'de verilmiştir.

Tablo 3'e göre, analize alınan bütün değişkenlere ait katsayı değerleri anlamsız bulunmuştur (p>0.05). Lojistik regresyon analizi ile kurulan model, genel olarak anlamlı bulunmasına rağmen; katsayıların hep birlikte istatistiksel olarak anlamsız bulunması ile varsayımsal hataların yapıldığının işaretidir. Bu nedenle ilk olarak, veri setinden elde edilen lojit artıklarının normal dağılımdan olup-olmadığı kontrol edilmelidir. Lojit artıklar için analiz sonucu Tablo 4'te gösterilmiştir.

Tablo 3. Lojistik Regresyon Analizi Sonuçları

	B	S.E.	Z	sd	p	Exp(B)=ODDS
X_1	1.612	218.347	.000	1	.994	5.012
X_2	.892	591.365	.000	1	.999	2.440
X_3	-.001	.133	.000	1	.994	.999
X_4	1.024	194.166	.000	1	.996	2.783
X_5	.264	66.786	.000	1	.997	1.303
X_6	-2.022	295.694	.000	1	.995	.132
X_7	.155	65.637	.000	1	.998	1.168
X_8	.000	.003	.000	1	.995	1.000
X_9	.000	.004	.001	1	.972	1.000
X_{10}	.000	.006	.001	1	.979	1.000
Sabit Terim	-198.047	18368.709	.000	1	.991	.000
DSO	100.000					

Tablo 4. Lojit Artıkların Normallik Testi Sonuçları

	Shapiro-Wilk		
	İstatistik	sd	p
Lojit Artık	.109	86	.000

Tablo 4'e göre lojit artıkları normal dağılmadığından, robust lojistik regresyon analizi uygulanmıştır. Robust lojistik regresyon analizi sonuçları Tablo 5'te görüldüğü gibidir.

Tablo 5. Robust Lojistik Regresyon Analizi Sonuçları

	B	S.E.	Z	sd	p	Exp(B)=ODDS
X_1	**1.182**	**.169**	**6.994**	**1**	**.001**	**3.261**
X_2	**-6.235**	**.057**	**-108.600**	**1**	**.001**	**0.002**
X_3	.00005	2.685	.00001	1	.999	1.00005
X_4	**5.475**	**.060**	**91.910**	**1**	**.001**	**238.651**
X_5	**-.559**	**.101**	**-5.520**	**1**	**.001**	**0.572**
X_6	**.768**	**.023**	**32.440**	**1**	**.001**	**2.156**
X_7	**.283**	**.022**	**12.830**	**1**	**.001**	**1.327**

X_8	.00006	2.989	.00002	1	.999	1.00006
X_9	-.0001	2.311	-.00006	1	.999	0.999
X_{10}	.00005	1.610	.00003	1	.999	1.00005
Sabit Terim	**-93.320**	**.103**	**-904.100**	**1**	**.001**	**.000001**
DSO	100.000					

Tablo 5'e göre, 6 değişkeninin katsayı değerleri istatistiksel olarak anlamlıdır ($p<0.05$). Ayrıca robust lojistik regresyon analizi sonucunda elde edilen modelin doğru sınıflandırma yüzdesi % 100.000 olarak hesaplanmıştır. Doğumda yaşam beklentisi, gıda ısrafını arttırıcı yönde etkilemektedir. Benzer şekilde nüfus, göç oranı ve içilecek suya ulaşma oranları da gıda ısrafını arttırıcı yönde etkiye sahip bulunmuştur. Okullaşma beklentisi, gıda ısrafını azaltıcı yönde etkilemiştir. Ancak, yemek servisi atığı, gıda ısrafı üzerinde azaltıcı etkiye sahip bulunmuştur. Bu durum, teorik beklentiyi karşılamamaktadır. Yemek servisi atığı değişkeninin anlamsız bulunması nedeniyle modelde yer almadığı görülmüştür. Regresyon analizinde bazı katsayıların anlamlı olarak bulunması, ancak işaretlerinin teorik beklenti ile uyum sağlamaması çoklu iç ilişkinin göstergelerindendir. Bu nedenlerden dolayı, bağımsız değişkenler arasındaki korelasyon katsayıları hesaplanmıştır. Tablo 6'ya göre, korelasyon katsayısı 0.70 değerinden büyük olan değişkenler bulunmaktadır. Bu durum, değişkenler arasında güçlü bir doğrusal ilişkinin işaretidir.

Tablo 6. Açıklayıcı Değişkenler Arasındaki Korelasyon Katsayıları

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
X_1	1	**.805**	**.748**	-.231	-.078	.262	**.811**	-.377	-.206	-.249
X_2	**.805**	1	.667	-.196	-.054	.194	**.748**	-.280	-.160	-.215
X_3	**.748**	.667	1	-.155	.118	.470	**.706**	-.212	-.092	-.170
X_4	-.231	-.196	-.155	1	.144	-.012	-.167	**.936**	**.957**	**.993**
X_5	-.078	-.054	.118	.144	1	.354	-.188	.093	.137	.149
X_6	.262	.194	.470	-.012	.354	1	.253	-.030	.002	-.018
X_7	**.811**	**.748**	**.706**	-.167	-.188	.253	1	-.290	-.125	-.174
X_8	-.377	-.280	-.212	**.936**	.093	-.030	-.290	1	**.896**	**.930**
X_9	-.206	-.160	-.092	**.957**	.137	.002	-.125	**.896**	1	**.957**
X_{10}	-.249	-.215	-.170	**.993**	.149	-.018	-.174	**.930**	**.957**	1

Bu durumda, çoklu iç ilişki probleminin giderilmesi için sağlam lojistik ridge regresyon analizi uygulanmıştır. Tablo 7'de verilen robust lojistik ridge regresyon analizi sonuçları incelendiğinde, ilgili model için elde edilen 4 katsayının istatistiksel olarak anlamlı olduğu görülmektedir ($p<0.05$). Bu katsayılar, nüfus, evsel yemek atığı, yemek servisi atığı ve perakende yemek atığına ait katsayılardır. Bu değişkenlerin tamamı, gıda ısrafını arttırıcı yönde etkilemektedir. Çoklu iç ilişkinin etkisinin giderilmesi sonucunda elde edilen katsayılar incelendiğinde, lojistik regresyon analizinde teorik beklentiye uymayan değişken katsayılarının işaretlerinin teorik beklentiye uygun şekilde çıktığı görülmektedir. Ek olarak, robust lojistik ridge regresyon analizi sonucunda, modelin doğru sınıflandırma yüzdesi % 83.720 olarak hesaplanmıştır.

Tablo 7. Robust Lojistik Ridge Regresyon Analizi Sonuçları

	B	S.E.	Z	sd	p	Exp(B)=ODDS
X_1	2.893	2.695	1.073	1	.283	18.047
X_2	1.956	2.630	.744	1	.457	7.071
X_3	-4.914	2.705	-1.816	1	.069	0.007
X_4	**10.340**	**1.616**	**6.400**	**1**	**.0001**	**30946.030**
X_5	.324	2.231	.145	1	.884	1.383
X_6	.518	2.266	.229	1	.819	1.679
X_7	-4.424	2.677	-1.653	1	.098	0.012
X_8	**13.470**	**1.976**	**6.819**	**1**	**.0001**	**707858.900**
X_9	**8.627**	**1.384**	**6.231**	**1**	**.0001**	**5580.312**
X_{10}	**8.840**	**1.892**	**4.673**	**1**	**.0001**	**6904.993**
Sabit Terim	-	-	-	-	-	-
DSO		83.720	$\lambda =$	.0137		

3.SONUÇ VE ÖNERİLER

Bu çalışmada, dünya üzerindeki 86 ülkenin gıda ısrafına ilişkin verileri incelenerek, gıda ısrafına sebep olan unsurların belirlenmesi için güvenilir sonuçlar veren lojistik regresyon analizine alternatif olarak geliştirilen, sağlam lojistik regresyon ve sağlam lojistik ridge regresyon teknikleri tanıtılmıştır. Nüfus, robust lojistik regresyon analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 239 kat arttırırken, robust lojistik ridge analizi göz önüne alındığında 30946 kat arttırmaktadır. İçilecek suya ulaşma oranı, robust lojistik regresyon analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 1.327 kat arttırdığı tespit edilmiştir. Göç oranı, robust lojistik regresyon analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 2.156 kat arttırdığı belirlenmiştir. İş gücü oranı, robust lojistik regresyon analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 0.572 kat azalttığı görülmüştür. Ev yemek atığı, robust lojistik ridge analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 707859 kat arttırmaktadır. Benzer şekilde, yemek servisi atığı, robust lojistik ridge analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 5580 kat arttırdığı belirlenmiştir. Perakende yemek atığı, robust lojistik ridge analizi göz önüne alındığında gıda ısrafının yüksek olmasını düşük olmasına göre 6905 kat arttırdığı tespit edilmiştir.

Gıda ısrafı çalışmalarında, lojistik regresyon analizi yaygın bir biçimde kullanılmamaktadır. Bu çalışma ile literatürdeki bu boşluk doldurulmaya çalışılmıştır. Ek olarak, gerekli varsayımların sağlanmaması durumunda lojistik regresyon analizinden elde edilen sonuçların güvenilirliği düşmektedir. Dolayısıyla bu teknikten elde edilen sonuçlar kullanışsızdır. Gıda ısrafı gibi sonuçları hayati önem taşıyan konularda güvenilir sonuçlar elde etmek için analizlerin daha dikkatli bir biçimde yapılması gerekir. Bu çalışmada sadece lojistik regresyon analizi sonuçları kullanılacak olsaydı, gıda ısrafının yüksek olarak sonuçlanma durumunun hiç bir değişkene bağlı olmadığı görülecekti. Lojit artıklarının normal dağılmama etkisinin giderilmesi sonucunda elde edilen robust lojistik regresyon analiz sonuçlarına bakıldığında gıda ısrafı üzerinde lojistik regresyon analizine göre etkili olan değişkenlerin sayısının arttığı tespit edilmiştir. Ayrıca gıda ısrafının doğru bir şekilde açıklamada robust lojistik regresyon analizi

%100 performans göstermektedir. Ancak elde edilen katsayılar incelendiğinde istatistiksel olarak anlamlı olan değişkenlerin, alanda anlamlı olmadığı görülmüştür. Beklentinin tersi yönde çıkan bu sonuçlar bağımsız değişkenler arasındaki çoklu iç ilişkiden kaynaklanmaktadır. Hem çoklu iç ilişkinin hem de lojit artıkların normal dağılamama etkisi giderildiğinde gıda ısrafının sebeplerinin daha net bir şekilde belirlendiği görülmektedir. Robust Lojistik Ridge Regresyon analizi ile kurulan model gıda ısrafını saptamada %83.7 başarılıdır. Ayrıca gıda ısrafı üzerinde etkili olan birçok unsurun hem istatistiksel hem de alana göre anlamlı olduğu saptanmıştır.

Tüm bu sonuçlar, gıda ısrafı ile ilgili araştırmalarda doğru ve güvenilir sonuçların elde edilmesinin gerekli varsayımların sağlanmasına bağlı olduğunu göstermektedir. Gıda ısrafına sebep olan unsurların belirlenmesi için yapılan bu çalışmada önerilen ve sonuçları daha iyi bulunan Robust Lojistik Ridge Regresyon analizinin gıda ile ilgili alanlar için kullanımının uygun olacağı görülmüştür.

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SU AYAK İZİNİN BÜYÜME EĞRİLERİ İLE MODELLENMESİ

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ÖZET

Su, hayatın kaynağı olması sebebiyle gelecekte en önemli kıtlık duyulacak kaynakların başındadır. Toplumsal gelişmenin etkisiyle artan su kullanımı çevresel, sosyal ve ekonomik birçok unsuru derinden etkilemektedir. Su kaynaklarının kullanım miktarının artmasındaki temel nedenler, nüfus, kentleşme ve sanayileşme olarak gösterilmektedir. Kişi başı tüketilen günlük su miktarı, su tüketiminin önemli göstergelerinden biridir ve su ayak izi olarak adlandırılmaktadır. Bu çalışmada, kişi başı tüketilen su miktarının modellenmesinde büyüme eğrileri yöntemi kullanılacaktır. Büyüme eğrileri, zamana karşı başlangıç, büyüme ve durgunluk özelliği gösteren S şeklindeki eğrilerdir. Büyüme eğrilerinin kullanılmasının amacı, su kaynaklarında oluşacak kıtlık nedeniyle sürekli artan bir su ayak izinin sürdürülebilir olmamasıdır. Bu amaçla, Türkiye'de kişi başı tüketilen su miktarına ait veriler 1994-2018 yılları için ele alınarak, çeşitli büyüme modelleri yardımıyla su ayak izi modellenmeye çalışılmıştır. Bu modeller, literatürde sıklıkla kullanılan Lojistik, Gompertz ve Weibull modelleridir. Bu modellerin uyum iyiliğinin karşılaştırılmasında, Akaike Bilgi Kriteri (AIC) kullanılmıştır. AIC değeri en küçük olan model uygun model olarak belirlenmiştir. Ayrıca tüm modellerin için parametre tahminlerinin anlamlılık sınamaları gerçekleştirilmiştir. En iyi model olarak seçilen Weibull büyüme eğrisine ait parametre tahminleri kullanılarak, kişi başına tüketilen su miktarı için ileriye yönelik tahminler yapılmıştır.

Anahtar Kelimeler: Büyüme Eğrileri, Su Ayak İzi, Weibull Model, Akaike Bilgi Kriteri

MODELLING OF WATER FOOTPRINT WITH GROWTH CURVES

ABSTRACT

Water is due to the source of life, the most important scarcity will be heard in the future. With the effect of social development, increasing water use, environmental, social and economic effects many elements. The main reasons to increase the number of water resources are shown as population, urbanization and industrialization. The amount of daily water consumed per person is one of the important indicators of water consumption and is called water footprint. In this study, the growth curves method will be used in modelling the amount of water consumed per person. Growth curves are the S-shaped curves showing the beginning, growth and recession against time. The aim of the use of growth curves is that an increasing water footprint is not sustainable due to scarcity to form in water resources. For this purpose, the amount of water consumed per person in Turkey was addressed for the years between 1994 and 2018, the water footprint was tried to model with various growth models. These models are frequently used Logistic, Gompertz and Weibull models in the literature. Akaike Information Criteria (AIC) was used to compare the goodness of these models. The AIC value is the smallest model,

is designated as the fit model. In addition, the significance tests of parameter estimates were performed for all models. As the best model, the selected Weibull growth curve has been made forward to the amount of water consumed per person.

Keywords: Growth curves, Water footprint, Weibull model, Akaike Information Criteria

1.GİRİŞ

Büyüme modelleri, büyümeyi biyolojik olarak anlamak için gereken bilgileri özetlemektedir. Uygun bir büyüme fonksiyonu, çevresel ve biyolojik olaylarda sağlanan bilgileri yorumlamayı kolaylaştırır (Menchaca vd., 1996; Lopez vd., 2000). Çevresel ve biyolojik olaylarda büyümenin, S şeklinde ve sayısız doğrusal olmayan büyüme denklemine sahip olduğu görülmüştür.

Yaygın olarak kullanılan doğrusal olmayan büyüme modelleri; Brody, Bertalanffy, Gompertz, Richards, Lojistik, Morgan Mercer Flodine (MMF) ve Weibull'dur (Koops, 1986). Bu eğriler, zamana karşı başlangıç, büyüme ve durgunluk özelliği gösteren S şeklindeki eğrilerdir (Ratkowsky, 1983; Ersoy vd., 2005).

Su, hayatın kaynağı olması sebebiyle gelecekte en önemli kıtlık duyulacak kaynakların başındadır. Toplumsal gelişmenin etkisiyle artan su kullanımı çevresel, sosyal ve ekonomik birçok unsuru derinden etkilemektedir. Su kaynaklarının kullanım miktarının artmasındaki temel nedenler, nüfus, kentleşme ve sanayileşme olarak gösterilmektedir. Kişi başı tüketilen günlük su miktarı, su tüketiminin önemli göstergelerinden biridir ve kullanıldığı yer ve zaman aralığı su ayak izi olarak adlandırılmaktadır (Türkiye'nin Su Ayak İzi Raporu, 2014).

Bu çalışmada, kişi başı tüketilen su miktarı ve zaman modellenmesinde büyüme eğrileri yöntemi kullanılacaktır. Büyüme eğrilerinin kullanılmasının amacı, su kaynaklarında oluşacak kıtlık nedeniyle sürekli artan bir su ayak izinin sürdürülebilir olmamasıdır.

2.ARAŞTIRMA VE BULGULAR

Bu çalışmada, Türkiye'de kişi başı tüketilen su miktarına ait veriler 1994-2018 yılları için ele alınarak, çeşitli büyüme modelleri yardımıyla su ayak izi modellenmeye çalışılmıştır. Veriler, Çevre ve Şehircilik Bakanlığı ve TUİK web sayfalarından, kişi başına tüketilen su miktarı (ton) olarak alınmıştır.

Büyüme modelleri olarak, literatürde sıklıkla kullanılan lojistik, gompertz ve weibull modelleri ele alınarak ilgili analizler yapılmıştır. Lojistik, Gompertz ve Weibull modelleri Tablo 1'de gösterildiği gibidir.

Tablo 1. Su Ayak İzi Analizinde Kullanılan Büyüme Modelleri

Model	Denklem
Lojistik Büyüme	$Y = \alpha/(1 + \exp(\beta - \theta t))$
Gompertz Büyüme	$Y = \alpha\exp(-\exp(\beta - \theta t))$
Weibull Büyüme	$Y = \alpha - \beta\exp(-\theta t^{\gamma})$

Tüm modeller için; Y, kişi başına tüketilen su miktarı; t, zaman; α, maksimum büyüme veya asimptotik ağırlık; β, başlangıç ağırlığı ile ilgili ölçek parametresi; θ, büyüme oranı ve γ, şekil parametresi olarak belirlenmiştir.

Model karşılaştırmasında, AIC (Akaike Information Criteria) olarak bilinen Akaike Bilgi Kriteri kullanılmıştır.

$$AIC = -2\log(L) + 2p \quad (1)$$

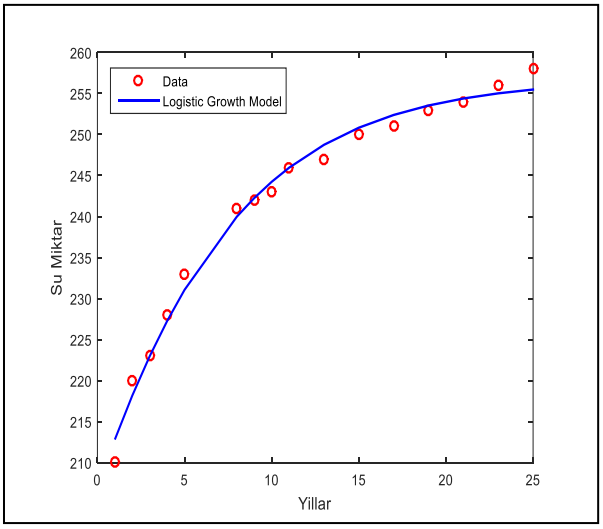
Burada, L, model parametre kestirimleri verildiğinde gözlemlerin maksimize edilmiş log-olabilirliği ve p, modeldeki parametre sayısını ifade etmektedir.

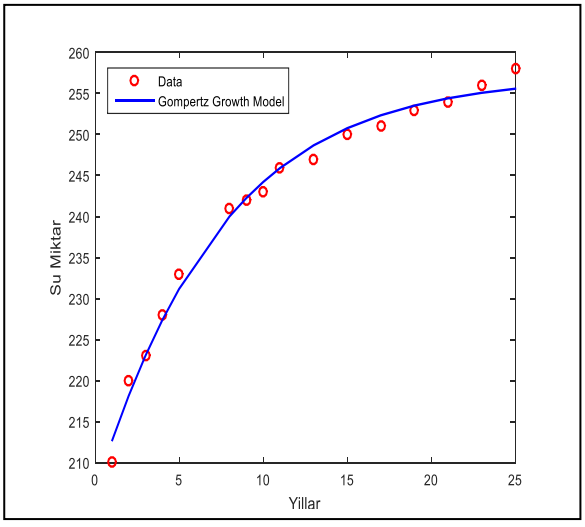
Büyüme eğrileri için analiz sonuçları Tablo 2'de özetlendiği gibi bulunmuştur. Tablo 2'ye göre, lojistik, gompertz ve weibull büyüme modelleri için AIC değerleri sırasıyla, 31.575, 28.838 ve 11.818 olarak tespit edilmiştir. Analiz sonuçlarına göre, en düşük AIC değeri Weibull Büyüme modelinde bulunmuştur. Ayrıca tüm modellerin için parametre tahminlerinin anlamlılık sınamaları gerçekleştirilmiştir ve tüm model parametre tahminlerinin anlamlı oldukları görülmüştür.

Tablo 2. Su Ayak İzi Analizinde Kullanılan Büyüme Modelleri İçin Parametre ve AIC Değerleri

	Model		
Model Parametre	**Lojistik Büyüme**	**Gompertz Büyüme**	**Weibull Büyüme**
α	256.767	257.158	267.566
β	0.219	0.198	88.922
θ	0.966	0.865	0.595
γ	-	-	0.994
AIC	31.575	28.838	**11.818**

Su ayak izi için kullanılan büyüme eğrilerine ait grafikler Şekil 1'de gösterildiği gibidir.





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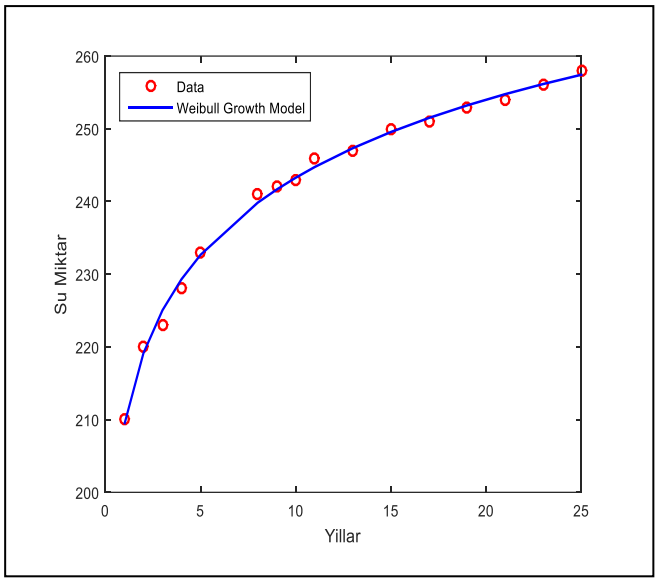

Şekil 1. Su Ayak İzi Analizinde Kullanılan Büyüme Modelleri İçin Grafikler

3.SONUÇ VE ÖNERİLER

Türkiye'de kişi başı tüketilen su miktarına ait veriler 1994-2018 yılları için ele alınarak, çeşitli büyüme modelleri yardımıyla su ayak izi modellenmeye çalışılmıştır. Lojistik, Gompertz ve Weibull büyüme modelleri için uyum iyiliğinin karşılaştırılmasında, Akaike Bilgi Kriteri (AIC) kullanılmıştır. AIC değeri en küçük olan model, Weibull büyüme eğrisi olarak belirlenmiştir. Ayrıca tüm modellerin için parametre tahminlerinin anlamlılık sınamaları gerçekleştirilmiştir ve tüm model parametre tahminlerinin anlamlı oldukları görülmüştür. Kişi başına tüketilen su miktarının tahmin edilmesinde, en iyi model olarak seçilen Weibull büyüme eğrisine ait parametre tahminleri kullanılmalıdır.

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Türkiye Su Ayak İzi Raporu, 2014.

GÜMÜŞ GEZGİNLER- YENİLİKÇİ VE YAPISAL EĞİTİMLERLE İLERİ YAŞ GEZGİNLERE ULAŞMAK VE ONLARI TURİZM SEKTÖRÜNDEKİ KIRSAL TURİZM KOBİ'LERİNE ÇEKMEK -II

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ÖZET

Üçüncü yaş turizmi son yirmi yılın gelişen önemli turizm pazarlarından biridir. Çünkü Avrupa'nın nüfusu hızla yaşlanmaktadır. 65 yaş ve üzerindeki kişilerin oranı AB Üye Devletleri, EFTA ve aday ülkelerde artmaktadır (Eurostat, 2017). Türkiye'nin de yaşlanma süreci içinde hızla yol almakta olması önemlidir. Türkiye'nin nüfus dinamiklerinin değişimi geçmişten günümüze kadar değerlendirilip, projeksiyonlar ışığında geleceğe bakıldığında, ülkenin halen genç bir yaş yapısına sahip olmakla beraber yaşlanma sürecine de girmiş olduğu anlaşılmaktadır (Yaşlanma Özel İhtisas Komisyonu Raporu, 2018).

Demografik değişmelere bağlı olarak, 65 yaş üstü gezginlerin oranları yıllar içinde artmakta ve diğer yaş gruplarından bile daha fazla yükselmektedir (https://ec.europa.eu). Bu durum turizm sektörünün, ileri yaş grubu turistlere yönelik olarak sunduğu müşteri hizmetlerinin kalitesini yükseltmek için yeni eğitim yaklaşımlarına ve araçlarına dayalı olarak iyileştirilmesi ihtiyacını ortaya çıkmaktadır. Bu amaçla Türkiye ile benzer durumda olan Avrupa Ülkeleri ile (Avusturya, Letonya, İspanya, İtalya) bir araya gelerek Erasmus Plus kapsamında Trabzon Üniversitesi koordinatörlüğünde Türkiye Ulusal Ajansına sunulan bir Avrupa Birliği Projesi [2019-1-TR01-KA202-075158] gerçekleştirilmiştir.

Proje kapsamında; turizm sektöründe çalışan veya turizm eğitimi alan kişilere ve turizm eğitimcilerine farklı formatlarda öğrenme içeriği sağlayacak eğitim materyalleri geliştirilmiştir. Eğitim materyallerinden bir tanesi beceri kartlarının geliştirilmesidir. Bu çalışmada anahtar yetenekler kapsamında ortaya çıkan "Grubun Sağlıklı ve Yaşa Bağlı Beslenmesi ve Sağlıklı Örnek Menüler" konusu hakkında hazırlanan beceri kartlarından örnekler sunulmaktadır.

Anahtar kelimeler: Turizm, 3. Yaş Turizmi, Geriatri Turizmi

SILVER TRAVELLERS – SUPPORTING SMEs TO REACH AND ATTRACT ELDER TRAVELLERS BY INNOVATIVE STRUCTURAL AND EDUCATIONAL METHODS-II

ABSTRACT

3rd age tourism is one of the most important developing tourism markets of the last twenty years. Because the population of Europe is aging rapidly. The proportion of people aged 65 and over is increasing in EU Member States, EFTA and candidate countries (Eurostat, 2017). It is

important that Turkey is progressing rapidly in the aging process. Evaluating the change in the population dynamics of Turkey from the past to the present and looking to the future in the light of projections, it is understood that the country still has a young age structure and has entered the aging process (Yaşlanma Özel İhtisas Komisyonu Raporu, 2018).

Due to demographic changes, the proportion of travelers over the age of 65 has been increasing over the years and is even higher than other age groups (https://ec.europa.eu). This situation reveals the need for improvement of the tourism sector based on new educational approaches and tools in order to increase the quality of customer services offered to senior tourists. For this purpose The European Union Project [2019-1-TR01-KA202-075158] supported by the Turkish National Agency and presented within the scope of "Erasmus Plus" has been realized by coming together with European Countries that are in a similar situation with Turkey.

In project scope; Training materials have been developed to provide learning content in different formats to people working in the tourism sector or receiving tourism education and tourism educators. One of the training materials is the development of skill cards. In this study, examples of skill cards prepared on the subject of "Healthy and Age-Related Nutrition of the Group and Healthy Sample Menus", which emerged within the scope of key skills, are presented.

Key words: Tourism, 3rd Age Tourism, Geriatrics Tourism

Giriş

Turizm işletmeleri için (özellikle KOBİ kapsamındaki) 3. yaş grubu turistlere sunacakları hizmet ve personel yeterliliği için proje kapsamında aşağıdaki 6 temel konu üzerine eğitim içerikleri geliştirilmiştir.

- Grubun Sağlıklı ve Yaşa Bağlı Beslenmesi ve Sağlıklı Örnek Menüler
- Hijyen ve Sanitasyon
- Müşteri İlişkileri Yönetimi (CRM)
- Konukla İletişim ve Beden Dili
- Satış, Pazarlama, Tanıtım ve Reklam
- Kırsal Turizm Aktiviteleri ve Boş Zaman /Hobi Aktiviteleri

Bu konulardan biri olan Beslenme hem sağlığın hem de vücut formunun korunması açısından en önemli konulardan bir tanesidir. Beslenme bebeklikle başlayan, yetişkinlik ve yaşlılık dönemine kadar tüm yaş gruplarını ilgilendiren önemli bir fizyolojik ihtiyaçtır.

3. yaş grubu turistlerin bulundukları yaşam döneminin özelliği gereği sağlıkları konusunda daha hassas olmaları sebebiyle, seyahatlerinde sağlıklarını korumak ve sağlık durumlarına bağlı olarak rahatsızlıklarını tetiklemeyecek yiyecek ve içeceklere ulaşmalarını sağlayan yiyecek planının yapılması ve sağlıklı beslenmeye özen gösterilmesi oldukça önem arz etmektedir.

Bu çalışmada da turizm işletmelerinin 3. yaş grubu turistler için en çok dikkat etmeleri gereken konulardan biri olan “Grubun Sağlıklı ve Yaşa Bağlı Beslenmesi ve Sağlıklı Örnek Menüler” konusunda proje eğitim içerikleri kapsamında hazırlanan beceri kartlarının içeriklerinden örnekler sunulmaktadır.

GRUBUN SAĞLIKLI VE YAŞA BAĞLI BESLENMESİ VE SAĞLIKLI ÖRNEK MENÜLER

New Travellers

1) Menü Kavramı ve Önemi

ÖĞRENME HEDEFLERİ

-3. yaş grubu turistler için menü kavramını ve önemini bilmek.
-3. yaş grubu turistler için sağlıklı ve yaşa bağlı menü hazırlarken dikkat edilecek hususları öğrenmek.

1) Menü Kavramı Ve Turizm İşletmeleri Açısından Önemi:

Menüler yiyecek içecek işletmelerinin ana faaliyet unsuru olan üretimlerinin müşteri ile karşılaştığı ilk platformdur. Bu anlamda menünün iyi hazırlanması ve zengin bir içeriğe sahip olması son derece önemlidir. İşletmelerin menülerini pazar koşullarına uygun ve müşteri beklentilerini dikkate alarak tasarlamaları gerekmektedir. Menülerin şekil, görsellik, kalite, fiyat, temizlik ve renk olarak müşterilerin beklentilerini karşılaması gerekmektedir. Çünkü menüler işletmenin küçük bir özeti olduğundan, işletmeye dair olumlu veya olumsuz algılamaların ilk başladığı yerlerden biridir. Dolaysıyla işletmelerin menülerini oluştururken tüketicilerinin istek ve beklentilerini bilmelerinde önemli yararlar vardır.

2) Hedef Gruba Yönelik Menü Hazırlarken Dikkat Edilmesi Gerekenler

Menü planlanması yaparken dikkat edilmesi gereken faktörler şöyle sıralanabilir:

- Mevsimlere göre taze ve doğal ürünleri içeren menüler hazırlama,
- İleri yaşlarda ortaya çıkabilecek sağlık sorunları ve beslenme düzenine göre yeni menüler hazırlama,
- Gruba özel diyet menü seçenekleri sunma, kalori kontrolü yapabilme.
- Grubun daha sık beslenmesi gerektiğini düşünerek ara öğünler hazırlama,
- Grubun kullanabileceği temel şeker, tansiyon haplarına özel menü içerikleri planlama,
- İşletmenin sınıfı ve konumu yansıtma,
- Menüleri belirli süreler içerisinde düzenleme/değiştirme,
- Dünya mutfaklarını tanıtma,
- Farklı lezzetleri uygun isimlerle müşterilere sun
- Kırsal turizm işletmelerinin, mümkünse kendi yetiştirdikleri ürünleri içeren yöresel menüleri hazırlamaları, ya da yerel halktan alınan ürünleri kullanmaları,
- Kırsal turizm işletmesinin özellikle hedef grubun toplayabileceği ürünlere uygun menüler hazırlamaları,
- Maliyet kontrolüne dikkat etmeleri önemlidir.

Şekil 1: Örnek Diyet Besin Piramidi



Kaynak: https://beslenmediyet.com/besin-piramidi-nedir/

Şekilde de görüldüğü gibi, 3. yaş grubu turistlerin daha sağlıklı beslenmeleri için besin kurallarına uygun yiyecekler tercih edilmeli ve bu doğrultuda menüler kurallara uygun olarak hazırlanmalıdır.

2) 3. Yaş Grubu Turistlere Uygun Menü Çeşitleri Ve Özellikleri

ÖĞRENME HEDEFLERİ

-3. yaş grubu turistler için sağlıklı ve yaşa bağlı diyetlere uygun menülerin bilmek.
- 3. yaş grubu turistler için uygun menü türleri arasındaki temel farkları öğrenmek.

1) 3. Yaş Grubu Turistler İçin Sağlıklı Ve Yaşa Bağlı Menüler

Yaşlılıkta vücutta çok çeşitli değişimler meydana gelmektedir. Bireylerde yaşlanma sürecine bağlı olarak vücut yapısının kompozisyonunda, organların fonksiyonlarında pek çok değişiklik meydana gelmektedir. En önemli değişiklik metabolizmanın yavaşlaması ve hücre yenilenmesinin gerilemesidir.

Yaşlılıkta fizyolojik değişimlerin yanında ruhsal değişimler de yaşanmaktadır. Örneğin; yaşlı bireyler daha alıngan, daha hassas ve duygusal olurlar. Bu yüzden yaşlılık dönemindeki kişiler için yeterli ve dengeli beslenme daha da önemlidir.

3.yaş grubu turistlere yönelik menüler hazırlanırken (www.renklidiyet.com);

- Planlanan menüler ile yeterli ve dengeli beslenmeyi sağlamak (menülerde esas amaç bu olmalıdır.)
- Menülerde yer alan yemeklerin yaşlılara uygun, kolay çiğnenir ve yutulur özellikte olmasını sağlamak,
- Yaşlı bireylerin tercihlerine ve zevklerine uygun olan yemekleri menüye yerleştirmek (kişilere anketler yapılarak hangi besinlerin daha çok istendiği sonucuna varılabilir.)

- Planlanmış olan menülerin porsiyon büyüklüklerini yaşlı bireylere uygun olarak ayarlanmak,
- Menüleri planlarken yaşlı bireylerin hastalık durumlarını göz önünde bulundurulmak
- İlaç-Besin etkileşimine dikkat ederek menüleri planlamak,
- Menülerde yer alan yiyecekleri çeşitli kazalara yol açmamak için yaşlı bireylere uygun şekilde servis etmek (Yemekler masaya servis yapılmalıdır.)
- Yaşlı bireylerin menüde yer alan yiyecekleri tüketmelerini sağlanmak (Belki bir yardımcı desteği ile)

2) *3. Yaş Grubu Turistlere Uygun Menüler Ve Özellikleri:*

İleri yaştaki bir bireyin günlük besin alımını birçok faktör etki etmektedir. Bu faktörler arasında; cinsiyet, yaş, fiziksel aktivitesi, sağlık sorunu olup olmaması sayılabilir. Günlük enerji alımı yaş ile her 10 yılda yaklaşık %2 azalır. Bunu göz önünde bulundurarak günlük besin alımınızı kontrol altında tutmak gerekmektedir. Ağırlığa dikkat edilmeli ve fiziksel aktivitelere yer verilmelidir. Bu yaş grubunun günlük beslenmesinde şeker, tuz ve alkol alımı azaltılmalıdır. Günlük beslenme içerisinde sebze ve meyveye yer verilmelidir. Süt- yoğurt- peynir gibi ürünlerin özellikle az yağlı olanları tercih edilmelidir.

Ayrıca, İleri yaş turist grubuna menü hazırlarken aşağıdaki hususlara özen gösterilmeli (www.haberturk.com)

Bu yaşlarda kişilerde diş kaybına bağlı çiğneme sorunları, yutma güçlükleri, hareketlerinin azalmasına bağlı mide barsak sorunlarından dolayı, kabızlık, iştahta azalma gibi sıkıntılar görülmektedir. Kolay sindirebilecekleri, kas ve kemik kitlesini koruyacak, bağışıklık sistemini güçlendirecek şekilde beslenmeleri gerekir. Besin çeşitliliğinin oldukça önem kazandığı bu dönemde özellikle ana öğünlerde her besin grubunun yer alması besinlerin yeterli miktarlarda tüketilmesi sağlanmalıdır. Bu besinler;

- Et grubu: Etler, kuru baklagiller ve yumurta
- Süt grubu: Süt, yoğurt ve peynir
- Tahıl grubu: Ekmek, pilav ve makarna gibi unlu, nişastalı besinler
- Sebze ve meyve grubu: Tüm sebze ve meyvelerdir.

Öğün sayısı artırılarak her öğündeki yiyecek miktarı azaltılmalıdır. Böylece olası sindirim problemleri önlenebilir. 3 ana, 3 ara olmak üzere günde 6 öğün beslenme sağlanmalı, başta kahvaltı olmak üzere asla öğün atlanmamalı, sindirimi kolaylaştırmak adına akşam yemeği mümkün olduğunca erken saatlerde bitirilmelidir.

Yaş ilerledikçe fiziksel aktivite azalabileceği için diyetteki toplam yağ miktarı azaltılmalıdır. Özellikle katı yağlar en alt düzeye indirilmeli bunun yerine uygun miktarlarda bitkisel sıvı yağlar tercih edilmelidir.

Pişirme yöntemlerinde dikkat edilmeli, yiyecekleri kızartma kavurma, bol yağda sote yapma yerine haşlama, ızgara, buğulama veya fırında pişirme yöntemleri kullanılarak hazırlanmalıdır. Çiğneme güçlüğü yaşayan kişilere mümkün oldukça küçük parça ve yumuşak gıdalar hazırlanmalıdır.

Bu sırada yeterli miktarda su ve sıvı alımına özen gösterilmeli, aşırı çay, kahve, gazlı içecekler gibi uyarıcılardan, çok baharatlı gıdalardan mümkün oldukça uzak durulmalıdır. Diyette tuz miktarına dikkat edilmeli, turşulardan ve salamura yapılmış gıdalardan mümkün oldukça kaçınılmalıdır.

Şekil 2: Örnek Diyet Menüsü

Kahvaltı: 363 Kalori Makro besinler: 21 gr protein, 31 gr karbonhidrat, 18 gr yağ, 5,4 gr lif	• Bir adet haşlanmış yumurta • Domates ve salatalık birer adet • 1 dilim tam buğday ekmeği • 45 gr tam yağlı beyaz peynir • Bir fincan kahve, çay veya yeşil çay
Öğle Yemeği: 434 Kalori Makro besinler: 35,5 gr protein, 26 gr karbonhidrat, 22,5 gram yağ, 7,5 gr lif	• 1 kase mercimek çorbası • 100 gr tavuk ızgara • 1 porsiyon (250 gr) çoban salata • Bir bardak su
Akşam Yemeği: 400 Kalori Makro besinler: 15 gr protein, 48 gr karbonhidrat, 18 gr yağ, 7,5 gr lif	•Fırında sebze türlüsü 285 gr (patates, soğan, havuç, biber, domates, kabak) • Yarım porsiyon bulgur pilavı 150 gr • 200 gr tam yağlı yoğurt
Ara Öğün: 86 Kalori Makro besin: 1,7 gr protein, 21,5 gr karbonhidrat, 0,2 gram yağ, 4,4 gr lif	• Bir meyve • Su veya çay

Kaynak: https://www.diyetasistan.com/

3) 3. Yaş Grubu Turistler İçin Beslenme Planı Esasları

ÖĞRENME HEDEFLERİ
-3. yaş grubu turistler için "Beslenme Planı esaslarının" bilmek -3. yaş grubu turistler için günlük tüketilmesi gereken temel besin gruplarının porsiyon boyutlarını anlamak -Yiyecek hazırlarken hijyen kurallarına nasıl uyulacağını öğrenmek

1) Beslenme planın tanımı ve temel besin gruplarının porsiyon boyutları

Beslenme; sağlığın korunması için gerekli besin öğelerini yeterli ve dengeli bir şekilde tüketmek demektir. Kişiden kişiye ve yaş gruplarına göre değişebilmektedir.

Temel besin grupları yeterli ve dengeli olarak bitkisel ve hayvansal kaynaklı besinlerle vücuda düzenli olarak alınır. Bu temel besinler besin piramidinde olduğu gibi düzenli olarak porsiyon şeklinde alınmalıdır.

Örneğin;

- Yağ ve şekerler yeteri kadar alınmalıdır.
- Süt ve türevleri 2-3 porsiyon,
- Et ve türevleri 2-3 porsiyon,
- Sebzeler 3-5 porsiyon,
- Meyveler 2-4 porsiyon,
- Tahıl ve türevleri 6-11 porsiyon olarak yeterli ve dengeli olarak tüketilmelidir.

2) Yemek hazırlarken Uyulması Gereken Hijyen Kuralları

Yiyeceklerde mikroorganizmaların üremesi, genellikle yemeklerin mutfakta yanlış koşullarda hazırlanması ve bekletilmesi ile olur.

Yiyecekleri hazırlarken şunlara dikkat edilmeli:

- Ürünleri satın alırken öncelikle imal tarihi ve son kullanma tarihlerini kontrol edilmeli.
- Dondurulmuş ürünün dondurulduktan sonra çözülmemiş olmasına dikkat edilmeli.
- Ayrıca dondurulmuş ürünlerin işletmeye gelene kadar çözülmemesi için bu ürünlerin taşınması amacıyla üretilen koruyucu torbalar kullanılmalı.
- Mutfağa girmeden önce ellerin mutlaka sabunla ya da dezenfektan maddelerle iyice yıkanması gerekir.
- Eller besinlere dokunmadan başka yerlere de (saç, ağız, burun, kapının tokmağı, para) dokunmuşsa mutlaka dezenfekte edilmeli.
- Et ve sebzeler temiz satıhlar üzerinde kesilmeli. Farklı türde besinler için aynı kesme tahtasını kullanılmamalı. Örneğin et, sebze, ekmek ve hatta meyveler ayrı kesme tahtalarında kesilmeli.
- Yemeklerin hazırlanması sırasında kullanılan çatal, bıçak ve kaşık gibi bütün malzemeler deterjanlı suyla mutlaka dezenfekte edilmeli.
- Kurulama havluları sık sık değiştirmeye dikkat edin çünkü bunlar bakteri tutabilirler.
- Eller ve servis tabakları ayrı bezlerle kurulanmalı.
- Yiyecek hazırlanırken, oda sıcaklığında çalışıldığı için, mümkün olduğu kadar hızlı bir şekilde hareket etmeli (özellikle çiğ et ürünlerinde), beklemesi gerekli besinler buzdolabında bekletilmeli.
- Hastalık yapabilecek şüpheli besinleri, özellikle küflenmiş olanlar kullanılmamalı.
- Zehirli mantarları gözle ayırt etmek mümkün olmadığı için kültür mantarları dışında mantar kullanılmamalı.
- Çiğ yenecek sebze ve meyveler, pişirilecek taze sebzeler ve kuru meyveler, temizlenmiş ve pişmeye hazır tavuk, balık, parça etler ve yumurta gibi besinler iyice yıkanmalı.
- Sebze ve meyveleri temizlemek için bir müddet su dolu bir kapta bekletmeli, sonra bol su ile birkaç kez yıkanmalıdır. Taze sebzeleri 20 dakika tuzlu veya klorlu suda bekletin.
- Temizlik maddeleri, haşere öldürücü ilaçlar besinlerden uzak (depo gibi) yerlerde saklanmalı ve üzerine mutlaka yazılmalıdır.

4) 3. Yaş Grubu Turistler İçin Beslenme Planı Esasları

ÖĞRENME HEDEFLERİ

- 3. yaş grubu turistlere özel diyet menülerinin hazırlanmasının bilmek.
- 3. yaş grubu turistler için diyet menüsü hazırlanırken hangi malzemelerin kullanılmaması gerektiğini bilmek.

1) 3. Yaş Grubu Turistler İçin Diyet Menüsü Hazırlanırken Kullanılan Malzemeler Ve Hazırlama Yöntemleri

Günümüzde gıda alerjileri veya besin kaynaklı hastalıklara özellikle ileri yaş grubunda artık daha sık rastlanılmaktadır. Bu durumlarda bu kişilerin özellikle seyahatleri sırasında dışarıda uygun gıdaya ulaşmaları daha da önem kazanmaktadır.

Özellikle süt ve ürünlerini tolere edemeyen bir vücut şişkinlik veya ishal şeklinde tepkisini gösterebilmektedir. Vücudu alerjen yapıya sahip bir kişide, bu besini tükettiği zaman deri döküntüleri, şişlikler görülebilmektedir (çilek, fıstık veya deniz mahsulleri alerjisi).

Enzim eksikleri olan kişilerde ise, ilgili besini parçalayacak enzim vücutta olmadığı veya etkisi yetersiz olduğunda ilgili gıda tüketildiğinde yine sindirim sistemi şikâyetleri görülmektedir (meyve içindeki früktoz enzim eksikliği gibi).

Glüten duyarlılığı olan veya çölyak hastaları, glütensiz gıdalarla beslenmeli, hatta glüten tabak ve başka gıdaya bulaşmış şekilde bile tüketimine dikkat edilmelidir (diyet yemeğinde buğday, arpa ve çavdar tüketilemez).



Kaynak: https://www.everydayhealth.com

Turizm işletmeleri 3. yaş grubu turist işletmeye gelmeden önce mümkünse onlara uygun menü hazırlamak için aşağıdaki bilgileri elde etmesi gerekir:

- Kişinin yaşı, metabolizma hızı,
- Yaşam tarzı, spor yapma sıklığı,
- Su içme alışkanlığı,
- Herhangi bir ilaç kullanıyor mu? Kullanılıyorsa adları ve miktarları,
- Herhangi bir sağlık problemi olup olmaması,
- Belli bir diyet programı olup olmadığı,
- Daha önce diyet programı uygulamış olup olmaması,
- Demografik durumu vb.

3. yaş grubu turistler için diyet menü hazırlarken yeterli enerjiyi alacakları şekilde kalori kısıtlaması ve dengeli beslenmeyi sağlayacak şekilde besin maddelerinin seçilmesi önemlidir.

Hedef grup için diyet menü hazırlarken kullanılan yiyecekler ve yöntemler şöyle sıralanabilir:

- Sindirim güçlüğünü önlemek için öğün sayısı arttırılmalı, öğünlerde tüketilen miktar azaltılmalıdır.
- Temel besin gruplarımızdan et grubunun, süt grubunun, tahıl grubunun sebze ve meyve grubunun her öğünde olmasına özen gösterilmelidir.
- Böbrek yükünü hafifletmek için tuz miktarı azaltılmalı, sıvı miktarı arttırılmalıdır.
- Çiğneme güçlüğü riskine karşı yemekler yumuşak ve sulu şekilde hazırlanmalıdır.

- Kabızlık sorununu önlemek için posa içeriği yüksek olan (kuru baklagiller, sebze, meyve, kepekli tahıl) tüketimi ihmal edilmemelidir.
- Kas kayıplarını önlemek için kalsiyum içeriği yüksek olan (süt, yoğurt, peynir, çökelek, kılçığı ile tüketilen balıklar) besinler tüketilmelidir.
- Beyin fonksiyonlarının işlevini yerine getirebilmesi için Omega-3 kaynağı balık haftada iki kez tüketilmelidir.
- Kalp hastalıklarından korunmak için hayvansal yağ ve katı yağ tüketimi sınırlandırılmalıdır. Et tüketilirken yağsız olmasına (tavuk eti, hindi eti) özen gösterilmelidir.
- Yemekler pişirilirken kızartma yerine haşlama ya da ızgara yapılmalıdır.
- Basit şeker dediğimiz bal, reçel, pekmez tüketimi azaltılmalıdır.
- Çay ve kahvenin aşırı tüketilmesinden kaçınılmalıdır.
- Güneşli günlerde D vitamini alınmasına özen gösterilmelidir.
-

5) 3. Yaş Grubu Turistler İçin Beslenme Planı Esasları

ÖĞRENME HEDEFLERİ

-Özel sağlık durumlarına uygun diyet menülerinin özelliklerini bilmek.
-Özel hastalıklara uygun besinler hakkında bilgi sahibi olmak.
-Özel ihtiyaçlara uygun menülerin nasıl hazırlanacağını bilmek.
-Örnek menüler hazırlamak.

1) Özel Sağlık Durumlarına Uygun Diyet Menülerinin Özellikleri

3. yaş grubu kişilerde beslenmede amaç; rahatsızlık veya tedaviye bağlı sindirim, emilim veya metabolizmasında oluşan değişiklikleri göz önünde bulundurarak kişinin günlük alması gereken enerji ve besin öğelerinin yeterli ve dengeli bir şekilde verilmesini sağlamaktır.

Her diyet kişinin hastalığı, fizyolojik ve psikolojik durumu göz önünde bulundurularak özel hazırlanmalıdır. Özel hastalıklarda diyet menü hazırlanırken diyetin kalorisi; hastanın yaşın, boyuna, kilosuna ve fiziksel aktivite durumuna göre belirlenir. Diyetin içeriği hastalıklara göre; protein, karbonhidrat ve yağdan dengeli olmalıdır:

Buna göre, ileri yaş grubunda sık görülen bazı rahatsızlara göre beslenme içeriği hazırlanırken şu hususlara dikkat edilmeli:

-Yemek Borusu Rahatsızlıklarında: Sulu, yumuşak yiyecekler azar azar ve sık verilmelidir. Bu gıdalar blendırda küçük parçalara ayırılarak verilir. Turşu, et suyu, biber verilmez. Günde altı öğün; süt, yoğurt, iyi pişmiş etli sebze yemekleri, sütlü tatlılar, yumurta verilebilir.

- Mide Rahatsızlıklarında: Mide asiditesini kontrol altında tutan, süt gibi gıdalar verilmelidir.Yemeklere bütün yiyecekler çiğ konulmalı, kavrulmamalıdır. Çorbalara et suyu konulmamalıdır. Turşu, ketçap, hardal, çemen, zeytin, kuruyemişler, limon tuzu, kurutulmuş meyveler ve hazır meyve suları, çay, kahve, neskafe, sucuk, pastırma, kuru baklagiller yenilmemeli.

- Bağırsak Rahatsızlıklarında: Bol posalı yiyecekler verilir. Kepekli ekmek, tahıllar, kuru baklagiller, sebze ve meyveler önerilir. Kabızlık çeken kişiye sabahları aç karnına kayısı veya erik marmeladı yedirilip, su içirilir.

- Safra Kesesi Rahatsızlıklarında: Enerjinin çoğu karbonhidratlardan sağlanır. Yağlar azaltılır. Kolesterollü yiyecekler sınırlandırılır. A ve C vitaminleri bol verilir. Kabızlık varsa bol posalı yiyecekler verilir. Gaz yapıcı yiyecekler, kızartmalar, alkol yasaklanır. Yumurta ve yumurtalı yiyecekler yasaklanır.

- Böbrek Hastasında: Protein veya sodyum, potasyum kısıtlaması yapılabilir.

- KOAH'lı bir hastada karbonhidrat kısıtlanırken yağ arttırılabilir.

- Besin Alerjisi: İlgili besin veya besin grubu diyet planından çıkartılır. Örneğin laktoz intoleransı olan bir hastada süt ve süt ürünleri diyetlerinden çıkarılır. Yumurta alerjisi olan hastaya yumurta içeren hiçbir besin gönderilmemesi gibi.

-Kalp Rahatsızlıklarında: Yemekler zeytinyağı, ayçiçek veya mısırözü yağı gibi bitkisel yağlar kullanılarak hazırlanır. Hiçbir şey kızartılmaz, haftada bir tam yumurta verilebilir. Birey şişman değilse enerji kısıtlaması çok katı yapılmaz.

- Glüten Duyarlılığı: Glütene duyarlı olan veya çöl yak hastaları glütensiz yiyeceklerle beslenmeli hata glüten tabak ve başka gıdaya bulaşır şekilde dikkat edilmelidir. Özellikle buğday arpa ve çavdar menülerinde yer almamalıdır.

-Tansiyon ve Şeker Hastalarında: Tansiyon yüksekse tuz sınırlandırılır. Şeker, çikolata meşrubat vb. yerine sebze ve meyveler tercih edilmelidir.

2) Özel İhtiyaçlara Uygun Örnek Menü Hazırlama

Şekil 3: Örnek Menü (Kalp-Damar Hastalıkları İçin)

Sabah	*Az şekerli 1 fincan çay *2 ince dilim ekmek *1 kibrit kutusu kadar beyaz peynir *1 kaşık pekmez, reçel, bal vb. *Bir adet küçük meyve
Öğlen	*2-3 adet köfte veya o kadar et veya balık (Tercih edilir) *½ su bardağı kadar yarım porsiyon pilav *Bol karışık salata *1 ince dilim ekmek
İkindi	*Az şekerli çay, (1/2 tatlı kaşığı şeker)
Akşam	*Sebze çorbası veya baklagil çorbası veya baklagil yemeği veya sebze yemeği *Bol karışık salata(bitkisel yağlı), Meyve *Yoğurt *1 ince dilim ekmek
Gece	1 çay bardağı yoğurt

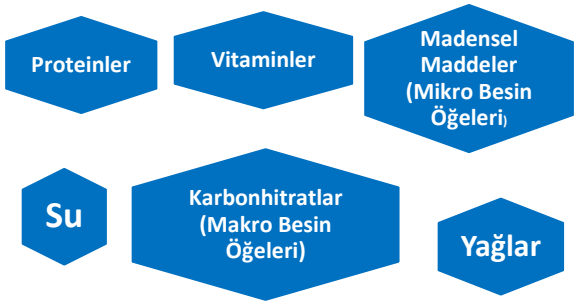
6) 3. Yaş Turist Grubuna Özgü Makro Ve Mikro Besin İhtiyaçları

ÖĞRENME HEDEFLERİ
-3. yaş grubu turistler için enerji ve makro besin maddesi gereksinimlerinin öğrenmek - 3. yaş grubu turist için mikro besinleri ve ihtiyaçlarını bilmek

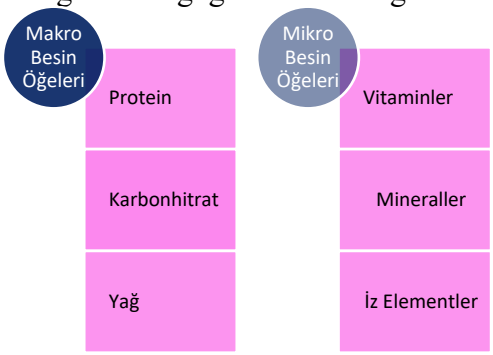
1) 3. Yaş Grubu Turistler İçin Enerji Ve Makro Besin Maddesi Gereksinimleri

Besinlerin bileşiminde bulunan ve vücutta özel işlevleri olan organik ve inorganik ögelere "Besin Ögesi" adı verilir. Besin ögelerinin vücut yapısında farklı görevleri bulunur. Örneğin; bazı besin ögeleri Isı ve enerji verirler. Bazıları vücuda doku yapma ve yenilemede görevleri sağlarlar. Bazı besin ögeleri ise sağlıklı yaşam sürecini düzenlerler.

Şekil 4: Besin Öğeleri



Besin ögeleri yukarıdaki şekilde gösterildiği gibi vücuttaki görevlerine göre altı gruba ayrılırlar.



Besin ögeleri yukarıdaki şekilde gösterildiği gibi vücuttaki görevlerine göre altı gruba ayrılırlar.

Makro besinler; (Protein, karbonhidrat, yağ) vücudumuzun büyük miktarlarda ihtiyaç duyduğu besinlerdir. Bu makroların içerisinde ise vücudumuzun daha az miktarlarda ihtiyaç duyduğu mikro besin öğeleri (Vitaminler, mineraller, iz elementler) bulunur. Vücudumuzun fonksiyonlarını sağlıklı bir şekilde yerine getirebilmesi için yediğimiz besinlerden almamız gereken belirli miktarlarda Makro ve Mikro besinler vardır (http://www.thebodylabtr.com). Bu miktarlar cinsiyet, yaş, boy, kilo, yaşam biçimi ve mevcut sağlık durumuna göre farklılık gösterir.

3. yaş grubunda, beslenme planları oluşturulurken, yetersiz besin öğesi alımının, kronik hastalıkların önlenmesinin ve yaşlılarda var olan akut-kronik hastalıkların göz önünde bulundurulması gerekmektedir. Yine bu bireylerin aşırı beslenmesi de sağlık açısından birçok problemi beraberinde getirmektedir.

Makro Besin Öğeleri

Karbonhidratlar: vücut için en ekonomik enerji kaynağıdır. Et, süt, yumurta gibi hayvansal kaynaklı besinlerde en az, bitkisel besinlerde ise en çok bulunur. Yaşlılarda karbonhidrat ihtiyacının, özellikle glisemik indeksi düşük olan karbonhidratlardan karşılanması gerekmektedir.

Yağlar: bitki ve hayvan dokularında bulunan ve en çok enerji veren besin ögesidir. Doymuş yağlar ve doymamış yağlar diye iki kısma ayrılırlar. Hayvansal ve bitkisel kaynaklı yiyeceklerle alınırlar.

Proteinler: amino asit adı verilen daha küçük birimlerden oluşur. Yumurta ve anne sütü örnek protein olarak bilinir. Bitkisel ve hayvansal kaynaklı yiyeceklerle 3. yaş grubu kişilerde proteinin hayvansal ve bitkisel kaynaklardan sağlanma oranı da önemlidir.

Proteinin çoğunluğu bitkisel besinlerden sağlandığında, proteinin elzem amino asit içeriği ve sindirilebilir oluşu düşünülmelidir. Protein kaynakları hayvansal ve bitkisel olarak iki gruba ayrılır. Hayvansal proteinlerin sindirilebilirdik oranları daha yüksektir. Protein kalitesi açısından bitki olarak yetişmesine rağmen mantar da hayvansal protein olarak değerlendirilir.

Günlük toplam enerjinin %50-60'ı karbonhidratlardan sağlanmalıdır. Diyete göre yağ miktarı değişirse de yeterli ve dengeli bir beslenme ile günlük alınan enerjinin %25- 30'u yağlardan gelmelidir. Dengeli bir diyette günlük enerjinin %10-15'i proteinlerden sağlanmalıdır.

2) 3. Yaş Grubu Turist İçin Mikro Besinleri Ve İhtiyaçları

Mikro besinler demir, kobalt, krom, bakır, iyot, manganez, selenyum, çinko ve molibden ile vitamin içerir. Mikro besin besinler, içilen sudan ve havadan alınmaktadır. Yani bitkiler ve bitkisel ürünler insan ve hayvanların temel besin maddelerini oluşturmaktadır. Mikro besin öğelerine iz mineraller (elementler) de denir. Bitkiler bu maddelere daha az miktarlarda ihtiyaç duyarlar. En sık yetersizliği görülen D vitaminidir.

3. yaş grubu kişilerde immün sisteminde meydana gelen zayıflama, bulaşıcı olmayan kronik hastalıklardaki artış, fiziksel aktivitedeki düşüş gibi nedenlere bağlı olarak bireylerin vitamin ve mineral gereksinimde artış görülmektedir.

Şekil 4: Makro ve Mikro Besinler



Kaynak: www.gidanotlari.com

Bu proje [2019-1-TR01-KA202-075158] Avrupa Komisyonu desteği ile fon sağlanmaktadır. Bu yayın sadece yazarın görüşlerini yansıtmaktadır ve Komisyon burada yer alan bilgilerin herhangi bir şekilde kullanımından sorumlu tutulamaz.

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BÜTÜNLEŞİK AFET YÖNETİMİNDE ENGELLİ BİREYLER

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ÖZET

Afetler çok sayıda insanın hayatını kaybetmesine, yaralanmasına, sakat kalmasına, ciddi ekonomik kayıplara ve çevresel zararlara neden olmaktadır. Afetler nedeniyle her yıl çok sayıda insan zorunlu göç etmekte ve kayıplar nedeniyle yoksullaşmaktadır. Bütünleşik afet yönetim süreçlerinden olan risk ve kriz yönetimi aşamalarında başarılı bir yönetim sergilemek için toplumun tüm kesimlerinin bu süreçlere dahil edilmesi gerekmektedir. Bütünleşik afet yönetiminde sürece dahil edilmeyen toplumlar mukavemetsiz/dirençsiz olarak değerlendirilmekte ve afetlerin şiddetini ve zararlarını arttırmaktadır. Afetler öncesi dönemde toplumda temel haklara erişimde dahi zorluk çeken bazı mukavemetsiz gruplar bulunmaktadır. Bu gruplar; engelliler, kadınlar, çocuklar, yaşlılar, sığınmacılardır. Bahsedilen bu gruplar gündelik yaşamda, eğitim, sağlık, bilgiye erişim, istihdam, sosyal güvenlik gibi oldukça önemli haklardan sosyal dışlanma, erişilebillik gibi nedenlerle diğer bireylerle eşit yararlanamamaktadır. Sosyal hayatta eğitim, istihdam, sosyal güvenlik gibi konulardan etkin faydalanamayan bireyler ekonomik olarak yoksullaşmakta ve yoksul toplumlar afetlerden daha çok etkilenmektedir. Yoksulluk, engellilik ve savunmasızlık birini sürekli olarak izleyen bitmeyen döngü olarak karşımıza çıkmakta ve bu döngü sosyal hayatta bile erişmede zorluk çeken ve büyük çoğunluğu yoksul olan engellilerin afetlerde savunmasızlıklarını arttırmaktadır. Afetler meydana geldiğinde engelli bireyler hali hazırda sosyal hayatta bile eşit erişime sahip olamadıkları bahsedilen haklardan mahrum kalmakta, yardımlara erişmekte zorluk çekmekte ve afetlerden diğer bireylere göre kat be kat fazla etkilenmektedirler. Bu çalışmada bütünleşik afet yönetim sürecinde engelli bireylerin karşılaştıkları sorunlar ve çözüm önerilerinin sunulması ile alan yazına katkı yapılması amaçlanmaktadır.

Anahtar Kelimeler: Afet, Afet Yönetimi, Bütünleşik Afet Yönetimi, Engelli, Engelli Bireyler.

DISABLED INDIVIDUALS IN INTEGRATED DISASTER ADMINISTRATION

ABSTRACT

Disasters cause death, injury, disability, environmental damage and serious economic losses to many people. Many people migrate every year due to disasters and become impoverished due to losses. In order to demonstrate a successful management in the risk management and crisis management stages, which are among the integrated disaster administration processes, all segments of the society should be included in these processes. Societies that are not included in the integrated disaster management process are considered as weak/non-resilient and increase the severity and damage of disasters. In the pre-disaster period, there are some vulnerable

groups in society that have difficulties even in accessing fundamental rights. These groups are; disabled people, women, children, the elderly, asylum seekers. These mentioned groups cannot benefit equally from other individuals in daily life, such as education, health, access to information, employment, social security, due to reasons such as social exclusion and accessibility. Individuals who cannot effectively benefit from issues such as education, employment and social security in social life become economically poor and poor societies are more affected by disasters. Poverty, disability, and vulnerability appear as an unending cycle that constantly follows one another, and this cycle increases the vulnerability of people with disabilities, who have difficulty in accessing even in social life, and who are mostly poor, in disasters. When disasters occur, people with disabilities are deprived of the rights that they do not have equal access to, even in social life, have difficulty in accessing assistance and are affected by disasters many times more than other individuals. In this study, it is aimed to contribute to the literature by presenting the problems faced by disabled individuals in the integrated disaster administration process and their solution suggestions.

Keywords: Disaster, Disaster Administration, Integrated Disaster Administration, Persons with Disabilities.

FİZİKSEL TIP VE REHABİLİTASYON KLİNİĞİNE BAŞVURAN HASTALARIN GETAT UYGULAMALARI HAKKINDA BİLGİ VE TUTUMLARININ DEĞERLENDİRİLMESİ

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ÖZET

Prospektif, kesitsel özellikteki çalışmaya 30-60 yaş arasında, kadın veya erkek cinsiyette olan, soruları anlayabilecek bilişsel kapasitede olan toplam 1500 hasta dahil edilmiştir. Hastalara yüz yüze görüşme yöntemi kullanılarak doldurulan anket formu ile sorular yöneltilmiştir. Verilerin analizi 'Statistical Software Package for the Social Sciences (SPSS)' 18.0 istatistik paket programı kullanılarak yapılmıştır. Verilerin değerlendirilmesinde tanımlayıcı istatistiksel yöntemlerin yanı sıra kategorik değişkenler için ki-kare analizi, uygulanmıştır.

Çalışmaya katılan hastaların yaş ortalaması 50,68±16,39 yıl olarak saptandı. Katılımcıların % 52.5' i kadın, %67,2'si ilk/orta/lise veya üniversite eğitimi almışlardı. %96,4'ünün sosyal güvencesi (SGK/yeşil kart) mevcuttu. Hastaların 230'unun (%15.3) kronik hastalığa sahip olduğu ve kronik hastalık türleri değerlendirildiğinde ilk sırada hipertansiyon (%24,8) geldiği tespit edildi. Araştırmaya katılan 766 hastanın (%51)'i en az 1 çeşit GETAT uygulaması hakkında bilgi sahibi olduğu saptandı. Ayrıca 354 hastanın (%23,6)'u en az 1 çeşit GETAT yöntemini uygulattırdığı saptandı En sık bilgi sahibi olunan yöntemler sırasıyla hacamat (%65.6), sülük (%72) ve ozon (%40) olarak tespit edildi. Karyopraksi, osteopati, homeopati ve larva tedavisi hakkında hiçbir hastanın bilgi sahibi olmadığı saptanmıştır. TV programlarında sunulan GETAT uygulamaları hakkındaki bilgilere karşı tutumları incelendiğinde hastaların ise %44,3'ü çok faydalı olduğunu düşünmektedir. En fazla yaptırılan 3 adet GETAT yöntemi hacamat (%24), sülük (%22,8) ve akupunktur (%11,6) olarak tespit edilmiştir. GETAT/Fitoterapi yöntemlerinden "Ihlamur"'un bitki olarak tüketilen ot/çay türevi olduğu tespit edilmiştir. GETAT uygulamalarını yaptıran hastalar arasında 109'u (%43,6) GETAT uygulamalarını tekrar yaptıracağını, 70'i (%28) tekrar yaptırmayacağını, 71'i (%28,4) ise kararsız olduğunu belirtmişlerdir. GETAT uygulamalarını kimlerin uyguladığı incelendiğinde hacamat, sülük, fitoterapi ve akupuntur yöntemlerinde hekim dışı uygulamaların mevcut olduğu tespit edilmiştir (sırasıyla, %20.1 %12.1, %3, %2,6). GETAT yöntemlerini kullanan hastaların %29'u klasik tedaviler işe yaramadığı için, %40.2'si ise tedavilerin çok yan etkileri olduğu için yaptırdıklarını belirtmişlerdir.

GETAT uygulamalarına yönelik Fiziksel Tıp ve Rehabilitasyon polikliniğine başvuran hastaların bilgi seviyesinin üniversite eğitim düzeyi ile ters orantılı olduğu, araştırma popülasyonda GETAT bilgi seviyesinin iyi olduğu tespit edilmiştir. Ayrıca uygulanan GETAT yöntemlerinde hekim dışı uygulamalar tespit edilmiş olup, GETAT uygulamaları konusunda hastaların bilgi düzeyi arttırılarak, uygulamaların hekim ya da mevzuata uygun sağlık personeli tarafından yapılması gerektiği vurgulanmalıdır.

Anahtar Kelimeler: Osteomiyelit, Kalkaneus, ozon terapi

EVALUATION OF THE KNOWLEDGE AND ATTITUDES OF PATIENTS WHO APPLY TO PHYSICAL MEDICINE AND REHABILITATION CLINIC ABOUT GETAT APPLICATIONS

ABSRACT

A total of 1500 patients, aged between 30-60 years, male or female, with the cognitive capacity to understand the questions, were included in the prospective, cross-sectional study. Questionnaires were asked to the patients by means of a questionnaire filled out using face-to-face interview method. Data analysis was performed using the 'Statistical Software Package for the Social Sciences (SPSS)' 18.0 statistical package program. In addition to descriptive statistical methods, chi-square analysis for categorical variables was used in the evaluation of the data.

The mean age of the patients participating in the study was 50.68±16.39 years. 52.5% of the participants were women, 67.2% had primary/secondary/high school or university education. 96.4% had social security (SGK/green card). It was found that 230 of the patients (15.3%) had chronic diseases and hypertension (24.8%) came first when the types of chronic diseases were evaluated. It was determined that 766 (51%) patients who participated in the study had knowledge about at least 1 type of GETAT application. In addition, it was determined that 354 patients (23.6%) had at least 1 type of GETAT method applied. The most commonly known methods were cupping (65.6%), leech (72%) and ozone (40%), respectively. It was determined that none of the patients had knowledge about caryopraxia, osteopathy, homeopathy and larval treatment. When the attitudes towards the information about GETAT applications presented in TV programs are examined, 44.3% of the patients think that it is very useful. The three most commonly used GETAT methods were cupping (24%), leech (22.8%) and acupuncture (11.6%). It has been determined that "Linden", one of the GETAT/Phytotherapy methods, is a herb/tea derivative consumed as a plant. Among the patients who had GETAT applications, 109 (43.6%) stated that they would have GETAT applications done again, 70 (28%) stated that they would not have it done again, and 71 (28.4%) were undecided. When examining who applied GETAT applications, it was determined that there were non-physician applications in cupping, leech, phytotherapy and acupuncture methods (20.1%, 12.1%, 3%, 2.6%, respectively). Of the patients using GETAT methods, 29% stated that they had it done because the classical treatments did not work, and 40.2% because the treatments had too many side effects.

It was determined that the level of knowledge of the patients who applied to the Physical Medicine and Rehabilitation polyclinic for GETAT applications was inversely proportional to the level of university education, and the level of GETAT knowledge in the research population was good. In addition, non-physician applications have been identified in the GETAT methods applied, and it should be emphasized that the knowledge level of the patients about GETAT applications should be increased and the applications should be performed by physicians or health personnel who comply with the legislation.

Keywords: Osteomyelitis, calcaneus, ozone therapy

KALKANEUS OSTEOMİYELİTİNDE OZON BİR TEDAVİ SEÇENEĞİ OLABİLİR Mİ?

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ÖZET

Yürümedeki önemli fonksiyonu nedeniyle kalkaneusun osteomyeliti ciddi ve sakatlayıcı bir enfeksiyondur. Akut dönem tedavisi uzun kemiklerdeki osteomyelit tedavisine benzer (antibioterapi, debritman, immobilizason) kronik olgularda standart ve başarılı bir tedavi biçimi yoktur. Bu olguda subakut-kronik bir kalkaneus osteomiyelit vakasında Ozon terapi ile kaydedilen iyileşme aktarılacaktır.

51 yaşında erkek hasta Fiziksel Tıp ve Rehabilitasyon Kliniğine sol ayak bileğinde ağrı şikayeti ile başvurdu. Özgeçmişinde diyabet mevcuttu. Anamnezinde 12 hafta önce yüksekten düşme sonrasında sol ayak bileği kalkaneus kemiğinde kırık meydana geldiği 6 haftalık immobilizasyon ve atelleme sonrası takipli olduğu ortopedi kliniğine tekrar başvurduğu öğrenildi. Ortopedi kliniği tarafından yürüme ve tam basma aktivitelerine izin verildiği öğrenildi. Ağrı medikasyonu için oral olarak dexketoprofen hidroklorür 75 mg 2x1 ve omeprazol 40 mg 1x1 ile ketoprofen jel 3x1 topikal olarak kullanmaktaydı

Hasta FTR kliniğine başvurduğunda yürüme sırasında ağrı, yürürken ayak bileği içinde batma hissi ve yürüme aktiviteleri sonrasına aşırı şişlikten ve ateşten şikayetçiydi. Yapılan muayenede sol ayakbileği medial malleol ve etrafında şişlik ve morluk tespit edidi. Sol ayak bileği EHA (eklem hareket açıklığı) dorsi fleksiyon 10 d plantar fleksiyon 20 d ve inversiyon ve eversiyon 5d de kısıtlı ve ağrılı idi. VAS (Visuel ağrı skalası) istirahat 7, hareket 8, yürüme 9'du.

Hastanın tam kan, sedimantasyon, biyokimya, tam idrar, ASO, CRP, RF tetkikleri yapıldı. Tetkik sonuçlarına göre patolojik bulgular olarak lökositoz (14000 mm3), sedimantasyon artması (55 mm/h) saptandı. Hastanın çekilen kontrastlı MRG: Kalkaneus gövdesi içinde T1A incelemede hipo, yağ baskılı T2A incelemede hiperintens heterojen alan izlenmiştir. Fraktür sekeli lehine değerlendirilmiş olup, osteomyelit ayırıcı tanısı ön planda düşünülmüştür. ŞEKİL (1ve2) tespit edildi. Kemik sintigrafisinde aktivite artışı tespit edilmesi üzerine enfeksiyon hastalıkları ve ortopedi kliniğine "Akut Osteomiyelit" tanısıyla yönlendirildi. Ortopedi kliniği tarafından ek debritman tedavisi veya immobilizasyon düşülmedi. 3 haftalık oral ve intravenöz antibiyoterapinin ardından tedavisi sonlandırılan hasta FTR kliniğine EHA egzersizleri amacıyla tekrar yönlendirildi. Kontrol amaçlı istenilen MRG "Subakut-Kronik Osteomiyelit" tanısıyla hastaya Majör-Minor ve İntra artiküler Ozon tedavisi planlandı. Ozon tedavisi öncesi Sol ayak bileği EHA değerleri ilk muayene ile aynı, şişlik ve ısı artışı devam ediyordu. VAS istirahat 6, hareket 8, yürüme 9'du

Toplamda 6 haftada boyunca 10 seans majör (30 gama) minör (10 gama) ozona ek olarak 5 seans intraartriküler ozon tedavisi verildi. Hastanın bu süreçte kullandığı analjezik veya kronik hastalıkları ile ilgili tedavilerinde değişiklik yapılmadı. 10 seans tedavi sonrasında ayak bileği şişliğinde azalma, Sol ayak bileği EHA dorsifleksiyon 20 d plantar fleksiyon 30 d ve inversiyon 10 d ve eversiyon 20 d de minimal kısıtlı ve VAS değerleri istirahat 3, hareket 5, yürüme 6'du. Hastanın tedavisi ev programı egzersizleri ve günlük yaşam aktiviteleri önerileri ile sonlandırılarak 1,3 ve 6. Aylarda kontrol muayene önerildi (Şekil 3).

Osteomiyelit (OM), mikroorganizmanın infeksiyöz ve inflamatuar süreçler ile kemik dokuda hasar yaratması sonucu ortaya çıkan ilerleyici karakterde bir hastalıktır. Altı haftadan fazla süren kemik enfeksiyonları kronik osteomyelit (KOM) olarak tanımlanır. Kalkaneus tutulumu nadir görülür ve Enfeksiyonun oluşmasında travma gibi lokal nedenler, mikroorganizmanın patojenitesi ve hastanın sistemik defansının düşük olması rol oynar (1). Ozonun uygulandığı doku hücre metabolizmasının aktive edilmesi, hemoglobinin oksijen taşıma kapasitesinin eritrosit mekanizmasının stimüle edilerek artırılması, immün sistemin güçlendirilmesi ve serbest radikal düzeyinin düşürülmesi olarak sıralanabilir (2). Kemik rejeneresyonu açısından ise daha sıklıkla dental cerrahide implant cerrahileri sonrası gelişen inatçı osteomiyelit vakalarında faydalı olduğu bildirilmiştir (3).

Cerrahi debritman düşünülmeyen bu vakada hastanın yaşam kalitesinin artırılması ve kemik iyileşmesine katkıda bulunulması amacıyla Ozon tedavi uygulanmış olup hastanın ağrı skorlarında, şişlik ve ayak eklem hareket açıklığında umut verici gelişmeler yaşanması ozon tedavisinin hem majör hem de direk etkilenen bölge olan intraartriküler uygulanmasının bu tür tedaviye dürençli osteomiyelit vakalarında faydalı olabileceğini düşündürmektedir.

Anahtar Kelimeler: Osteomiyelit, Kalkaneus, ozon terapi

CAN OZONE BE A TREATMENT OPTION IN CALCANEUS OSTEOMYELITIS?

ABSRACT

Because of its important function in walking, osteomyelitis of the calcaneus is a serious and disabling infection. There is no standard and successful treatment for chronic cases (antibiotherapy, debridement, immobilization) whose acute treatment is similar to the treatment of osteomyelitis in the long bones. In this case, the improvement achieved by Ozone therapy in a case of subacute-chronic calcaneal osteomyelitis will be presented.

A 51-year-old male patient was admitted to the Physical Therapy and Rehabilitation Clinic with the complaint of pain in his left ankle. He had a history of diabetes. In the patient's anamnesis, it was learned that a fracture occurred in the calcaneus bone of the left ankle as a result of falling from a height 12 weeks ago. It was learned that the orthopedic outpatient clinic allowed walking and full pressure activities. He was using dexketoprofen hydrochloride 75 mg 2x1 and omeprazole 40 mg 1x1 and ketoprofen gel 3x1 topically as pain relievers.

When the patient applied to the FTR outpatient clinic, he presented with complaints of pain when walking, stinging sensation in the ankle while walking, excessive swelling after walking and fever. On examination, swelling and bruising were detected in and around the medial malleolus of the left ankle. Left ankle ROM (range of motion) was limited and painful at dorsi flexion 10 days, plantar flexion 20 days, and inversion and eversion 5d. The VAS (Visual Pain Scale) was 7 at rest, 8 at movement and 9 at walking.

The patient's whole blood, sedimentation, biochemistry, whole urine, ASO, CRP, RF tests were performed. According to the test results, leukocytosis (14000 mm3) and increased sedimentation (55 mm/hour) were found as pathological findings. Contrast-enhanced MRI of the patient: A heterogeneous hypointense area on T1W examination in the body of the calcaneus, and hyperintense on fat-suppressed T2W examination. Fracture sequelae were evaluated in favor and the differential diagnosis of osteomyelitis was considered in the foreground. FIGURE (1 and 2) is detected. Upon detection of increased activity in bone

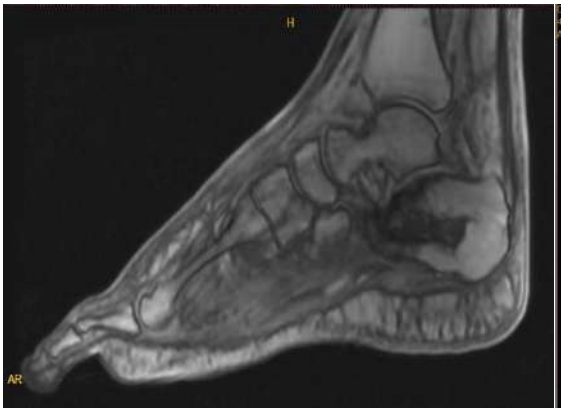
scintigraphy, he was referred to the infectious diseases and orthopedics clinic with the diagnosis of "Acute Osteomyelitis". No additional debridement or immobilization was interrupted by the orthopedic clinic. The patient, whose treatment was terminated after 3 weeks of oral and intravenous antibiotic treatment, was referred back to the FTR clinic for ROM exercises. With the diagnosis of "Subacute-Chronic Osteomyelitis", the patient was scheduled for Major-Minor and Intra-articular Ozone treatment with MRI requested for control purposes. Before ozone therapy, the ROM values of the left ankle were the same as in the first examination, swelling and temperature increase continued. VAS was 6 at rest, 8 at movement, and 9 at walking.

In addition to 10 sessions of major (30 gamma) minor (10 gamma) ozone therapy, 5 sessions of intra-articular ozone therapy were given for a total of 6 weeks. During this period, there was no change in the analgesics used by the patient or in the treatments for chronic diseases. After 10 sessions of treatment, ankle swelling decreased, left ankle ROM was minimally limited for 20 days of dorsiflexion, 30 days of plantar flexion, inversion 10 days and eversion 20 days, VAS values at rest 3, in motion 5, and 6 walking. The patient's treatment was terminated with home program exercises and daily living activities recommendations, and a follow-up examination was recommended at 1, 3 and 6 months (Picture 3).

Osteomyelitis (OM) is a progressive disease that occurs as a result of the microorganism's damage to the bone tissue by infectious and inflammatory processes. Bone infections lasting longer than six weeks are defined as chronic osteomyelitis (COM). Involvement of the calcaneus is rare and local causes such as trauma, pathogenicity of the microorganism, and low systemic defense of the patient play a role in the formation of infection (1). Ozone can be listed as activating tissue cell metabolism, increasing the oxygen carrying capacity of hemoglobin by stimulating the erythrocyte mechanism, strengthening the immune system and reducing the level of free radicals (2). It has been reported to be beneficial in terms of bone regeneration in cases of persistent osteomyelitis after implant surgery in dental surgery (3).

In this case, where surgical debridement was not considered, Ozone therapy was applied to improve the patient's quality of life and contribute to bone healing. suggests it might be useful.

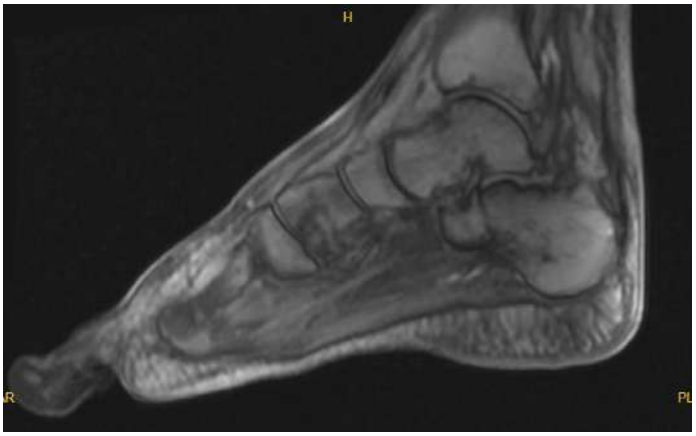
Keywords: Osteomyelitis, calcaneus, ozone therapy



Şekil 1: Tedavi öncesi ayak bileği MRG



Şekil 2: Tedavi öncesi ayak bileği Direk Grafi



Şekil 3: Tedavisi sonrası ayak bileği MRG

FARKLI YAPIDAKİ KOMPOZİT REZİNLERİN SU EMİLİMİ VE ÇÖZÜNÜRLÜKLERİNİN KARŞILAŞTIRILMASI

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ÖZET

Restoratif materyaller nemli ortamlarda suyu yapılarına katmaktadır. Meydana gelen bu su emilimi farklı mekanizmalarla gerçekleşmektedir. Su, yapı içerisine penetre olabilir ya da çözünme sonucunda oluşan boşluklara sızabilir. Çalışmamızın amacı farklı yapıdaki kompozit rezinlerin 24 saat ve 15 gün sonundaki su emilim değerlerinin ve 15 gün sonundaki çözünürlük değerlerinin karşılaştırılmasıdır.

Çalışmada 1 adet hibrit kompozit rezin ve 6 adet bulk fill kompozit rezin olmak üzere 7 farklı kompozit rezin kullanıldı. Bu kompozitler; UR 200 Universal Restorative (3M ESPE), Filtek Flowable Bulk Fill (3M ESPE), Filtek Posterior Bulk Fill (3M ESPE), X-tra base Bulk Fill (VOCO), X-tra fil Bulk Fill (VOCO), SDR Flow Bulk Fill (Dentsply), QUIXFIL Bulk Fill'dir (Dentsply). Çalışmada kullanılan örneklerin polimerizasyonunda 1200 mW/cm^2 ışık gücüne sahip T-Led ışık cihazı kullanıldı. Her grup için 4 mm kalınlığında ve 5 mm çapında 12'şer örnek hazırlandı. Materyallerin su emilimleri ve suda çözünürlükleri ISO standartlarında (ISO 4049) belirtildiği şekilde hesaplandı. Su emilimi ve çözünürlük çalışma verileri MANOVA testi ile analiz edildi.

Kompozit rezinler arasında 24 saat ve 15 günün sonunda su emilimi açısından anlamlı farklılıklar olduğu bulundu ($p<0,05$). Gruplar arasında 15 günlük suda çözünürlük değerleri açısından anlamlı fark bulunmadı ($p\geq0,05$).

Kompozit rezinlerin su emilimi değerleri ve çözünürlük miktarları farklılık göstermektedir. Bu değerler ISO ve ADA standartlarına uymakta ve başarılı bulunmaktadır.

Anahtar Kelimeler: Kompozit Rezin, Bulk Fill Kompozit, Su Emilimi, Çözünürlük

COMPARISON OF WATER ABSORPTION AND SOLUBILITY OF DIFFERENT COMPOSITE RESINS

ABSTRACT

Restorative materials add water to their structures in humid environments. This water absorption occurs through different mechanisms. The water can penetrate into the structure or seep into the cavities formed as a result of dissolution. The aim of this study was to evaluate water sorption and solubility values of 7 composite resin restorative materials (6 bulk fill and a traditional) at 24 hours and 15 days.

In this study, 7 resin composites (6 Bulk Fill and 1 conventional) were investigated. The samples were prepared with silicone molds which have 4 mm thickness and 5 mm in diameter (n=12). T-LED light device with 1200 mW/cm^2 light power was used for the polymerization of the samples. Water sorption and solubility of the composites were tested using purified water. Water sorption and water solubility of the materials were calculated as specified in ISO standards (ISO 4049). Data was analysed using MANOVA test at p= .05 significance level.

There were significant diffrences among the groups in terms of water sorption after 24 hours ($p<.05$). Significant differences was found among the groups at the end of 15 days in terms of water sorption ($p<.05$). There was no significant difference among the groups for water solubility values at the end of 15 days ($p\geq.05$).

Composite resins show different water sorption and solubility values which suitable for ISO and ADA standards.

Keywords: Composite Resin, Bulk Fill Composite, Water Sorption, Solubility

GİRİŞ

Operatif diş hekimliğinde yaşanan gelişmeler ile birlikte kompozit rezinlerin kullanımları oldukça artırmıştır. Kompozit rezinler küçük konservatif restorasyonlardan, büyük ve geniş madde kayıplarının direkt restore edebilmesine kadar farklı endikasyonlarda kullanılabilmektedir. Ancak kompozit rezinler ağız içerisinde devamlı nemli ortama ve farklı sıcaklıklara maruz kalmaktadır (1-3).

Kompozit rezinlerin kimyasal ve termal olarak stabil olduğu düşünülür. Ancak polimer yapılar ağız ortamından farklı sıvıları emerler ve yapıları bozulabilir. Sıvı emilimi ve çözünme olarak tanımlanan bu bozunmalar, materyalin fiziksel ve biyolojik özelliklerini zayıflatmanın yanında kompozit restorasyonların ömrünü ve mekanik dayanımını azaltmaktadır (4-7).

ISO 4049-2019 ve ADA-27 standartlarına göre restoratif materyallerin su emilimi 50 µg/mm^3'e eşit ya da daha az, çözünürlüğü ise en çok 7,5 µg/mm^3'e eşit veya daha az olmalıdır (8, 9). Kompozit rezinlerde su emilimi, dolduruculara (yoğunluğu, tipi, büyüklüğü), organik matrikse (içeriği ve polimerizasyonu) ve ara yüz özelliklerine bağlıdır. Yüksek doldurucu oranına sahip materyaller daha az su emmektedir. Su emilimini etkileyen başlıca faktörler; sıvıda bulunma süresi, ortamın ve sıvının ısısı, materyalin yüzey özellikleri, sıvının yoğunluğu ve çeşididir (10, 11).

Bu in vitro çalışmanın amacı farklı kompozit rezinlerin su emilimi ve çözünürlük değerlerini incelemektir.

GEREÇ VE YÖNTEMLER

Çalışmada 1 adet hibrit kompozit rezin; UR 200 Universal Restorative (3M ESPE) ve 6 adet bulk fill kompozit rezin; Filtek Flowable Bulk Fill (3M ESPE), Filtek Posterior Bulk Fill (3M ESPE), X-tra base Bulk Fill (VOCO), X-tra fil Bulk Fill (VOCO), SDR Flow Bulk Fill (DENTSPLY), QUIXFIL Bulk Fill (DENTSPLY) olmak üzere 7 farklı kompozit rezin kullanıldı. Materyallere ait bilgiler Tablo 1'de özetlenmiştir.

Tablo 1. Çalışmada kullanılan kompozitlerin özellikleri

Kompozit-Renk-Lot No	Üretici	Süre	Tipi	İçerik	Doldurucu Oranı	Doldurucu Boyutu
UR 200-A1 Lot:611629	3M-ESPE Seefeld GERMANY	20sn	Mikrohibrit	BIS-GMA, UDMA, BIS-EMA rezinleri, zirkon ve silika	Ağırlıkça %82 Hacimce %60	Zirkon, silika 0,01-3,5 µm
Filtek Flowable Bulk-U Lot:461826	3M-ESPE Seefeld GERMANY	10sn	Akışkan Bulk Fill	BIS-GMA, UDMA, BIS-EMA, poliakrilat rezinler, ytterbium trifluoride, zirkon ve silika	Ağırlıkça %64,5 Hacimce %42,5	Ytterbium trifluoride 0,1 to 5,0 microns, Zirkon ve silika 0,01 to 3,5 µm
Filtek Posterior Bulk-A1 Lot:640699	3M-ESPE Seefeld GERMANY	20sn	Bulk Fill	Silika, zirkon, Ytterbium trifluoride, AUDMA, UDMA,	Ağırlıkça %76,5 Hacimce %58,4	Silika 20 nm Zirkon 4-11 nm Ytterbium triflor 100 nm
X-tra base-U Lot:1409663	VOCO Cuxhaven Germany	10sn	Akışkan Bulk Fill	Metakrilatlar, BHT	Ağırlıkça % 75 Hacimce: Firma Belirtmemiş	Firma Belirtmemiş
X-tra fil-U Lot:1410271	VOCO Cuxhaven Germany	10sn	Bulk Fill	BIS-GMA, UDMA, BHT, TEGDMA	Ağırlıkça %86 Hacimce %70,1	Firma Belirtmemiş
SDR Flow-U Lot: 1309183	DENTSPLY Milford, DE USA	20sn	Akışkan Bulk Fill	Ba-Al-F-borosilikat cam, St-Al-F silikat cam, Modifiye UDMA, EBPADMA, TEGDMA,	Ağırlıkça % 68 Hacimce % 45	4,2 µm
Quixfil-U Lot: 1502000709	Dentsply Kontanz, GERMANY	10sn	Bulk Fill	UDMA, TEGDMA, Di- ve trimethacrylate rezinler	Ağırlıkça %86 Hacimce %66	1-10 µm

Her grup için silindirik silikon kalıplar kullanılarak 4 mm kalınlığında ve 5 mm çapında 12'şer örnek (n=12) olmak üzere toplamda 84 örnek hazırlandı. Örneklerde düz yüzey oluşturmak için siman camı ve şeffaf matriks bandı kullanıldı. UR 200 iki tabaka, Bulk Fill kompozitler ise tek tabaka halinde yerleştirildi. Çalışmada kullanılan örneklerin polimerizasyonunda 1200 mw/cm^2 sabit ışık gücüne sahip T-Led (T-LED; Anthos SRL, Imola, İtalya) ışık cihazı firmaların tavsiye ettiği sürelerde kullanıldı. Her grubun polimerizasyonundan önce ışık cihazının gücü radyometre aracılığı ile kontrol edildi. Polimerizasyon sonrası örnekler kalıplardan çıkarıldı ve fazlalıklar temizlendi.

Hazırlanan örnekler, sabit ağırlığa ulaşıncaya dek 37^{0}C'de etüvde, desikatör içerisinde 24 saat bekletildi. Örneklerin tartımı 0,1 mg hassasiyetli Radwag AS 220 C/2 (Radwag Bracka, Polonya) analitik terazi ile yapıldı. Her tartımdan önce tartı cihazının kalibrasyonu yapıldı. Tartım esnasında cihazın etkilenmemesi için kapakları kapalı tutuldu. Etüvde 24 saat bekletilip kurutulduktan sonra örneklerin ilk ağırlıkları tartıldı (M1).

Tartılan örneklerin her biri ayrı kaplarda 10 ml distile su içinde 37^{0}C'de etüve yerleştirildi. 24 saat sonra etüvden çıkarılan örneklerin nemi kurutma kâğıdı ile alındı. Ardından hassas terazide ağırlıkları ölçüldü (M2).

Ölçüm yapılan örnekler tekrar 37^{0}C'de saf suya konuldu ve haftada 1 kez suları değiştirilerek 2 hafta etüvde bekletildi. 2 hafta sonunda örnekler etüvden çıkarıldı ve fazla nem kurutma kâğıdı ile alınarak hassas terazide ölçümleri yapıldı (M3).

İki hafta sonunda tartımı yapılan örnekler kurutma amacıyla 24 saat boyunca 37^{0}C'de etüvde desikatör içerisinde bekletildi. Kuruyan örneklerin ağılık ölçümleri hassas terazi ile yapıldı (M4).

Materyallerin su emilimleri ve suda çözünürlükleri ISO standartlarında (ISO 4049) belirtildiği şekilde aşağıdaki formüller kullanılarak hesaplandı. Su emilimi ve çözünürlük çalışmalarında birim olarak µg/mm^3 kullanıldı.

M1 = Örneklerin ilk kurutma işleminden sonraki ağırlığı

M2 = Örneklerin 24 saat saf suda bekletildikten sonraki ağırlığı

M3 = Örneklerin 15 gün saf suda bekletildikten sonraki ağırlığı

M4 = Örneklerin 15 gün sonunda kurutulduktan sonra tartılan ağırlığı

M= Örneklerin ağırlığı (µg)

V= Örneklerin hacmi (mm3)

24 saat su emilimi = (M2-M1)/V

15 gün su emilimi = (M3-M1)/V

Suda çözünme = (M1-M4)/V

Çalışma verilerinin istatistiksel analizleri için SPSS for Windows Ver.20.0 (SPSS Inc., IL.USA) yazılımı kullanılmıştır. Tüm testler için anlamlılık değeri p=0,05 kabul edilmiştir. Su emilimi ve çözünürlük çalışma verileri normal dağılım gösterdikleri için MANOVA testi ile analiz edildi. Varyanslar homojen olduğundan ikili karşılaştırmalarda Tukey HSD testi kullanılmıştır. Ağırlıkça doldurucu oranı ile su emilimi ve çözünürlük arasındaki ilişkinin değerlendirilmesinde Pearson korelasyon analizi kullanılmıştır.

BULGULAR

Su emilimi ve çözünürlük çalışmasına ait MANOVA testinin sonuçları ve tanımlayıcı bilgiler Tablo 2'de verilmiştir.

Tablo 2. Su emilimi ve çözünürlük çalışması MANOVA testi sonuçları ve tanımlayıcı veriler

	Gruplar	Su Emilimi Ortalaması 24sa ($\mu g/mm^{3)}$)	*ss	Su Emilimi Ortalaması 15 gün ($\mu g/mm^{3)}$)	*ss	Çözünürlük Ortalaması 15 gün ($\mu g/mm^{3)}$)	*ss
1	3M UR200	$2,43943^{a,b}$	2,79153	$6,78800^{a,b}$	3,13329	$1,59093^{a}$	1,10223
2	Filtek Flow Bulk	$3,60612^{a,b,c}$	2,35518	$10,07594^{c,d}$	2,73827	$2,22731^{a}$	1,44861
3	Filtek Post Bulk	$2,43943^{a,b}$	1,26792	$11,56081^{d}$	2,99512	$1,90912^{a}$	1,27275
4	X-tra base	$2,43943^{a,b}$	1,00924	$3,18187^{e}$	1,48625	$2,33337^{a}$	1,31075
5	X-tra fil	$5,83343^{c}$	2,45469	$9,12137^{b,c,d}$	2,59326	$1,27275^{a}$	1,08540
6	SDR	$4,66675^{b,c}$	1,90590	$7,42437^{a,b,c}$	2,59326	$1,90912^{a}$	0,66467
7	Quixfil	$2,01518^{a}$	1,57835	$4,56068^{a,e}$	2,45469	$2,01518^{a}$	1,14590

(ss: standart sapma ,farklı küçük harfler aynı sütundaki istatistiksel farklılıkları göstermektedir)

Kompozit rezinlerin 24 saatlik su emilim miktarları incelendiğinde gruplar arasında anlamlı farklılıklar olduğu bulunmuştur ($p<0,05$). Gruplar arasında 24 saat sonunda en yüksek su emilimi X-tra fil grubunda görüldü. En düşük su emilimi ise Quixfil grubunda görüldü.

Kompozit rezinlerin 15 günlük su emilimi miktarları arasında istatistiksel olarak anlamlı farklılıklar bulundu ($p<0,05$). Gruplar arasında 15 günün sonunda en yüksek su emilimi Filtek Posterior Bulk Fill grubunda görüldü. En düşük su emilimi ise X-tra base grubunda görüldü.

Kompozit rezinlerin suda çözünürlük miktarları incelendiğinde gruplar arasında anlamlı bir fark bulunmamıştır ($p\geq0,05$). 15 günün sonunda en yüksek çözünürlük X-tra base grubunda görüldü. En düşük çözünürlük ise X-tra fil grubunda gözlendi.

Pearson korelasyon analizi ile kullanılarak yapılan değerlendirmede kompozitlerin ağırlıkça doldurucu oranları ile 24 saatlik su emilimi, 15 günlük su emilimi ve 15 günlük çözünme değerleri arasında anlamlı bir ilişki tespit edilmemiştir.

TARTIŞMA

Kompozit materyallerin su emilimi ve çözünürlüğü çeşitli faktörlere bağlıdır. Bunların başında rezin matriksin türü ve miktarı, doldurucuların tipi, doldurucuların büyüklükleri ve oranları gelmektedir (2, 12). Ayrıca reaksiyona girmemiş monomer varlığı ve miktarı, polimerizasyon yöntemi ve polimerizasyon derecesi, polimerizasyon süresi ve sıcaklık da su emilimi ve çözünürlüğü etkilemektedir (13). Çalışmamızda kullandığımız örneklerin sıcaklıktan etkilenmemesi ve ağız içi sıcaklığı taklit edilebilmesi için 37^0C'de etüvde bekletilmiştir.

FDA tarafından yiyecekleri taklit edebilecek, onların yerine kullanılabilecek kimyasallar tanımlanmıştır (14). Çalışmalarda distile su, tükürük ve su tarafından ağız içinde sağlanan nemli ortamı taklit etmek için kullanılmaktadır (15). Alshali ve ark. yaptıkları su emilimi çalışmasının sonuçlarında yapay tükürük ile saf kullanımının su emilimi ve çözünürlük açısından anlamlı bir fark ifade etmediğini belirtmişlerdir (12). Çalışmamızda ağızdaki nemli ortamı taklit etmek için distile su kullanılmıştır.

Kompozitlerin yapısına bakıldığında sıklıkla kullanılan monomerler; BisGMA, TEGDMA, UDMA ve Bis EMA'dır. Bunların arasında ise en çok su emen bileşik TEGDMA'dır ve bunu Bis-GMA izler. Su emilimi ve çözünme direnci en yüksek olan bileşik UDMA-Bis-EMA olarak ifade edilmiştir (16). Yapılan çalışmalar sonucunda çözünme konusunda da TEGDMA ilk çözünen monomerdir. BisGMA ve UDMA da zamanla çözünmektedir (2). Bizim çalışmamızda kullandığımız rezinlerin monomer yapıları birbirlerine çok benzediği ve farklı monomerlerin karışımı olduğu için bu konuda herhangi bir karşılaştırma yapılmamıştır.

ISO 4049-2019 ve ADA 27-2016'nin belirlediği kriterlere göre restoratif materyallerin suda çözünürlüğü en çok 7,5 $\mu g/mm^3$'e eşit veya daha az, su emilimi ise 40 $\mu g/mm^3$'e eşit veya daha az olması gerektiği belirtilmiştir (8, 9). Bizim çalışmamızda kullandığımız kompozit rezinler gözlem sürelerimizde ISO ve ADA kriterlerini sağlamıştır.

Uzun süreçli yapılan çalışmalar göstermektedir ki su emilimi hızı zamanla azalmaktadır. Bu durum şu şekilde açıklanmaktadır; ilk günlerde yüksek olan su emilimi hızı gün geçtikçe difüzyon katsayısındaki düşüşe bağlı olarak azalmaktadır Çalışmamızda literatürdeki çalışmalara benzer sonuçlar elde edilmiş, ölçüm yaptığımız süreçler olan 1. gün ve 15. güne baktığımızda su emilim hızının ilk güne oranla azaldığı görülmüştür (2, 17). Kıyaslanabilir sonuçlar elde etmek için daha geniş zamanlı ve sık ölçümlü çalışmalara ihtiyaç duyulmaktadır.

Çalışmamızda kullandığımız kompozitlerin doldurucu oranları ile 24 saat ve 15 gün sonunda emdikleri su miktarı arasında bir ilişki bulunmamıştır. Ayrıca 15 gün sonunda çözünen madde miktarı ile doldurucu oranları arasında da anlamlı bir ilişki bulunmamıştır. Bu gözlemimiz Alshali ve ark. ile Atalayın ve ark.'nın yaptıkları çalışmalar ile uyumsuzdur (12, 18). Eğer doldurucu oranı ile su emilimi arasında negatif ya da pozitif bir ilişki var ise bu 15 günden sonraki dönemlerde emilen sıvı miktarına bağlı olabilir. Bu sebeple daha uzun süreli emilim ve çözünürlük çalışmaları yapılmalıdır.

SONUÇ

Çalışma bulguları göz önünde bulundurulduğunda kullanılan geleneksel ve Bulk Fill kompozitler ISO ve ADA su emilimi ve çözünürlük standartlarını başarıyla karşılamaktadır. Ancak bu standartlar materyal seçiminde önemli olsa da, materyal seçimi için diğer mekanik, biyolojik ve kimyasal özelliklerin de göz önünde bulundurulması gerekmektedir.

* Bu makale Dr. Adem GÖK'ün "Farklı Bulk Fill Kompozit Rezin Materyallerin Polimerizasyon Dereceleri, Su Emilimi ve Suda Çözünürlüklerinin Değerlendirilmesi ve Bulk

Fill Kompozit Rezinle Restore Edilmiş Dişlerin Kırılma Dirençlerinin Karşılaştırılması 2016-İZMİR" adlı doktora tezinden üretilmiştir.

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ONUNCU YILINDA ZORUNLU GENEL SAĞLIK SİGORTASI ÜZERİNE SGK VERİLERİ IŞIĞINDA BİR DEĞERLENDİRME

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ÖZET

Genel sağlık sigortası, kişilerin sağlıklarının korunmasını ve sağlık riskleri ile karşılaşmaları halinde oluşacak harcamaların finansmanını sağlayan sigorta olarak tanımlanır. Bu düzenleme sağlık alanında yapılan önemli devrimlerden birisidir. Daha öncesinde sosyal güvenlik kuruluşları farklı olan sigortalılar sadece mensup oldukları sosyal güvenlik kuruluşunun verdiği sağlık hizmetlerinden yararlanabiliyordu. Genel sağlık sigortası ile kişilerin ekonomik gücüne ve isteğine bakılmaksızın, ortaya çıkacak hastalık riskine karşı, toplumun bütün fertlerinin sağlık hizmetlerinden eşit, ulaşılabilir ve etkin bir şekilde faydalanması sağlanmıştır. 31.05.2006 tarihinde 5510 sayılı Sosyal Sigortalar ve Genel Sağlık Sigortası Kanunu kabul edilmiş ve 01.01.2008 tarihinde tüm hükümleri ile yürürlüğe girmiştir. Kanunla Sosyal Sigortalar Kurumu Başkanlığı, T.C. Emekli Sandığı Genel Müdürlüğü ve Bağ-Kur Genel Müdürlüğü Sosyal Güvenlik Kurumu Başkanlığı çatısı altında toplanmıştır. Zorunlu olarak herkesin genel sağlık sigortası kapsamına alındığı 1/1/2012 tarihinin üzerinden yaklaşık on yıl geçmiştir. Bu süreçte ortaya çıkan aksaklıklar üzerine belli düzenlemeler ve iyileştirmeler yapılmıştır. Bu düzenlemelerden 6663 sayılı Gelir Vergisi Kanunu ve Bazı Kanunlarda Değişiklik Yapılmasına Dair Kanun (10.2.2016), 7226 sayılı Kanun (26.03.2020) ve 7244 sayılı Kanun (17.04.2020) ile bazı değişiklikler yapılmıştır. Bu çalışmada SGK verileri üzerinden sistem üzerine genel bir değerlendirme yapılacaktır. Bu sayede hem geçmiş on yılda sistemin işleyişinin bir fotoğrafının çekilmesi hem de gelecekte konu üzerine yapılacak çalışmalara yol gösterilmesi hedeflenmiştir.

Anahtar Kelimeler: Genel Sağlık Sigortası, Zorunlu Sigorta, SGK

AN EVALUATION ON MANDATORY GENERAL HEALTH INSURANCE IN ITS TENTH YEAR IN THE LIGHT OF SGK DATA

ABSTRACT

General health insurance is defined as the insurance that protects the health of individuals and finances the expenditures that will occur in case they encounter health risks. This regulation is one of the important revolutions in the field of health. Previously, insured people whose social security institutions were different, could only benefit from the health services provided by the social security institution they belonged to. With general health insurance, it has been ensured that all members of society benefit from health services equally, accessibly, and effectively against the risk of disease, regardless of their economic power and desire. Social Insurance and General Health Insurance Law No. 5510 was accepted on 31.05.2006 and entered into force with all its provisions on 01.01.2008. Sosyal Sigortalar Kurumu Başkanlığı, T.C. Emekli Sandığı Genel Müdürlüğü and Bağ-Kur Genel Müdürlüğü were gathered under the umbrella of the "Sosyal Güvenlik Kurumu Başkanlığı". It has been nearly ten years since the date of 1/1/2012, when everyone was compulsorily covered by general health insurance. Certain arrangements and improvements were made to the problems that emerged in this

process. Among these regulations, some amendments were made with Law No. 6663 on the Amendment of the Income Tax Law and Some Laws (10.2.2016), Law No. 7226 (26.03.2020) and Law No. 7244 (17.04.2020). In this study, a general evaluation of the system will be based on SGK data. In this way, it is aimed both at taking a picture of the functioning of the system in the past ten years and at guiding future studies on the subject.

Keywords: General Health Insurance, Compulsory Insurance, SGK

GİRİŞ

Genel sağlık sigortasının (GSS) TBMM'de kabulünün üzerinden 15 ve tüm vatandaşların zorunlu GSS kapsamına alınmasının üzerinden ise 10 yıl geçmiştir. Bugün gelinen noktada tüm sosyal güvenlik kurumları birleştirilerek ülke nüfusunun tamamını kapsayan sağlık sigortası sistemi yürürlüğe girmiş ve tüm sağlık hizmetleri tek elden sunulmaya başlanmıştır. Sosyal sigorta sistemi adına önemli bir devrim niteliğindeki bu değişim tüm vatandaşlar için adil ve sürdürülebilir bir sosyal güvenlik sistemi kurmayı vaat etmiştir. Kurulan bu yeni sistemin günümüzdeki haline bakıldığında, pek çok hedefe ulaşılmakla beraber uygulamada pek çok sorunla da karşılaşıldığı görülmektedir. Çalışmada öncelikle sosyal güvenlik kavramı ve sistemi ile ilgili genel bilgiler verildikten sonra GSS sisteminin son 15 yılı veriler ışığında değerlendirilecektir.

KAVRAMSAL ÇERÇEVE

Sosyal güvenlik nispeten yeni bir kavram olsa da esasında insanlık tarihi kadar eski bir düşüncenin günümüze yansıması olduğunu söylemek yanlış olmaz. Geleceği güvence altına alma ihtiyacı ve gelecekten emin olma dürtüsü sosyal güvenlik fikrini doğurmuştur. Zamanla sosyal güvenlik insanoğlunun en temel ihtiyaçlarından biri haline gelmiştir. Tehlikeyle karşılaşan ya da yoksulluğa düşen bireye asgari bir güvence sağlama düşüncesi sosyal güvenliğin var oluş nedenlerinden birisidir.

"Sosyal güvenlik" terimi sosyal bilimler literatürüne ilk kez 1935 tarihli bir Amerikan Kanunu (Social Security Act: Sosyal Güvenlik Kanunu) ile girmiştir (Şakar, 2011: 4). Sosyal güvenlik, kavram olarak kendisini meydana getiren 'sosyal' ve 'güvenlik' kelimelerinden farklı bir anlam taşır (Arıcı, 1999: 1). Uluslararası Çalışma Örgütü'nün (ILO) 1944 Philadelphia Konferansında sosyal güvenlik şöyle tanımlanmıştır: "Korunmaya muhtaç olan herkes için bir esas gelir sağlamak üzere, sosyal güvenlik tedbirlerinin geliştirilmesi ve sağlık yardımlarının genişletilmesi ile çocuk ve analarının korunmasıdır" (ILO, 2015). 1982 Anayasasında, cumhuriyetin nitelikleri arasında sayılmış olan ve sosyal hukuk devletinin esaslarından birini oluşturan sosyal güvenlik kavramının içerdiği temel anlam, toplumda yoksul ve muhtaç insanlara devletçe yardım edilerek insan onuruna yaraşır asgari yaşam düzeyi sağlanması, böylece sosyal adaletin sosyal devlet ilkelerinin gerçekleşmesine elverişli ortamın oluşturulması şeklinde açıklanmaktadır (Özbudun,2010: 138). Sosyal güvenlik tanımlarının ortak noktasını, çeşitli sosyal risklerin yol açabilecekleri gelir kayıpları ve gider artışlarına karşı fertlerin ekonomik güvenliklerinin sağlanması oluşturmaktadır (Yıldız, 2013:11).

Sosyal Güvenliğin Konusu ve Amacı

Sosyal güvenliğin konusunu riskler (risks) veya Türkçe karşılığı olarak da tehlikeler oluşturmaktadır. Risk sözcüğü İngilizceye, bilinmeyen sulara yelken açmak anlamında kullanılan İspanyolca ya da Portekizceden girmiştir. Risk kavramı, köken itibariyle "mekan"a yönelik bir sözcüktür. Daha sonra, bankacılık ve yatırım alanına girerek, borç verenlerle alanların yatırım kararlarının muhtemel sonuçlarının hesaplanmasını yansıtan bir yorumla

“zaman" düzlemine taşınmış, belli bir süreç sonunda belirsizlik gösteren diğer durumları da içeren geniş bir kapsama sahip olmuştur (Giddens,2000:36).

Uluslararası Çalışma Örgütü’nün (ILO) 1952 tarihli ve 102 sayılı Sosyal Güvenliğin Asgari Standartları Sözleşmesi’nde dokuz sosyal tehlikeden bahsedilmiştir. 102 sayılı anılan sözleşmede sosyal tehlikeler; iş kazaları ve meslek hastalıkları mesleki riskler, hastalık, malullük, analık yaşlılık ve ölüm fizyolojik riskler, işsizlik ve ailevi yükler (evlenme, çocuk yetiştirme) sosyo-ekonomik riskler olarak nitelendirmiştir (Tunçomağ, 1988: 7).

Sosyal güvenliğin konusunu riskler oluşturduğundan sosyal güvenliğe konu olan riskler; mesleki riskler, fizyolojik riskler ve sosyo-ekonomik riskler olmak üzere üç gruba ayrılabilir.

- Yapılan Mesleğe Bağlı Riskler
- Fizyolojik Riskler
- Sosyal ve Ekonomik Riskler

Sosyal güvenlik sistemlerinin amacı, sosyal bir riskin varlığı nedeniyle çalışamayan veya çalışma gücünün bir kısmını kaybettiği için gelir kaybına uğrayan bireylere, insan onuruna yaraşır asgari bir yaşam sürecek gelir garantisi sağlamaktır. Sosyal güvenlik sistemleri sayesinde gelir garantisi altına alınan kişiler, muhtaç duruma düşmez veya muhtaç duruma düşse dahi bu durumdan kısa bir süre içinde kurtulma imkânına kavuşur (Arıcı, 1999: 26).

Etkin bir sosyal güvenlik sistemi, bir yandan işsiz kalanlara iş buluncaya kadar geçimlerini temin edecek yardımı yaparken diğer taraftan iş kazası, yaşlılık ve malullük nedeniyle muhtaç duruma düşenlere de gelir garantisi sağlar (Yıldız, 2013: 20). Kısaca sosyal güvenliğin amacı, tehlikeler karşısında insanları ihtiyaçlarının esiri olmaktan kurtarmaktır.

Sosyal Güvenlik Sistemi

Sosyal güvenlik sistemi, sosyal güvenliğin finansman ve harcama unsurlarını bir bütün olarak kapsar. Sosyal hizmetler, uzun ve kısa vadeli sosyal sigortalar, sosyal yardımlar ve aralarındaki ilişkiler, bir sosyal güvenlik sistemini oluşturur. Dört sistemden söz edilebilir (Gümüş, 2010: 5).

- 1880’li yıllarda geliştirilen ve prim esasına göre finansmanı sağlanan Bismarkçı sosyal güvenlik sistemi,
- 1942 yılında geliştirilen ve vergi gelirleri ile finanse edilen Beveridge tipi sosyal güvenlik sistemi,
- Prim ve vergilerle karma finansmanı öngören karma sosyal güvenlik sistemi,
- 1981 yılında Şili’de uygulanmaya başlanan, devletin gözetim ve denetiminde finansmanı tamamen bireysel primlerle sağlanan özel zorunlu bireysel sigortacılık sistemi.

Sosyal güvenlik uygulamalarının hayata geçirilmesinde yöntem olarak sosyal sigortalar, sosyal yardımlar ve sosyal hizmetler kullanılır. Sosyal sigorta yöntemi, kapsama alınan kişinin ve/veya üçüncü bir kişinin maddi katkısıyla işlerken, sosyal yardımlar ve sosyal hizmetler de ilgilinin herhangi bir katkısı bulunmaz. Yapılan yardımlar kısmen veya tamamen devlet bütçesinden ya da toplumdaki gönüllü kuruluşlar tarafından sağlanır. Finansmanındaki bu özellik nedeniyle sigortalar primli sosyal güvenlik rejimi, sosyal yardım ve sosyal hizmetler ise primsiz sosyal güvenlik rejimi olarak isimlendirilmiştir (Ekmekçi ve Tuncay, 2011: 70). Sosyal güvenlik uygulamalarının hayata geçirilmesinde yöntem olarak sosyal sigortalar, sosyal yardımlar ve sosyal hizmetler kullanılır. Sosyal sigorta yöntemi, kapsama alınan kişinin ve/veya üçüncü bir kişinin maddi katkısıyla işlerken, sosyal yardımlar ve sosyal hizmetler de ilgilinin herhangi bir katkısı bulunmaz.

Türkiye'de Sosyal Güvenlik

Cumhuriyet öncesi dönemde bugünkü anlamı ile sağlık sigortasından söz etmek mümkün değildir. Uygulamada vakıflar ve padişah aileleri tarafından kurulan hastanelerde kamuya sağlık hizmeti sunulması söz konusu olsa da kapsamlı bir sağlık sigortası bulunmamaktaydı. Sağlık (hastalık) sigortası, ilk kez sınırlı bir biçimde 10.09.1921'de 151 sayılı Ereğli Havza-i Fahmiyesi Maden Amelesinin Hukukuna Müteallik Kanun ile kurulmuştur (Yay, 2014:152).

Genel nitelikli Yasa ise 1950 yılında "Hastalık ve Analık Sigortası Kanunu" adı altında çıkartılmıştır. Genel sağlık sigortası ve sosyal güvenlik alanının kurumsallaşması ise 1945 yılı sonrasında gerçekleşmiştir. 1945 yılında İşçi Sigortaları Kurumu kurulmuştur. İşçi Sigortaları Kurumu'ndan sonra TCDD, PTT, TEK gibi kamu kurumları da kendi personellerine sağlık hizmeti verebilmek için hastaneler kurmaya başlamışlardır. İşçi Sigortaları Kurumu'nun ardından 1950 yılında Emekli Sandığı kurulmuş ve Türkiye'de sosyal güvenliğin kapsamı genişlemeye başlamıştır (Öztek ve Eren, 1995: 62).

Türkiye'de Genel Sağlık Sigortası Uygulaması

Ülkemizde 2006 yılına kadar sigorta hizmetlerini sunan kurum bulunuyordu. Bunlar, 1949 yılında 5434 sayılı Kanun ile kurulmuş olan T.C. Emekli Sandığı, 1945 yılında 4792 sayılı Kanun ile kurulmuş olan Sosyal Sigortalar Kurumu, 1971 yılında 1479 sayılı Kanun ile kurulmuş olan Esnaf Sanatkârlar ve Diğer Bağımsız Çalışanlar Sosyal Sigortalar Kurumu. Bu üç kurum, kuruluşlarında çalışanların mesleki faaliyet esasına göre örgütlenmişti. Bu üç kurum 2006 yılında çıkarılan 5502 sayılı Kanun ile kurulan Sosyal Güvenlik Kurumu (SGK) çatısı altında birleştirilmişlerdir. 5510 sayılı kanun 1.10.2008 tarihinde yürürlüğe girmiştir (Gümüş, 2010: 7).

2008 yılı Ekim ayında yürürlüğe giren 5510 sayılı kanun 13 yıllık sürede oldukça fazla sayıda değişiklik yapılmıştır. Üzerinde çok tartışılan kanunda 75 ayrı yasal düzenleme ile toplam 492 değişiklik yapılmıştır. Bu değişikliklerin 6'sı Anayasa Mahkemesi kararı ile, 8'i KHK ile ve geriye kalan 61 değişiklik ise yasa ile gerçekleştirilmiştir. Değişikliklerin yıllara göre dağılımı aşağıda verilmiştir.

Tablo 1 5510 Sayılı Kanun'da Yapılan Değişiklikler

Yıl	Değişiklik Sayısı	Değişen Kanun Sayısı	Yıl	Değişiklik Sayısı	Değişen Kanun Sayısı
2007	2	2	2015	2	17
2008	3	110	2016	8	38
2009	3	11	2017	11	64
2010	4	11	2018	9	57
2011	3	49	2019	5	14
2012	5	33	2020	5	10
2013	6	40	2021	5	7
2014	4	29	Toplam	**75**	**492**

Kaynak: www.mevzuat.gov.tr

Genel Sağlık Sigortası 2012 yılından itibaren zorunla hale getirilmiştir. Sosyal Güvenlik Kurumu tarafından yayınlanan Genel Sağlık Sigortası (2013) kitapçığında sürecin nasıl işleyeceği şöyle ifade edilmiştir:

> *1/1/2012 tarihi itibariyle Türk vatandaşlarından herhangi bir sosyal güvencesi olmayan kişiler, Kanunun 60'ıncı maddesinin birinci fıkrasının (g) bendi kapsamında tescil edilmekte ve Sosyal Güvenlik Kurumunca yapılan tebligat ile gelir testi yapılarak genel sağlık sigortası prim statülerinin belirlenmesi için ikamet adreslerinin bağlı bulunduğu sosyal yardımlaşma vakıflarına yönlendirilmiştir.*
>
> *Gelir testi sonucu, aile içindeki geliri kişi başına düşen aylık tutarı asgari ücretin üçte birinden az olan kişiler, 5510 sayılı Kanununun 60'ıncı maddesinin birinci fıkrasının (c) bendinin (1) numaralı alt bendi kapsamında tescil edilerek prim ödemeksizin sağlık yardımlarından faydalanabilmektedir. Gelir testi sonucu aile içindeki geliri kişi başına düşen aylık tutarı asgari ücretin üçte birinden fazla olan kişiler ise Kanunun 60'ıncı maddesinin birinci fıkrasının (g) bendi kapsamında tescil edilmekte ve sosyal yardımlaşma ve dayanışma vakıflarınca tespit edilen gelir durumuna göre prim ödemektedir. Buna göre aile içinde kişi başına düşen gelir miktarı brüt asgari ücretin üçte birinin üzerinde olan kişilerin ödemesi gereken prim tutarı brüt asgari ücretin %3'ü tutarındadır (Daha önce üç farklı hesaplama yöntemi uygulanıyorken 2017 yılında yapılan değişiklikle bugünkü haline getirilmiştir).*
>
> *Gelir testi yaptırmak istemeyenler ile genel sağlık sigortası tescilinin yapıldığına dair tebligatın yapıldığı tarihten itibaren bir ay içinde gelir testi yapılması yönünde muvafakat vermeyenlerin gelirlerinin, asgari ücretin iki katı olarak kabul edileceği belirtilmiştir.*

2012 yılından günümüze Türkiye nüfusu önemli oranda (%10,6, 8 milyon kişi) artmıştır. Artan nüfusla birlikte GSS uygulamalarında yapılan değişiklikler ve sosyo-demografik değişimlerle birlikte sosyal güvenlik kapsamındaki nüfusla ilgili veriler düzenli bir iyileşmeden ziyade bir dalgalanma olduğunu göstermektedir. Değişimi izleme adına aşağıdaki tabloya 2011 yılından itibaren veriler alınmıştır.

Tablo 2 Yıllara Göre Türkiye Nüfusu ve Sosyal Güvenlik Kapsamındaki Nüfus (2011-15)

	2011	**2012**	**2013**	**2014**	**2015**
Türkiye nüfusu (TÜİK ADNKS)	74.724.269	75.627.384	76.667.864	77.695.904	78.741.053
Nüfus Artış Oranı	1,36%	1,21%	1,38%	1,34%	1,35%
Sosyal güvenlik kapsamındaki nüfus	**64.088.819**	**62.899.043**	**62.789.365**	**65.060.709**	**67.330.236**
Sosyal güvenlik kapsamındaki nüfus artış oranı	4,16%	-1,86%	-0,17%	3,62%	3,49%
Sigortalı nüfusun Türkiye nüfusuna oranı (%)	86,0%	83,0%	81,9%	83,7%	85,5%
Kapsam dışı nüfus oranı (%)	14,0%	17,0%	18,1%	16,3%	14,5%

Kaynak: (http://www.sgk.gov.tr/; https://www.tuik.gov.tr/)

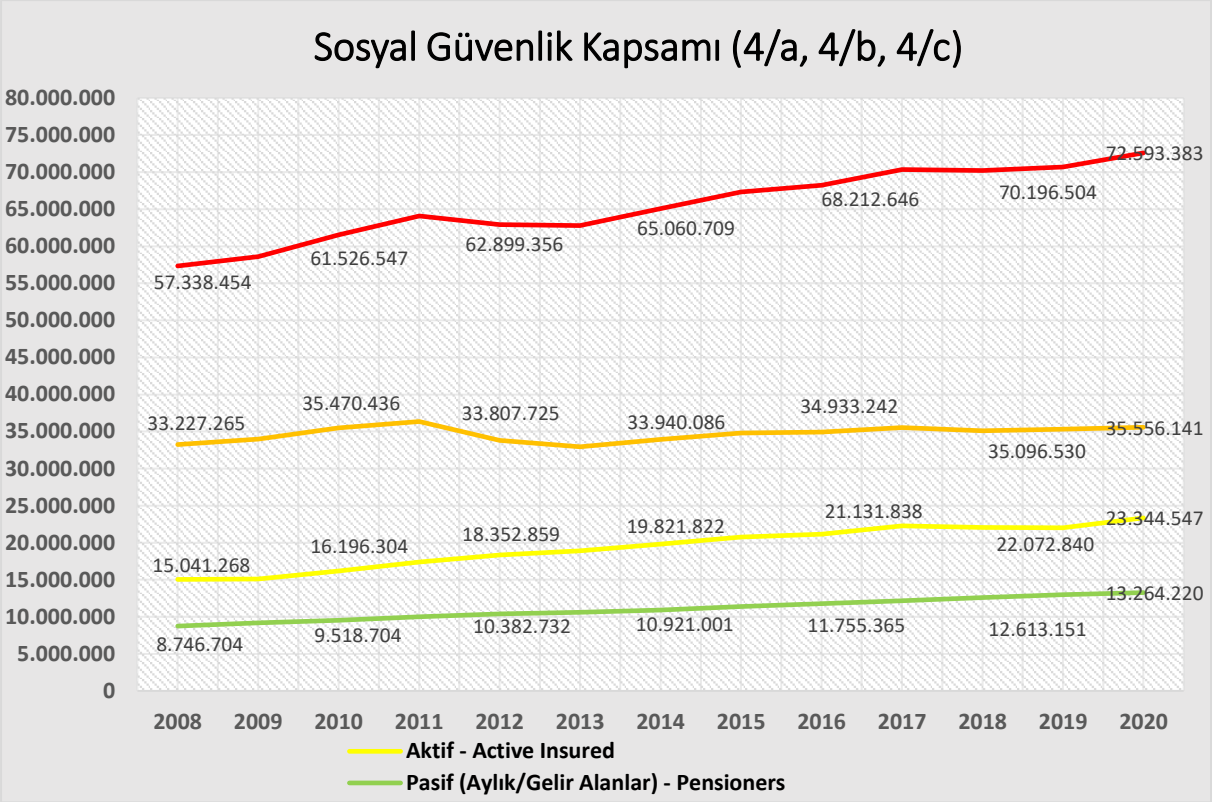
Tablo 3 Yıllara Göre Türkiye Nüfusu ve Sosyal Güvenlik Kapsamındaki Nüfus (2016-20)

	2016	2017	2018	2019	2020
Türkiye nüfusu (TÜİK ADNKS)	79.814.871	80.810.525	82.003.882	83.154.997	83.614.362
Nüfus Artış Oranı	1,36%	1,25%	1,48%	1,40%	0,55%
Sosyal güvenlik kapsamındaki nüfus	**68.212.646**	**70.363.479**	**70.196.504**	**70.704.680**	**72.593.383**
Sosyal güvenlik kapsamındaki Nüfus Artış Oranı	1,31%	3,15%	-0,24%	0,72%	2,67%
Sigortalı nüfusun Türkiye nüfusuna oranı (%)	85,5%	87,1%	85,6%	85,0%	86,8%
Kapsam dışı nüfus oranı (%)	14,5%	12,9%	14,4%	15,0%	13,2%

Kaynak: (http://www.sgk.gov.tr/; https://www.tuik.gov.tr/)

2011 yılında %86,0 olan sosyal güvenlik kapsamındaki nüfus oranı oldukça dalgalı bir seyir izlemiştir. En yüksek %87,1 (2017), en düşük de %81,9 seviyesini görmüştür. 2020 yılında %86,8'e yükselmiş ve en azından 2011 yılı seviyesinin üzerine çıkmıştır. Sosyal güvenlik kapsamındaki nüfusun yıllara göre değişimi Şekil 1'de gösterilmiştir.

Şekil 1 Yıllara Göre SG Kapsamındaki Nüfus (Kaynak: SGK)



Sağlık sigortası kapsamı dışında kimsenin kalmaması için atılan bu adım sonrası uygulamada pek çok sorunla karşılaşılmıştır. Herhangi bir yerde sigortalı olarak çalışmayanlar ya da bağımlılıktan çıkanlar Gelir testi yaptırmadıklarında üst dilimden borçlandırılmaya başlanmıştır. Bu uygulamayı bilmeyen sadece muayene olmaya gittiklerinde bu durumu öğrenen pek çok kişi ya biriken borçlarını ödemek ya da tedavi olmaktan vazgeçmek zorunda kalmıştır. Yukarıda bahsedilen kanun değişikliklerinin bazıları bu kapsamda çıkarılmış ve belli şartları sağlayanların borçları silinmiş ya da yapılandırılarak taksit imkânı getirilmiştir.

Sosyal güvenlik sisteminin en önemli kalemlerinden birisi şüphesiz sağlık harcamalarıdır. GSS ile kurumlar arasında ayrımın kalkması ile vatandaşlar istedikleri hastaneye giderek muayene olabilme imkanına kavuşmuşlardır. SGK sitesinde fatura tutarlarına ait istatistikler devlet, özel ve üniversite hastanesi şeklinde ayrı ayrı verilmektedir. Hastane türlerine göre yapılan harcama istatistikleri ise 2014 yılından itibaren yayınlanmaya başlamıştır. Aşağıda yıllara göre sağlık harcamalarındaki değişim verilmiştir.

Tablo 4 Yıllara Göre Sağlık Harcamalarındaki Değişim (2014-2017, Milyon TL)

	2014	2015	2016	2017
Devlet Hastanesi 2. Basamak Fatura Tutarı	₺12.340,27	₺12.598,12	₺13.894,17	₺14.724,85
Devlet Hastanesi 3. Basamak Fatura Tutarı	₺7.218,60	₺8.107,01	₺9.542,52	₺11.408,75
Özel Hastane Fatura Tutarı	₺7.671,54	₺8.153,54	₺8.409,88	₺9.055,40
Üniversite Hastanesi Fatura Tutarı	₺6.944,11	₺7.459,42	₺8.205,33	₺9.354,78
Toplam Müracaat Fatura Tutarı	₺34.174,51	₺36.318,09	₺40.051,91	₺44.543,77
Reçete Fatura Tutarı	₺16.354,12	₺18.103,95	₺21.289,82	₺25.143,54
Toplam Fatura Tutarı	₺50.528,63	₺54.422,03	₺61.341,73	₺69.687,31

Kaynak: http://www.sgk.gov.tr

Tablo 5 Yıllara Göre Sağlık Harcamalarındaki Değişim (2018-2021, Milyon TL)

	2018	2019	2020	2021*
Devlet Hastanesi 2. Basamak Fatura Tutarı	₺15.846,10	₺16.095,72	₺12.610,08	₺8.707,30
Devlet Hastanesi 3. Basamak Fatura Tutarı	₺13.201,65	₺14.276,81	₺14.440,79	₺12.978,84
Özel Hastane Fatura Tutarı	₺9.426,96	₺9.831,59	₺11.540,88	₺7.695,79
Üniversite Hastanesi Fatura Tutarı	₺10.792,63	₺12.134,60	₺12.223,60	₺9.265,80
Toplam Müracaat Fatura Tutarı	₺49.267,34	₺52.338,71	₺50.815,34	₺38.647,73
Reçete Fatura Tutarı	₺30.950,38	₺40.679,56	₺47.963,14	₺33.825,96
Toplam Fatura Tutarı	₺80.217,72	₺93.018,28	₺98.778,48	₺72.473,69

*2021 yılı verisi Ocak-Temmuz aylarını kapsamaktadır. Kaynak: http://www.sgk.gov.tr

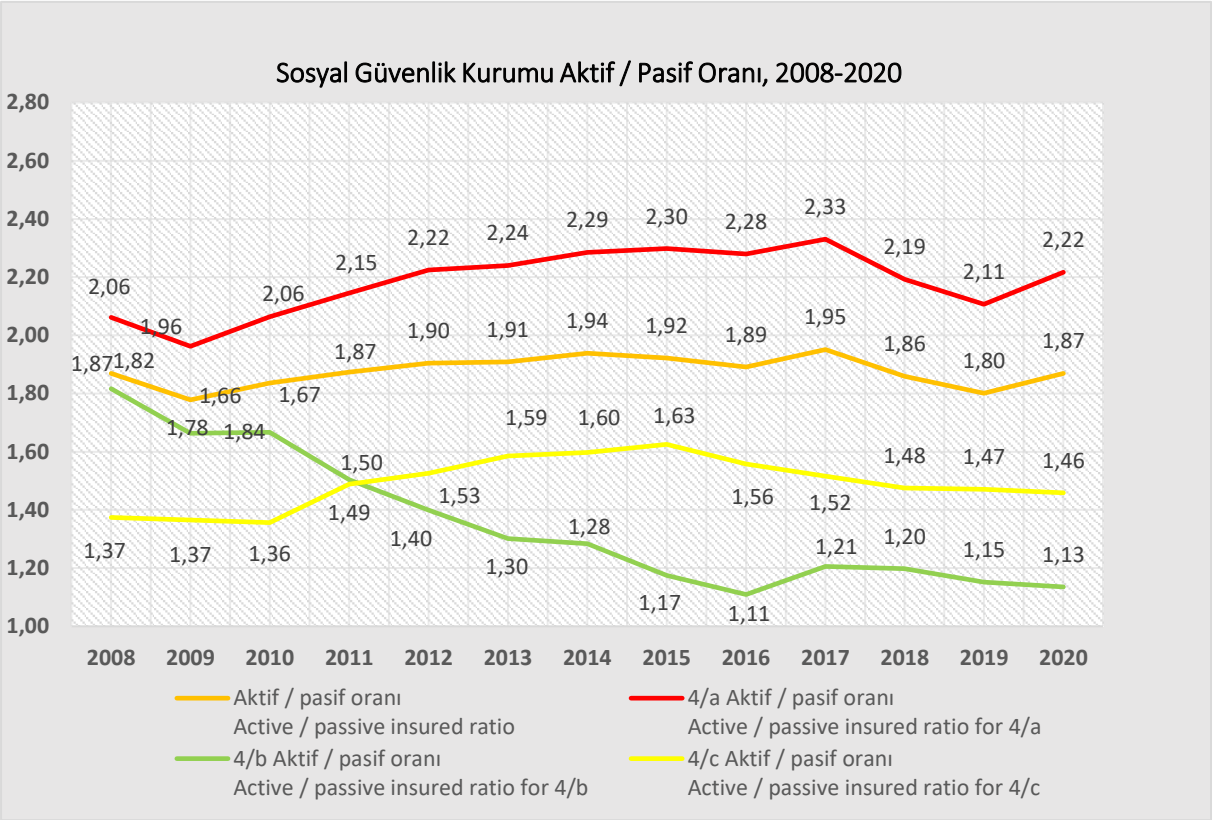
Yıllara göre genel olarak fatura tutarlarında doğal bir artış gözlenmektedir. Toplam fatura tutarı 2014 yılında ₺50,5 milyar seviyesinden 2020 yılında ₺98,7 milyar seviyesine çıkarak yaklaşık iki katına yükselmiştir (%95,5). Reçete fatura tutarına bakıldığında ise 2014 yılında ₺16,4 milyar seviyesinden ₺48,0 milyar seviyesine yükselerek yaklaşık üç kat artmıştır (%193,3). Devlet hastanesi 2. fatura tutarı bu süreçte fazla değişmemiş görünmektedir (%2,2). Fakat 3. Basamak fatura tutarı ise iki katına çıkmıştır (%100). Özel Hastane fatura tutarı %50,4 ve Üniversite hastanesi fatura tutarı %76,0 artış göstermiştir. 2014-2020 arasındaki değişim miktarları ve yüzdeler Tablo 6'da özetlenmiştir.

Tablo 6 Yıllara Göre Sağlık Harcamaları Arasındaki Fark ve Oranı

	2014-2020 farkı	Artış Oranı
Devlet Hastanesi 2. Basamak Fatura Tutarı	269,81	2,2%
Devlet Hastanesi 3. Basamak Fatura Tutarı	7222,19	100,0%
Özel Hastane Fatura Tutarı	3869,34	50,4%
Üniversite Hastanesi Fatura Tutarı	5279,50	76,0%
Toplam Müracaat Fatura Tutarı	16640,83	48,7%
Reçete Fatura Tutarı	31609,02	193,3%
Toplam Fatura Tutarı	48249,85	95,5%

Sosyal güvenlik sistemi incelenirken bir diğer önemli gösterge ise aktif pasif oranıdır. Aktif / pasif oranı, 1 pasif sigortalının finansal yükünü kaç aktif sigortalının üstlendiğini ifade eder. 2020 yılı için, 1 pasif sigortalının finansal yükü 2,22 aktif sigortalı kişi tarafından karşılanmaktadır. Uluslararası standartlara göre bir pasif sigortalı başına 4 aktif sigortalı düşmesi gerekmektedir (Işıklı ve Evlice, 2019: 172). Aşağıda verilen Şekil 2' de yıllara göre aktif pasif oranları verilmektedir.

Şekil 2 Yıllara Göre Aktif/Pasif Oranı Değişimi (Kaynak: SGK)



2017 yılında ulaşılan 2,33 değerinden sonra aktif/pasif oranının tekrar düştüğü görülmektedir. 2019 yılında 2,11'e düşerek 2011 yılındaki 2,15 seviyesinin de altına düşen oran 2020 yılında tekrar yükselmiştir. Rakamdaki iyileşme sosyal güvenlik sistemi adına umut verici olsa da nüfus artış oranlarındaki değişim dikkat çekicidir. Geçtiğimiz on yılda 1,20-1,40 bandında seyreden nüfus artış oranı 2020 yılında birden 0,55'e düşmüştür. Nüfus artış hızının bu kadar azalmasında 2020 yılındaki pandemi sürecinin etkili olup olmadığı ya da ne kadar etkili

olduğu konusu üzerinde araştırma yapılması gerekli bir konu olsa da rakamın bu kadar düşük çıkması gelecek adına kaygı vericidir. Çünkü nüfus artış oranının düşmesi ileride yaşlanan nüfus oranları ve artan emekli sayısı nedeniyle aktif/pasif oranlarını da düşürecek etkileri olabilir.

SONUÇ VE ÖNERİLER

2008 yılında uygulamaya geçen 5510 sayılı kanun ile sosyal güvenlik sisteminde önemli bir reform gerçekleştirilmiştir. Kanunun kabul edilmesinin üzerinden 15 yıl, yürürlüğe girmesinin üzerinden 13 yıl ve herkesin zorunlu GSS kapsamına alınmasının üzerinde 10 yıl geçmesine ve her yıl yapılan çok sayıda değişikliğe rağmen sistemin tam olarak olgunluğa eriştiğini söylemek zordur. Prim borçları ve emeklilikle ilgili pek çok değişiklik talebi sürekli dile getirilmektedir. Yukarıda rakamlar üzerinden ifade edildiği üzere sistemin işleyişine dair rakamlar sürekli dalgalanmakta ve iyileşme patikasına henüz oturmamıştır. TÜİK 2020 yılı verilerine göre nüfus artışının azalması (0,55), doğurganlık hızının azalması (1,76) ve yaşlı nüfusun toplam nüfus içindeki payının (%9,5) artması birlikte değerlendirildiğinde ilerleyen yıllarda özellikle aktif/pasif oranlarının düşme ihtimali giderek artmaktadır. Genel sigorta sistemi üzerindeki yükü artıracak ve nüfusun önemli bir kısmını etkileyebilecek böyle bir durum ortaya çıkmaması için konunun uzmanlarının çözüm için seferber olmaları gerekmektedir. Sistem ülkenin gelecekteki ihtiyaçları da dikkate alınarak tekrar gözden geçirilmeli ve sürekli değişiklik yapma ihtiyacı doğurmayacak bir hale getirilmelidir.

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PROFESYONEL BASKETBOLCULARININ SEZON PERFORMANSLARI İLE FİZİKSEL UYGUNLUK PARAMETRELERİ ARASINDAKİ İLİŞKİ

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ÖZET

Amaç: Bu çalışma profesyonel basketbolcularda fiziksel uygunluk parametreleri ile sezon içerisindeki resmi maçlarda sporcuların gösterdikleri performans arasındaki ilişkiyi incelemek amacıyla yapıldı.

Yöntem: Çalışmaya resmi müsabakalarda ortalama 10 dakika üzeri görev alan toplam 26 erkek basketbolcu (yaş; 21,46±2,81 yıl, boy; 197,90±10,25 cm, vücut ağırlığı; 96,89 ± 12,17 kg) gönüllü olarak katıldı. Sporcuların fiziksel uygunluklarından; esneklik otur uzan testi, dikey sıçrama sargent jump testi, çeviklik T-drill testi, sürat ise 20-m sprint testi ile sezon öncesi değerlendirildi. Sezon içerisinde resmi maçlardaki performansları; ürettiği sayı, 2 sayılık başarı yüzdesi, 3 sayılık başarı yüzdesi, serbest atış başarı yüzdesi, ribaunt, top kaybı, top çalma, asist ve blok gibi kriterlere bakılarak değerlendirildi. Fiziksel uygunluk parametreleri ve performansları arasındaki ilişkiye Spermann korelasyon testi ile bakıldı. Veriler arasındaki ilişki düzeyi $r<0.1$ önemsiz; $0.1<r<0.3$ az; $0.3<r<0.5$ orta düzeyde; $0.5<r<0.7$ yüksek; $0.7<r<0.9$ çok yüksek; $r>9$ mükemmel olarak değerlendirildi.

Bulgular: Sporcuların maçlarda gösterdikleri performanslar ile fiziksel uygunluk parametreleri arasında; Çeviklik ile iki sayılık başarı yüzdesi ($r=0.40$, $p=0.04$), ribaunt ($r=0.40$, $p=0.03$) ve blok ($r=0.62$, $p=0.002$) arasında pozitif az ve orta düzeyde ilişki bulundu. Çeviklik ile top çalma ($r=-0.40$, $p=0.04$) ve asist ($r=-0.43$, $p=0.02$) arasında negatif az korelasyon bulundu. Diğer parametreler ile başarı düzeyleri arasında ilişkiye rastlanmadı.

Sonuç: Fiziksel uygunluk parametrelerinden özellikle çeviklik sezon içerisindeki maç performanslarıyla az ve orta düzeyde ilişkiye sahipti. Spor profesyonelleri antrenman veya egzersiz programlarını bu doğrultuda düzenleyebilirler. Farklı fiziksel uygunluk parametrelerinin kullanıldığı ve oyuncu verimliliğinin hesaplandığı çalışmalar ile performans ilişkileri ilerideki çalışmalarda araştırılabilir.

Anahtar Kelimeler: Basketbol, Maç, Performans, Fiziksel Uygunluk, İlişki

THE RELATIONSHIP BETWEEN PHYSICAL FITNESS PARAMETERS AND SEASONAL PERFORMANCE OF PROFESSIONAL BASKETBALL PLAYERS

ABSTRACT

Purpose: This study was aimed to determine the relationship between the physical fitness parameters and the performance in official matches in professional basketball players during the season.

Method: A total of 26 male basketball players (age; 21.46±2.81 years, height; 197.90±10.25 cm, body weight; 96.89±12.17 kg) who played in official games for more than 10 minutes participated in the study. The physical fitness parameters of the athletes; the sit and reach test for flexibility, sargent jump test for jump performance, T-drill test for agility and 20-m sprint for speed were used before the season. Athletic performance in official matches during the season; The score, 2-point success percentage, 3-point success percentage, free throw success percentage, rebounds, turnovers, steals, assists and blocks were used. The relationship between physical fitness parameters and performances was evaluated with the Spermann correlation test. The level of correlation was rated as $r<0.1$ insignificant, $0.1<r<0.3$ less, $0.3<r<0.5$ moderate, $0.5<r<0.7$ high, $0.7<r<0.9$ too high, $r>9$ excellent.

Results: Between the match performances and the physical fitness parameters; There were found positive correlation between agility and percentage of two-point success ($r=0.40$, $p=0.04$), rebound ($r=0.40$, $p=0.03$) and block ($r=0.62$, $p=0.002$). There were found negative correlation between agility and stealing ($r=-0.40$, $p=0.04$) and assists ($r=-0.43$, $p=0.02$). No relationship was found between other parameters.

Conclusion: The agility had only a low or moderate relationship with game performances during the season. Sports professionals can organize their training or exercise programs base on this finding. Further studies can investigate the relationship between different physical fitness parameters and player productivity.

Keywords: Basketball, Match, Performance, Physical Fitness, Relationship

EFFECT OF UTERINE OZONE THERAPY ON OXIDATIVE STRESS PARAMETERS IN MARES

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ABSTRACT

Ozone is a molecule consisting of three atoms of oxygen, that share the same electrons, this particularity making it unstable. the use of ozone in medical practices is documented for more than 100 years. In veterinary medicine, ozone therapy can be performed by auto-hemotherapy, insufflation in bodily cavities such as rectal, vaginal, uterine and ear canal insufflation, ozone bagging around the target area, and ozonated oil for topical application [1]. The use of this therapy in reproductive health has recently been revised, mainly involving animal studies, demonstrating that ozone could aid in tubal occlusion, protect from endometritis and vaginitis and protect ovaries from ischemia and oocyte loss [2]. With the purpose of assessing the effects of uterine ozone therapy on oxidative stress (OS) parameters in mares, ten mares underwent three consecutive days of uterine ozone therapy by flushing the uterus with ozonated lactated Ringer's solution followed by insufflation with ozone-oxygen gas. Ozone therapy affected systemic oxidative stress markers in mares, leading to a reduction in uric acid levels, TAC-ABTS, TAC-ABTS+HRP, TAC-CUPRAC and TAC-FRAP, concomitantly with an increase on total oxidant capacity (TOC) at days 3 and 6 following therapy. No changes were observed on albumin and lipid peroxidation levels. Finally, Equine medicine embraced ozone therapy with good results for several pathologies. Most studies also encourage the use of ozone for musculoskeletal disorders, urinary system disease, or as adjuvant therapy in oncological patients. In the end, Ozone therapy deserves more attention, as its therapeutic range has not yet been fully defined.

Keywords: Ozone therapy, Oxidative stress, Mare, Uterine

BÖLGEMİZDE VARİCELLA ZOSTER VİRÜS SEROPREVOLANSININ ARAŞTIRILMASI

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ÖZET

Varicella zoster virüs (VZV), insanda enfeksiyona neden olduğu bilinen ve dünya çapında görülen sekiz herpesvirüsden birisidir. VZV enfeksiyonu, klinikte suçiçeği ve herpes zoster (zona) olarak iki farklı hastalık formuna neden olur. Primer suçiçeği enfeksiyonu yaygın veziküler döküntü ile sonuçlanmaktadır. VZV dorsal duyu gangliyonlarında latent kalabilmekte ve endojen reaktivasyonu ile Herpes zoster veya zona olarak bilinen lokalize bir deri enfeksiyonuna neden olmaktadır.

Bu çalışmada Gaziantep ilindeki Varicella zoster virus (VZV) seroprevalansının belirlenmesi amaçlanmıştır. Çalışmada Varicella-Zoster ELİSA IgG/IgM (Vircell Microbiologists) kiti kullanıldı. Tam otomatik ELISA (enzym-linked immunosorbent assay) yöntemiyle ölçümleri hastanemız mikrobiyoloji laboratuvarında çalışıldı.

Gaziantep ve Kilis illerinde yaşayan ve Yaşları 18-70 arası değişen Türk ve yabancı uyruklu 96 kişi araştırmaya dahil edilmiş olup bunların 47'si (%49) kadın, 49'u (%51) ise erkekti. Çalışmaya dahil edilen gönüllülerden 92'si (%95.8) VZV IgG pozitif, 4'ü (%4.2) VZV IgG negatif, 1'i (%1.0) VZV IgM pozitif, 95'i (%99.0) VZV IgG negatifti. VZV IgG pozitifliğinin kadınlarda erkeklere göre daha fazla olduğu ancak gruplar arasındaki farkın istatistiksel açıdan anlamlı olmadığı görüldü. Yaşa göre VZV IgG pozitifliği açısından anlamlı fark bulunmadı. Suçiçeği geçirmiş veya aşılanmış olanlarda VZV IgG pozitifliği anlamlı şekilde yüksek tespit edildi. Kilis'te ikamet edenlerde (yabancı uyruklu) VZV IgG pozitifliği daha yüksek olsa da Gaziantep'te ikamet edenler (Türk) ile VZV IgG pozitifliği açısından anlamlı fark olmadığı görüldü. Kronik hastalık olup olmama durumuna göre VZV IgG pozitifliği açısından anlamlı fark saptanmadı. Hiç kardeşi olmayanlar ile 1-3 kardeşi ve 4 ve üzeri kardeşi olanlar arasında VZV IgG sonuçları açısından anlamlı fark ($p = .030$) olduğu görüldü. Yine yapılan analiz sonucunda 1-3 kardeşi olanlar ile 4 ve üzeri kardeşi olanlar arasında VZV IgM sonuçları açısından anlamlı fark saptandı.

Anahtar Kelimeler: VZV, Varicella zoster virus, seropozitiflik, Seroprevolans, Gaziantep.

AN INVESTIGATION OF VARCELLA ZOSTER VIRUS SEROPREVOLANCATION IN OUR REGION

ABSTRACT

Varicella-zoster virus (VZV) is one of eight herpes viruses known worldwide to cause human infection. VZV infection causes two different clinical forms as chickenpox and herpes zoster (shingles). Primary chickenpox infection results in a widespread vesicular rash. VZV may remain latent in the dorsal sensory ganglia and cause a localized skin infection known as Herpes zoster or shingles by endogenous reactivation. This study aimed to determine the seroprevalence of Varicella zoster virus (VZV) in Gaziantep province. Varicella-Zoster ELISA IgG/IgM (Vircell Microbiologists) kit was used in the study. The measurements were made by the fully automatic ELISA (enzyme-linked immunosorbent assay) method in the microbiology laboratory of our hospital.

In this study, it was aimed to determine the seroprevalence of Varicella zoster virus (VZV) in Gaziantep province. 96 Turkish and foreign nationals living in Gaziantep and Kilis provinces were included in the study, of which 47 (49%) were female and 49 (51%) were male. Of the volunteers included in the study, 92 (95.8%) were VZV IgG positive, 4 (4.2%) VZV IgG negative, 1 (1.0%) VZV IgM positive, and 95 (99.0%) VZV IgG negative. It was observed that VZV IgG positivity was higher in women than men, but the difference between the groups was not statistically significant. There was no significant difference in terms of VZV IgG positivity according to age. VZV IgG positivity was found to be significantly higher in those who had chickenpox or were vaccinated. There was no significant difference in terms of VZV IgG positivity according to the presence of chronic disease or not. Although VZV IgG positivity was higher in Kilis residents (foreign nationals), there was no significant difference between those residing in Gaziantep (Turkish people) and VZV IgG positivity. It was observed that there was a significant difference ($p = .030$) in terms of VZV IgG results between those who had no siblings and those who had 1-3 siblings and 4 or more siblings. As a result of the analysis, a significant difference was found between those with 1-3 siblings and those with 4 or more siblings in terms of VZV IgM results.

Keywords: VZV, Varicella zoster virus, seropositivity, Seroprevalence, Gaziantep.

INTRODUCTION

Chickenpox virus (Varicella zoster virus; VZV) is a virus belonging to the Herpesviridae family.

The primary infection of VZV is chickenpox, its reactivation leads to shingles.

Chickenpox is one of the most common rash diseases, especially in childhood.

This study aimed to determine the seroprevalence of Varicella zoster virus (VZV) in Gaziantep province...

MATERIALS AND METHOD

- The central laboratory in Gaziantep research hospital has been selected to be the study area.
- 96 Turkish and foreign nationals living in Gaziantep and Kilis provinces were included in the study.

- Questionnaire forms was filled for the volunteers aged between 18-70 years old.
- Questionnaire forms contain information about Age, Gender , Nationality and Province of residence, Number of siblings, Having chickenpox previously or being vaccinated and Chronic disease situation.
- Varicella-Zoster ELISA IgG/IgM (Vircell Microbiologists) kit was used in the study.
- Tests has been done by fully automatic ELISA (enzyme-linked immunosorbent assay) method using the Basic Robotic Immunoassay operator device.

The test steps:

1- 5 ml of venous blood was taken from volunteers under sterile conditions.

2- Samples were separated into their serum by centrifugation at 4000 rpm for 5 minutes, transferred to 1.5 ml Eppendorf tubes, and frozen at -20 °C.

3- When enough samples were collected, serum samples were taken out for testing and waited for 1-2 hours to come to room temperature, then vortexed and transferred to appropriate tubes to be placed in the device.

4- VZV-specific IgG and IgM antibody levels in the stored serums were tested in line with the manufacturer's recommendations.

5-The data were evaluated by SPSS (Statistical package for the social science) 21.0 program.

Chi-square test was used and statistically, $p<0.05$ considered significant

RESULTS and DISCUSSION

- 95.80% of the volunteers included in the study, were VZV IgG positive, 1% of the volunteers included in the study were VZV IgM positive,

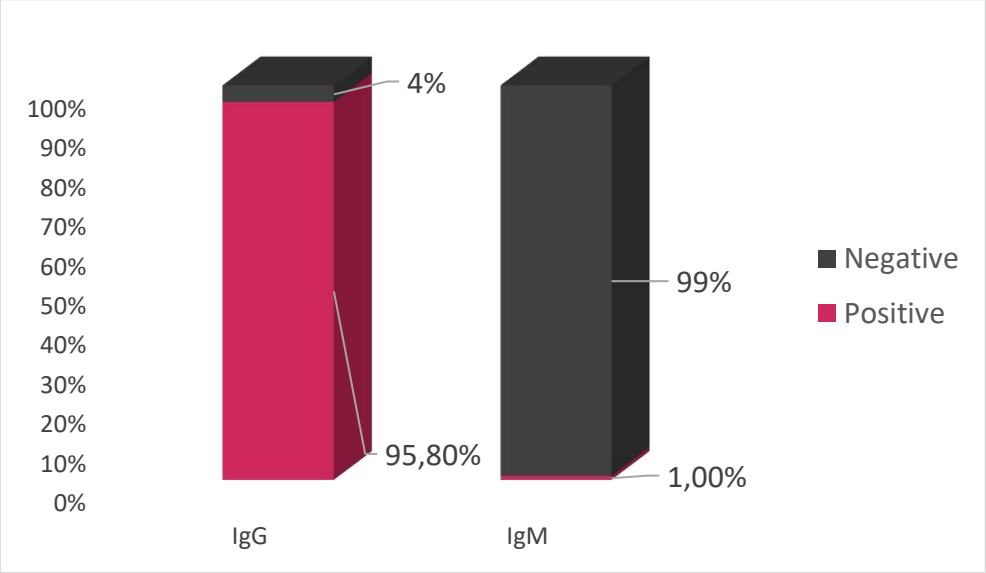

Figure 1. VZV IgG and IgM results

In our study, the rate of VZV IgG seropositivity was determined as 95.8%.

Other studies have reported that VZV seropositivity is common in the community.

In the study conducted by Hekimoğlu et al. in Turkey, the seroprevalence of VZV was found to be **92.8%.**

In the study performed by Choi et al. in South Korea, the rate of VZV IgG positivity was reported to be **87.6%.**

In the study conducted by Barah on university students in Syria, VZV positivity was reported to be **91%.**

- In term of IgG (93.90%) of male volunteers were positive. (97.90%) of female volunteers were positive. It was observed that there was 1 female volunteer with positive VZV IgM.

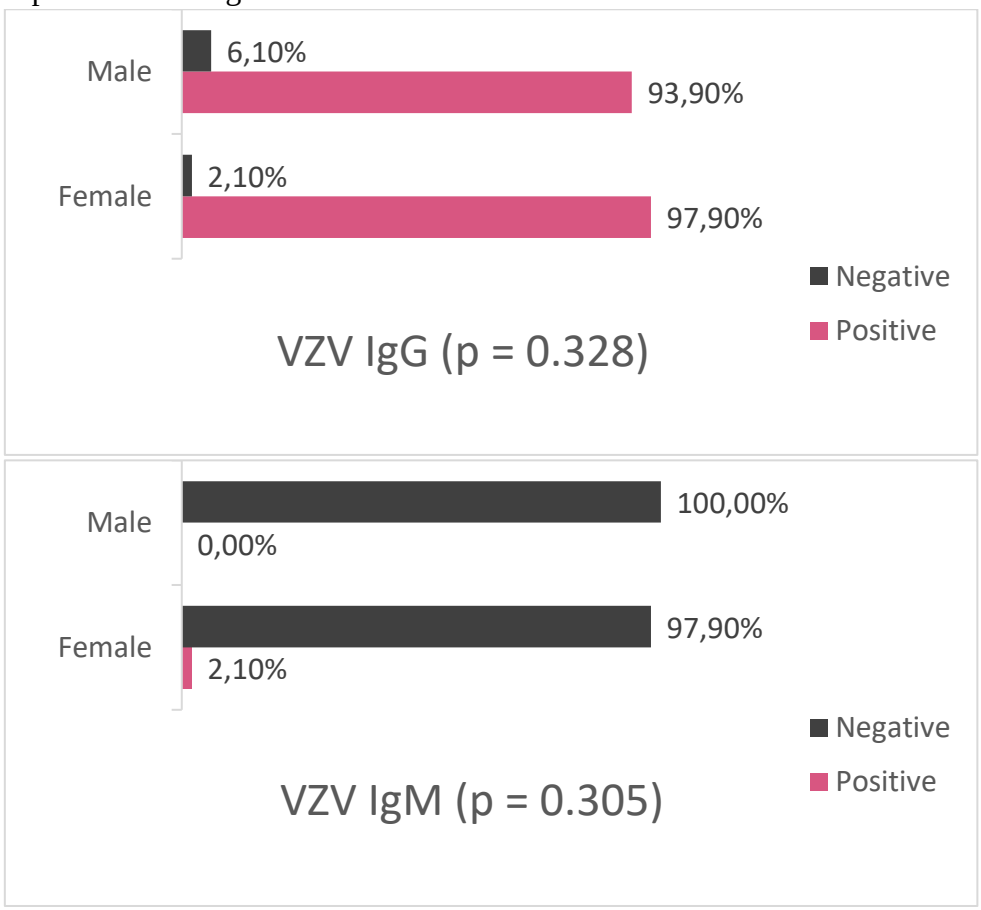

Figure 2. VZV IgG and IgM results according to gender

In our study, it was observed that VZV IgG positivity was higher in women than in men, but there were no statistically significant differences according to gender.

In the study conducted by Migasena et al. in Taylan, no significant difference was found in terms of VZV positivity according to gender.

In the study of Çalık et al. over medical school students, it was reported that varicella positivity in women (71.3%) was higher than in men (28.7%), but the difference between the groups was not statistically significant.

In a population-based study conducted in İzmir by Köse et al. it was found that VZV seropositivity in males was higher than in females, but the difference between the groups was not significant.

In the study performed by Kurugöl et al. over the Turkish population in Cyprus, it was reported that there was **no significant difference in VZV seropositivity according to gender...**

- In regard of IgG: Among those aged between 18-24, (96.3%) were positive, among those aged between 25-34, (95.2%) were positive; Among those aged between 35-44, (94.4%) were positive, among those aged 45 and above, (96.7%) were positive. In regard of IgM: Among those aged between 35-44, (5.6%) were positive.

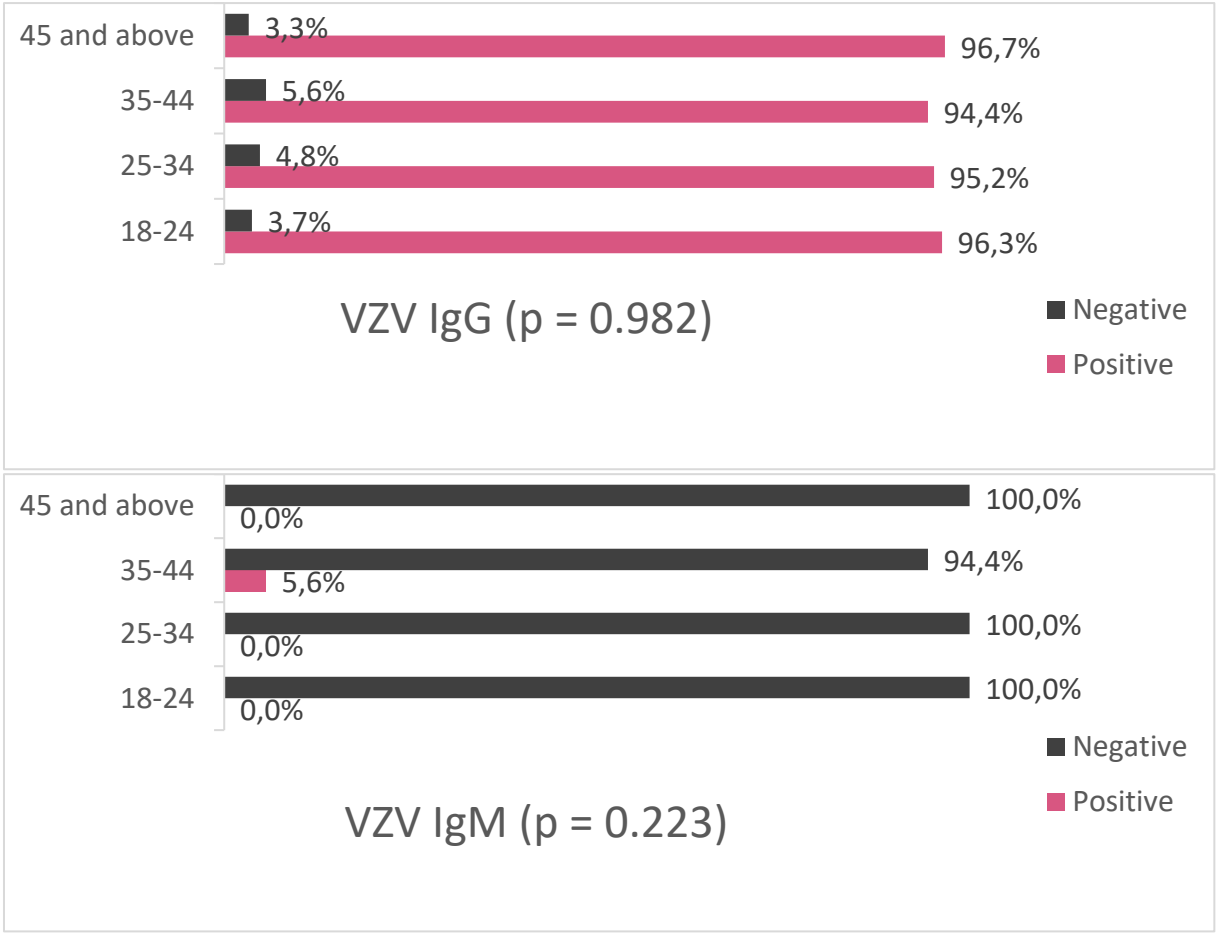

Figure 3. VZV IgG and IgM results according to age

-In our study, it was observed that VZV IgG positivity was very close to each other among the ages 18-24, 25-34, 35-44 and 45 years and above, there was no statically significant difference between the groups according to age.

Some studies have shown that approximately 70-80% of adults have antibodies. With getting the infection of VZV protective immunity develops. However, although it is rare, it should be known that chickenpox may occur for a second time.

- As a result of a systematic review and meta-analysis study by Wang et al, **it was reported that VZV seropositivity increases with age.**

-Despite the studies that shows that VZV seropositivity increase with age, in a study conducted by Allami and Mohammadi in Iran**, it was reported that there is no significant relationship between VZV seropositivity and age which is in line with the result obtained in our study.**

- When the VZV IgG results were examined, (100.0%) of those who had chickenpox or were vaccinated were positive; (85.2%) of those who did not have chickenpox or did not have vaccinated were positive. In terms of VZV IgM, all (100.0%) patients with chickenpox or have been vaccinated were negative, for those without chickenpox nor vaccination (3.7%) was positive.

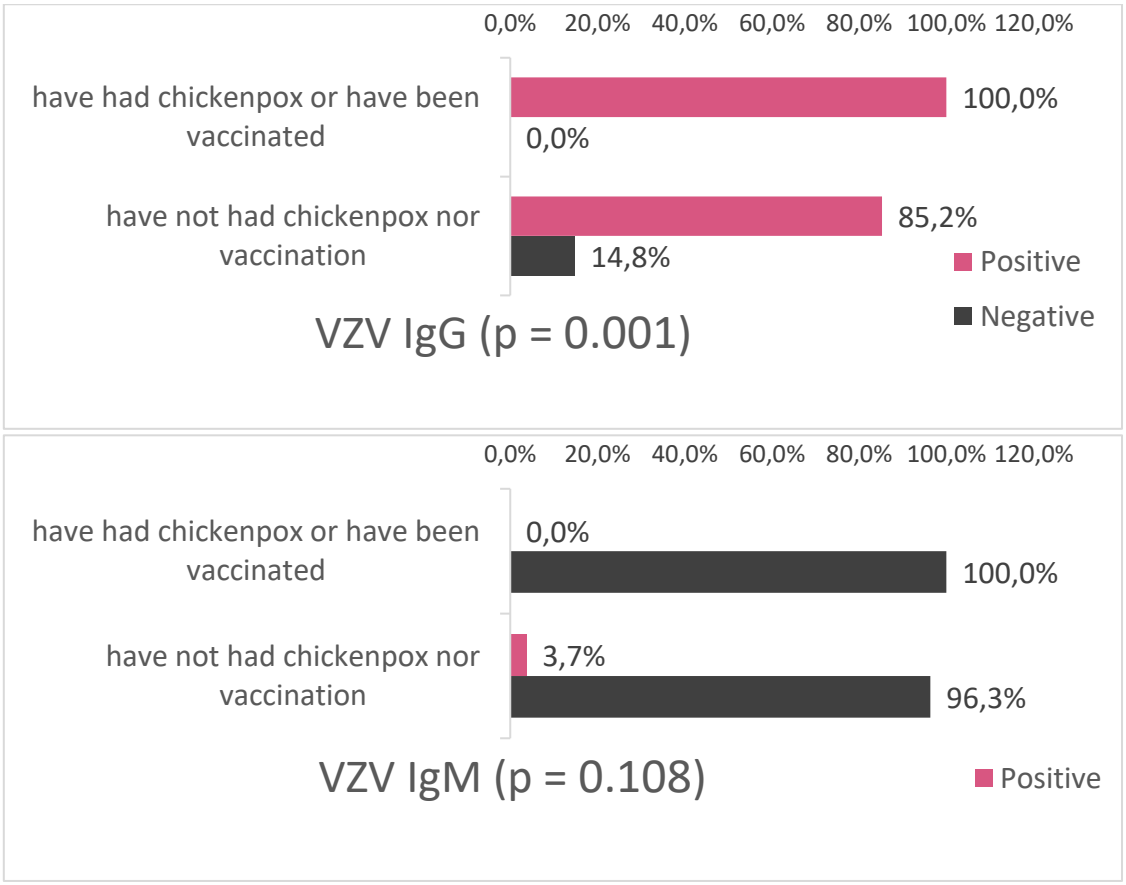

Figure 4. VZV IgG and IgM results according to chickenpox, infection or vaccination status.

When the relationship between VZV IgG positivity and having chickenpox or being vaccinated was examined, it was seen that there was a statistically significant difference.

Chickenpox is a vaccine-preventable disease. Vaccination against VZV is implemented in most countries, and studies have shown that the severity of the disease and varicella-related health care services are reduced in vaccinated individuals.

Migasena et al. reported that VZV seropositivity among all participants was 61.4% and 92.9% in those who had chickenpox previously.

- Among the volunteers included in the study, (93.8%) Turkish nationals were positive in terms of VZV IgG, (97.9%) of the foreign nationals were positive, In terms of VZV IgM, (2.1%) of Turkish was positive, and all foreign nationals 100.0% were negative,

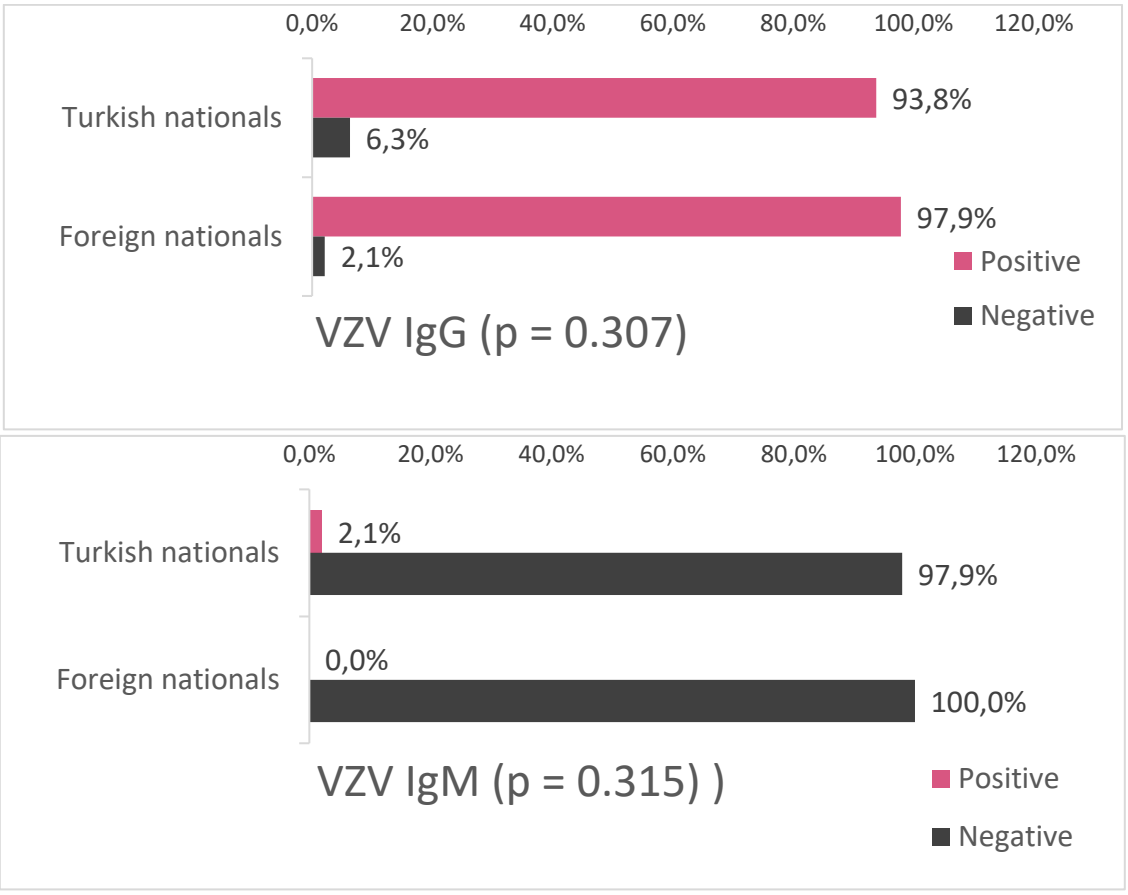

Figure 5. VZV IgG and IgM results according to nationality

As a result of our study, VZV IgG positivity was found in 93.8% of Turkish and 97.9% of foreign nationals. a significant difference was not found.

Although chickenpox is one of the common diseases worldwide, its incidence in the adult population in tropical regions is lower than in other regions.

- In terms of VZV IgG results, it was found that there was 66.7% positive results for the group who does not have siblings 100% positivity for the group who has 1-3 siblings, and 96.3% positivity for the group who has 4 or more siblings. In terms of VZV IgM results, it was found that 7.7% has positive results.

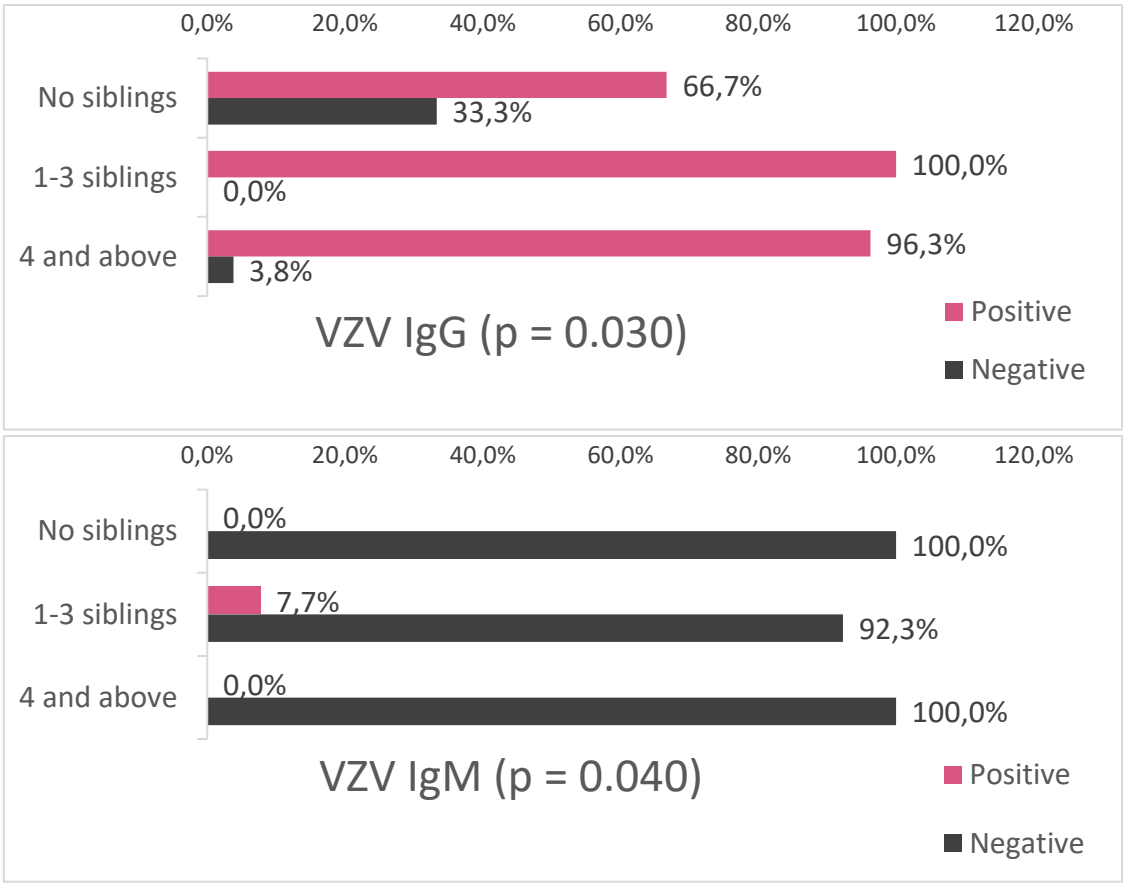

Figure 6. VZV IgG and IgM results according to number of siblings

As a result of the chi-square analysis performed to determine whether there was a difference between the results according to the number of siblings,

it was seen that there was a significant difference (p = .030) between the ones who had no siblings, those who had 1-3 siblings and had 4 or more siblings in terms of VZV IgG results.

in terms of VZV IgM results and as a result of the analysis, a significant difference was found between those with 1-3 siblings and those with 4 or more siblings (p = .040).

Köse et al. reported that VZV positivity was significantly higher in large families in their study.

Similarly, in the study conducted by Hekimoğlu et al., it was reported that VZV seropositivity increases as the number of individuals in the family increases.

- In terms of VZV IgG, among the volunteers included in the study, (92.3%) of those with chronic disease were positive, (97.1%) of those who don't have chronic diseases were positive. In terms of VZV IgM, (3.8%) of those with Chronic Disease were positive, and (100.0%) of those who don't have Chronic Disease were negative. As a result of the chi-square analysis, it was seen that the difference between the groups was not statistically significant

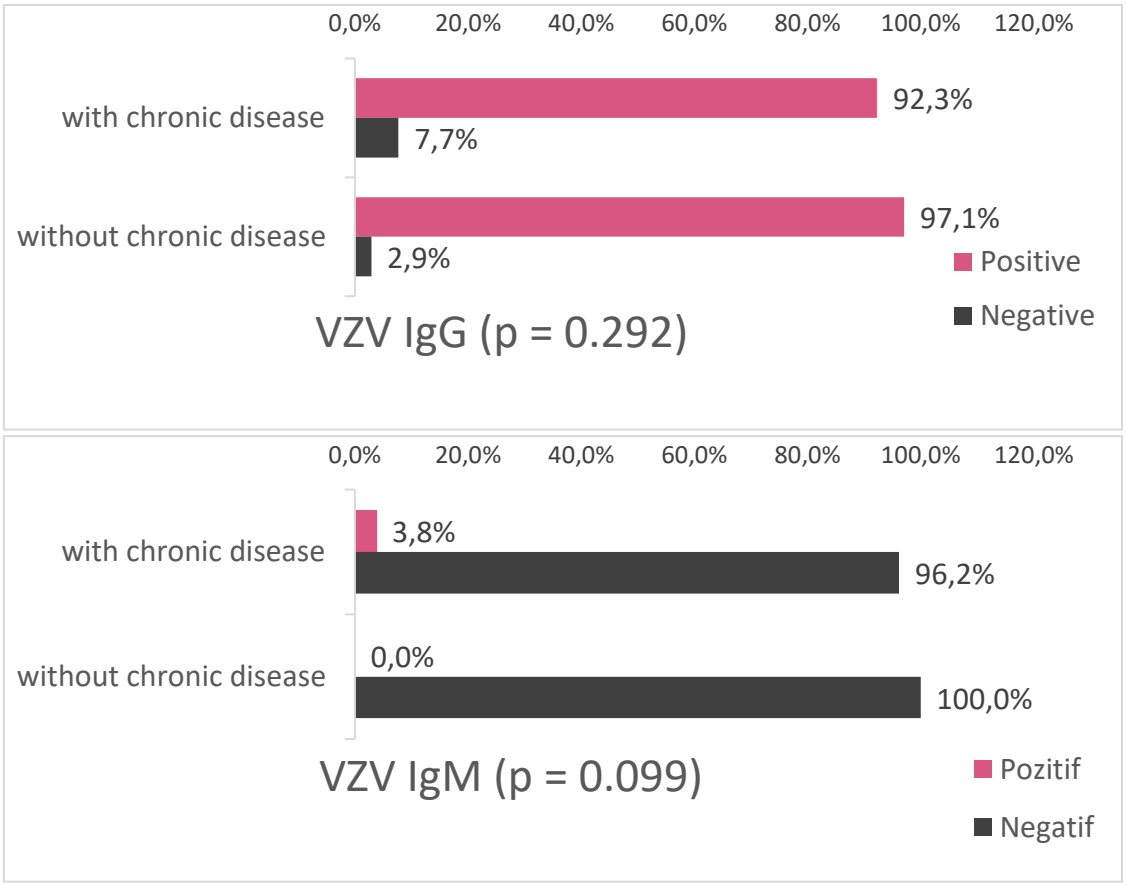

Figure 7. VZV IgG and IgM results according to the presence or absence of chronic disease

- As a result of the chi-square analysis performed to determine whether there is a difference in VZV IgG results according to age in Turkish and foreign nationals: There were no significant difference in both groups according to age (p>0.05).

			Turkish		P	Foreigner		p
			VZV IgG			VZV IgG		
			Positive	Negative		Positive	Negative	
Age	18-24	n	13	1	.387	13	0	.329
		%	92,9	7,1		100	0	
	25-34	n	3	1		17	0	
		%	75,0	25,0		100	0	
	35-44	n	7	0		10	1	
		%	100,0	,0		90.9	9.1	
	45 and above	n	22	1		7	0	
		%	95,7	4,3		100	0	
Total		n	45	3		47	1	
		%	93,8	6,3		97.9	2.1	

Figure 8. Comparison of VZV IgG results according to age in Turkish and foreign nationals.

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NADİR BİR DURUM; KOHLER NAVİ HASTALIĞI

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ÖZET

6 yaşında erkek hasta yürüme güçlüğü ve ayak bileğinde şişlik şikayeti ile acil servise başvurdu. Anamnezinde travma öyküsü olmadığı ve romatolojik bir hastalığı olmadığı öğrenildi.

Hastanın AP-Lateral karşılaştırmalı ayak, ayak bileği ve tibia grafilerinde naviküler hiperdens görünümler mevcuttu (Resim 1,2).

Ortopedi doktoruna konsülte edilen hastaya kısa bacak ateli yerleştirildi ve özellikle avasküler nekroz açısından takip ve tanı için hastaneye yatırıldı.

Borges ve arkadaşlarının çalışmasında; 16 ayakta tarsal naviküler Köhler kemik hastalığı olan 14 hasta, tanıdan sonra ortalama 31 yıl ve 6 aylık bir takipte gözden geçirildi. Tedavinin türü ve uzunluğu nihai sonucu etkilemedi; ancak kısa bacak alçısı immobilizasyonu semptomların süresini azalttı. Takipte her iki ayakta semptomatikti: bir ayakta dejeneratif değişikliklerle birlikte talokalkaneal koalisyon ve diğer ayakta büyük bir aksesuar navikula vardı. Bu ayakların her ikisi de adil bir sonuca sahip olarak derecelendirildi. Kalan 12 kişi iyi bir sonuca sahip olarak sınıflandırıldı. Köhler kemik hastalığı olan hastaların yetişkinlik döneminde normal bir ayağa sahip olması beklenebilir. Hasta semptomatik hale gelirse, ayak ağrısının diğer nedenleri araştırılmalıdır.

Teşhis: Tanı için direkt grafi yeterli olmakla birlikte ileri tetkiklerde diğer tanıları dışlamak için kan ve radyolojik tetkikler yapılır.

Direkt radyografi sonrası klinisyenlerin Kohler navi hastalığını teşhis etme sıklığının artacağını düşünüyoruz.

Anahtar Kelimeler: Kohler navi hastalığı, avasküler nekroz

A RARE CASE; KOHLER NAVI DISEASE

ABSRACT

In the case; A 6-year-old male patient presented to the emergency department with difficulty in walking and swelling in his ankle. In the anamnesis, it was learned that there was no history of trauma and he did not have a rheumatological disease.

There were navicular hyperdense appearances in the AP-Lateral comparative foot, ankle and tibia radiographs of the patient (Picture 1,2).

The patient, who was consulted to the orthopedic physician, was placed in a short leg splint and hospitalized for follow-up and diagnosis, especially in terms of avascular necrosis.

In the study of Borges et al.; 14 patients with tarsal navicular Köhler bone disease in 16 feet were reviewed at a mean follow-up of 31 years and 6 months after diagnosis. The type and length of treatment did not affect the final outcome; however, short leg cast immobilization reduced the duration of symptoms. At follow-up, both feet were symptomatic: one foot had a talocalcaneal coalition with degenerative changes and the other foot had a large accessory navicular. Both of these feet were rated as having a fair result. The remaining 12 people were classified as having a good outcome. Patients with Köhler bone disease can be expected to have a normal foot during adulthood. If the patient becomes symptomatic, other causes of foot pain should be sought.

Diagnosis: While direct radiography is sufficient for diagnosis, blood and radiological studies are performed to rule out other diagnoses in further examinations.

We believe that the frequency of diagnosing Kohler navi disease by clinicians will increase after direct radiography.

Key Words: Kohler navi disease, avascular necrosis



Picture 1



Picture 2

YAŞLI HASTADA ÖLÜMCÜL BİR KARIN AĞRISI NEDENİ OLAN PNÖMOPERİTONEUM

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ÖZET

89 yaşında kadın hasta ani başlayan karın ağrısı nedeniyle acil servise başvurdu. GCS 15, vitaller TA:180/70, Nabız: 121/dk, SS: 20/dk. Hastanın anamnezinde HT ve peptik ülser öyküsü vardı. Anamnezi derinleştirildiğinde 1 haftadır analjezik kullanımının artmasının ardından başlayan karın ağrısı sonucu acil servise başvurduğu öğrenildi.

Yaptığı muayenede; Muayenede hastanın cenin pozisyonunda olduğu ve bacakların karına çekildiği görüldü. Genel karın hassasiyeti, defans ve rebound kliniği net olarak gözlendi. Ameliyat öncesi rutinleri alındıktan sonra karın USG istendi ve özellikle pelvik bölgede yaygın sıvı tespit edildi. Abdominal BT'de batında yaygın serbest hava ve sıvı saptanan hastaya Genel Cerrahi konsültasyonu istendi (Resim 1-3). Hasta ameliyathaneden sonra cerrahi servise alındı.

Abdominal perforasyonun erken teşhisinin erken cerrahi ile hastanın hayatta kalma şansını artıracağına inanıyoruz.

Anahtar Kelimeler: Karın ağrısı, Akut karın, Pnömoperitoneum.

PNEUMOPERITONEUM CAUSED BY FATAL ABDOMINAL PAIN IN AN ELDERLY PATIENT

ABSRACT

An 89-year-old female patient was admitted to the emergency department due to sudden onset of abdominal pain. GCS was 15, vitals were TA:180/70, Pulse: 121/min, SS: 20/min. There was a history of HT and peptic ulcer in the patient's anamnesis. When the anamnesis was deepened, it was learned that he applied to the emergency service as a result of abdominal pain that started after an increase in analgesic use for 1 week.

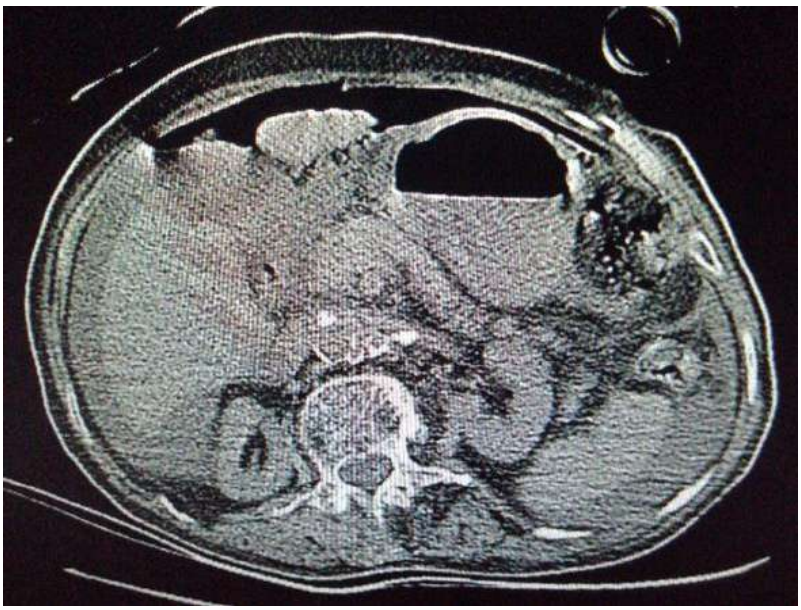
In his examination; In the inspection, it was observed that the patient was in the fetal position and the legs were pulled to the abdomen. The clinic of generalized abdominal tenderness, defense and rebound was clearly observed. After the preoperative routines were taken, abdominal USG was requested and diffuse fluid was detected especially in the pelvic region. General Surgery consultation was requested for the patient in whom diffuse free air and fluid were detected in the abdomen in abdominal CT (Picture 1-3). The patient was admitted to the surgical service after the operating room.

We believe that early diagnosis of abdominal perforation will increase the patient's chance of survival with early surgery.

Keywords: Abdominal pain, Acute abdomen, Pneumoperitoneum.



Picture 1



Picture 2

ASSESSMENT OF NUTRITIONAL STATUS OF TRIBAL PRESCHOOL (1-5) CHILDREN OF RANIBANDH BLOCK, BANKURA, WEST BENGAL, INDIA

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ABSTRACT

Background: Malnutrition particularly undernutrition is a serious public health issue of preschool children in India and so many developing countries. Thus present study was aim to assessed nutritional status of indigenous preschool children of Paschimanchal area, West Bengal, India.

Methods: This cross sectional study was undertaken during February, 2021 to April, 2021. A total of 258 preschool children (1-5 years) are selected through multi-stage cluster sampling method from eight Gram Panchyat of Ranibandh block. All information including anthropometric data like height, weight, MUAC, head circumference etc was measured according to standard procedures. WHO Child Growth Standards (2006) was used to evaluate the nutritional status of tribal preschool children.

Results: The overall prevalence of underweight, stunting, and wasting were 42.6%, 31.4%, and 34.5%, among them 10.9%, 8.5%, and 8.1% children were found to severe grade of malnutrition. The age combined, prevalence of stunting (37.1% vs 25.4%), wasting (35.6% vs 33.3%) was higher among boys than girls. Moreover the study found per capita monthly income was significantly correlated with height-for-age z-score ($r=0.15$, $p<0.05$).

Conclusion: According to WHO, prevalence of underweight, stunting and wasting was very high, indicating critical nutritional stress. Therefore, there is an urgent need food supplementation to improve their nutritional status.

Keywords: Preschool children, underweight, stunting and wasting, Tribe, India

İMPLANTE EDİLEBİLİR KARDİYAK ELEKTRONİK CİHAZ BULUNAN HASTALARDA SKAPULOTORASİK DİSFONKSİYONUN DEĞERLENDİRİLMESİ

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ÖZET

Amaç: Jeneratör kaynaklı omuz bozukluğu, implante-edilebilir kardiyak elektronik cihaz (İEKEC) implantasyonunun yaygın bir komplikasyonudur. Literatürde İEKEC implantasyonunun skapulotorasik eklem üzerine etkilerini inceleyen çalışma bulunmamaktadır. Bu çalışma, İEKEC implantasyonunun aynı taraf skapulotorasik eklem üzerindeki etkilerini araştırmayı amaçladı.

Yöntem: Bu çalışmada, İEKEC implante edilen 30 hasta çalışma grubuna (ÇG) ve benzer demografik ve klinik özelliklere sahip 30 sağlıklı katılımcı ise kontrol grubuna (KG) kaydedildi. Omuz eklem hareket açıklığı, kavrama kuvveti, skapulotorasik diskinezi ve omuz işlevselliği dâhil olmak üzere detaylı omuz değerlendirilmesi yapıldı ve elde edilen veriler gruplar arasında karşılaştırıldı.

Bulgular: Omuz fleksiyon (p= 0.016) ve abduksiyon (p= 0.001) hareket açıklığı ÇG'de KG'ye göre anlamlı şekilde düşük bulundu. Omuzun diğer yönlere hareket açıklıklarında gruplar arasında fark yoktu. Jamar hidrolik el dinamometresi ile değerlendirilen kavrama kuvveti ÇG'de KG'ye göre anlamlı şekilde azalmıştı (p= 0.36). Lateral skapular kayma testi ile değerlendirilen skapular diskinezide; nötral pozisyonda gruplar arasında fark yokken, 45 (p= 0.01) ve 90 (p= 0.038) derece abduksiyonda ÇG'de KG'ye kıyasla anlamlı düzeyde yüksek skapular diskinezi sıklığı tespit edildi. Benzer şekilde Kibler Tip 3 diskinezi sıklığı ÇG'de KG'ye kıyasla daha fazlaydı (p= 0.038), diğer Kibler diskinezi tiplerinde gruplar arasında fark yoktu. Amerikan Omuz ve Dirsek Cerrahları Omuz Skoru ile değerlendirilen omuz işlevselliğinde, ÇG'de omuz bozukluğu KG'ye göre anlamlı düzeyde fazlaydı (p= 0.014).

Sonuç: Çalışmamız daha önce omuz eklemi üzerinde olumsuz etkileri tanımlanan İEKEC implantasyonunun benzer şekilde skapulotorasik eklem üzerinede olumsuz etkileri olduğunu göstermiştir. Ameliyat sonrası omuz bozukluğu gelişen hastaların tedavisine skapulotorasik bozuklukları giderecek yöntemlerin eklenmesinin fayda sağlayacağı düşünülmektedir.

Anahtar kelimeler: Kardiyak elektronik cihaz, omuz eklemi, skapulotorasik diskinezi

EVALUATION OF SCAPULOTHORACIC DYSFUNCTION IN PATIENTS WITH IMPLANTABLE CARDIAC ELECTRONIC DEVICE

ABSTRACT

Purpose: Generator-induced shoulder impairment is a common complication of cardiac implantable electronic device (CIED) implantation. There is no study in the literature examining the effects of CIED implantation on the scapulothoracic joint. This study aimed to investigate the effects of CIED implantation on the ipsilateral scapulothoracic joint.

Methods: In this study, 30 patients with CIED implanted were enrolled in the study group (SG), and 30 healthy participants with similar demographic and clinical characteristics were enrolled in the control group (CG). Detailed shoulder evaluation was performed, including shoulder range of motion (ROM), grip strength, scapulothoracic dyskinesia, and shoulder functionality, and the data were compared between groups.

Results: Shoulder flexion (p= 0.016) and abduction (p= 0.001) ROMs were significantly lower in SG than CG. There was no difference between the groups in the ROMs of the shoulder in other directions. The grip strength evaluated with the Jamar hydraulic hand dynamometer was significantly decreased in SG compared to CG (p= 0.36). In scapular dyskinesia evaluated with the lateral scapular slide test; while there was no difference between the groups in the neutral position, a significantly higher incidence of scapular dyskinesia was detected in SG compared to CG at 45 (p= 0.01) and 90 (p= 0.038) degrees of abduction. Similarly, Kibler Type 3 dyskinesia incidence was higher in SG than CG (p= 0.038), and there was no difference between groups in other types of Kibler dyskinesia. In shoulder functionality assessed by the American Shoulder and Elbow Surgeons Score, shoulder impairment in SG was significantly higher than CG (p= 0.014).

Conclusion: Our study showed that CIED implantation, which has previously been reported as having adverse effects on the shoulder joint, has similar adverse effects on the scapulothoracic joint. It is thought that it would be beneficial to add methods for scapulothoracic disorders to the treatment of patients who develop postoperative shoulder disorders.

Key words: Cardiac electronic device, shoulder joint, scapulothoracic dyskinesia

COVID-19 NEDENİYLE TETKİK EDİLİRKEN SAPTANAN CERRAHİ OLARAK TANI KONULAN BENİGN AKCİĞER HASTALIKLARI

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ÖZET

Amaç: Koronavirüs hastalığı (COVID-19), ilk olarak Aralık 2019'da Çin'in Wuhan kentinde bildirildi, Dünya Sağlık Örgütü (DSÖ) tarafından pandemi olarak ilan edildi. COVID-19 tanısında boğaz, nasal sürüntüsünden alınan gerçek zamanlı ters transkriptaz- polimeraz zincir reaksiyonu (RT-PCR) testi kullanılır. Toraks Bilgisayarlı Tomografide (BT), bilateral buzlu cam, hava bronkogramları ve konsolidasyon ile karakterizedir. Çalışmamızda COVID-19 nedeniyle tetkik edilirken semptom oluşturmayan tesadüfen saptanan akciğer patolojilerine cerrahi olarak benign akciğer hastalıkları tanısı koyduğumuz hastalarımızı sunmayı amaçladık.

Gereç-Yöntem: Mart2020-Ağustos2021 tarihleri arasında COVID-19 şüphesiyle tetkik edilen, tesadüfen saptanan akciğer patolojilerine kliniğimizde uyguladığımız cerrahi sonrası benign akciğer hastalıkları tanısı koyduğumuz hastaları retrospektif olarak değerlendirdik.

Bulgular: Yaş ortalaması 55.42 (39-67), 5'i erkek 2'si kadındı. Hasta özellikleri ve patoloji sonuçları tablo 1'de verilmiştir. Hastaların ortalama hastanede kalış süreleri 6 (5-7) gündü. Postoperatif komplikasyon gözlenmedi. Hastalar salah ile taburcu edildi.

Sonuç: Akciğer hastalığı saptandığında tanı, tedavi için gerekli cerrahinin zamanlaması önemlidir. Pandemi döneminde hastaya en az zarar verecek, en uygun zamanda cerrahiyi planlamak daha da önem kazanmıştır. Bunun için cerrahi planlama önerileri sunulmuştur: Pozitron Emisyon Tomografi-Bilgisayarlı Tomografi (PET-BT) /perkütan akciğer biyopsisi ile lezyonlar ön planda benign olarak düşünülürse, hastaların elektif cerrahisinin 3 aya kadar ertelenmesi (mümkünse salgın bittikten veya nispeten stabil olduktan sonra) önerilmiştir. Göğüs cerrahisi işlemleri COVID-19 teması açısından yüksek risklidir. Pandemi döneminde cerrahi için karar verirken hem hasta hem sağlık çalışanlarının güvenliği göz önünde bulundurulmalıdır. Yayınlanan rehberler bu konuda oldukça faydalıdır. Yinede tüm hastalar pozitif olarak kabul edilmeli cerrahi müdahale esnasında dünya sağlık örgütünün önerdiği korunma yöntemlerine dikkat edilmelidir. Benign olduğunu düşündüğümüz lezyonların cerrahisini rehberlere uyarak yaptığımızda yüz güldürücü sonuçlar elde edebiliriz.

Anahtar Kelimeler: COVID-19, cerrahi, benign akciğer hastalıkları

ABSTRACT

Objective : The coronavirus disease (COVID-19) was first reported in Wuhan, China, in December 2019 and was declared a pandemic by the World Health Organization (WHO). Real-time reverse transcriptase-polymerase chain reaction (RT-PCR) test from the throat nasal swab is used to diagnose COVID-19. Thorax Computed Tomography (CT) is characterized by the bilateral ground glass, air bronchograms, and consolidation. Our study aimed to present patients

surgically diagnosed with benign lung diseases due to coincidental lung pathologies that did not cause symptoms while being examined for COVID-19.

Materials-Methods: We retrospectively evaluated the patients diagnosed with benign lung diseases after surgery performed in our clinic for incidentally detected lung pathologies between March 2020 and August 2021.

Results: The mean age was 55.42 (39-67), five men and two women. Patient characteristics and pathology results are given in Table 1. The mean hospital stay of the patients was 6 (5-7) days. No postoperative complications were observed. The patients were discharged in good health.

Conclusion: When lung disease is detected, the timing of the surgery required for diagnosis and treatment is essential. It has become even more critical to plan the surgery at the most appropriate time, which will cause the least harm to the patient during the pandemic period. Surgical planning recommendations are presented for this aim: If the lesions are considered to be benign in the foreground by positron emission tomography-Computed Tomography (PET-CT)/percutaneous lung biopsy, it is recommended to postpone the elective surgery of the patients for up to 3 months (if possible after the epidemic is over or relatively stable). Thoracic surgery procedures are high risk for COVID-19 contact. The safety of both patients and healthcare professionals should be considered when deciding on surgery during the pandemic period. The published guides are handy in this regard. However, all patients should be considered positive, and the prevention methods recommended by the World Health Organization should be considered during the surgical intervention. When we perform the surgery of the lesions that we think are benign, following the guidelines, we can achieve satisfactory results.

Keywords: COVID-19, surgery, benign lung diseases

GİRİŞ

Koronavirüs hastalığı (COVID-19), “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” neden olduğu enfeksiyon ile ilişkili klinik sendromdur(1). İlk olarak Aralık 2019’da Çin’in Wuhan kentinde bildirilmiştir (2). Ülkemizde ilk COVID-19 vakası 11 Mart 2020 tarihinde bildirilmiştir (3). Bu tarihte COVID-19 Dünya Sağlık Örgütü (DSÖ) tarafından pandemi olarak ilan edilmiştir (2).

COVID-19 hastalarında ateş, öksürük, yorgunluk, tat ve koku duyularında kayıplar gibi hafif semptomlar görülebilmektedir. Ancak hızlı ilerleyen ciddi solunum yetmezliği ile de karşımıza çıkabilmektedir. Laboratuvar bulguları arasında lenfositopeni, trombositopeni ve lökopeni saptanmaktadır (4,5). Enfeksiyon belirteçlerinden C-reaktif protein (CRP), karaciğer fonksiyon testleri (ALT/AST) ve D-Dimer yüksekliği de bildirilmiştir (6,7). COVID-19 tanısında boğaz ve nasal sürüntüsünden alınan gerçek zamanlı ters transkriptaz- polimeraz zincir reaksiyonu (RT-PCR) testi kullanılmaktadır (8). Hastalığın tanısında altın standart RT-PCR testi olmakla birlikte testin bazı yerlerde yapılmasındaki yetersizlik ve erken dönemde yalancı negatiflik gösterebilmesi nedeniyle radyolojik görüntülemeden de destek alınmaktadır (9). Bu hastalarda tanıyı desteklemek, akciğer tutulumunu göstermek veya enfeksiyonun akciğerdeki yaygınlığını değerlendirmek amacıyla toraks bilgisayarlı tomografisi kullanılmaktadır. COVID-19’un akciğer tutulumu toraks BT’de , bilateral buzlu cam, hava bronkogramları ve konsolidasyon ile karakterizedir(10).

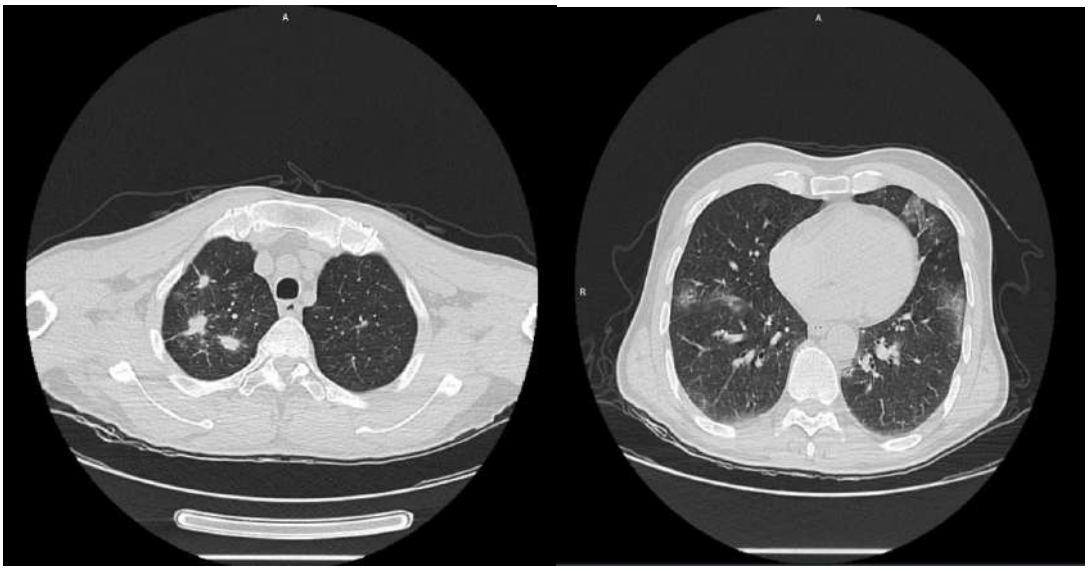
Çalışmamızda COVID-19 nedeniyle tetkik edilirken semptom oluşturmayan, tesadüfen akciğerde saptanan lezyonlara tanı ve tedavi amacıyla cerrahi uyguladığımız ve histopatolojik olarak benign akciğer hastalıkları tanısı konulan hastalarımızı sunmayı amaçladık.

ARAŞTIRMA VE BULGULAR

Mart2020-Ağustos2021 tarihleri arasında COVID-19 şüphesiyle tetkik edilen, tesadüfen saptanan akciğer patolojilerine kliniğimizde uyguladığımız cerrahi sonrası benign akciğer hastalıkları tanısı koyduğumuz hastalar retrospektif olarak incelenmiştir. Hastaların klinik özellikleri, operasyon zamanı, histopatolojik tanıları ve postoperatif komplikasyonları değerlendirilmiştir.

Hastaların preoperatif hazırlık döneminde ayrıntılı anamnez alınmıştır ve temas öyküsü sorgulanmıştır. Yakın ateş takibi, hemogram, biyokimya, CRP, koagülasyon parametreleri değerlendirilmiştir. Hastalarımızdan takip süreleri tamamlandıktan sonra çekilen kontrol toraks BT'lerinde akciğerdeki lezyonların sebat ettiği saptanan hastalara operasyon planlanmıştır. Operasyonda 48 saat ve 24 saat önce 2 defa PCR testi alınmıştır. PCR sonucu negatif olarak saptandıktan sonra cerrahi uygulanmıştır. Cerrahi esnasında DSÖ'nün önerdiği korunma yöntemlerine uygun olarak davranılmştır. Kişisel koruyucu ekipmanları giyme aşamalarında sırasıyla bone giyildikten sonra el hijyeni sağlanıp maske (N95/FFP2), gözlük/ yüz koruyucu siper kullanımı sonrası standart cerrahi el yıkama/ovalama uygulanmıştır. Ameliyat odası içerisinde steril cerrahi önlük ve steril eldiven giyilerek ameliyata başlanmıştır. Ameliyat bittiğinde ameliyat odasında eldiven ve önlük çıkarılıp el hijyeni sağlanmıştır. Hastaların postoperatif rutin cerrahi kontrolleri yapılmıştır.

Çalışmamıza dahil edilen 7 hastanın 5'i erkek 2'si kadındı ve yaş ortalaması 55.42 (39-67) idi. Hastaların özgeçmişlerinde 1 hasta temas öyküsü nedeniyle, diğer hastalara aktif şikayeti olmaları nedeniyle PCR testi ve Toraks BT çekilme öyküsü mevcuttu. Üç hastanın toraks BT'si akciğer lezyonlarına ek olarak covid pnömonisi ile uyumlu bulunmuştur (Resim 1a, b). Hastalar ortalama 6.57 (4-9) ay takip edilmiştir. Hasta özellikleri ve patoloji sonuçları tablo 1'de verilmiştir. Hastaların ortalama hastanede kalış süreleri 6 (5-7) gündür. Postoperatif komplikasyon gözlenmemiştir. Hastalar salah ile taburcu edilmiştir.



Resim 1a,b: Her iki akciğerde subplevral yamasal buzlu cam opasiteleri izlenmiştir (viral pnömoni). Her iki akciğer apeks ve üst lobda büyüğü sağda 1 cm çapında olmak üzere birkaç adet nodül.

Tablo 1: Hasta özellikleri

YAŞ	CİNSİYET	SÜRE	ŞİKAYET	PCR	OPERASYON	PATOLOJİ
49	E	4 AY	NEFES DARLIĞI	+	VATS+WEDGE REZEKSİYON	İSKEMİK NEKROZ+ORGANİZE TROMBÜS
39	K	4 AY	ÖKSÜRÜK	+	TORAKOTOMİ+KİSTOTOMİ+KAPİTONAJ	KİST HİDATİD
67	E	6 AY	TEMAS	-	VATS+WEDGE REZEKSİYON	ORGANİZE PNÖMONİ
61	E	7 AY	NEFES DARLIĞI	+	VATS+WEDGE REZEKSİYON	USUAL İNTERTİSYEL PNÖMONİ
59	E	8 AY	NEFES DARLIĞI	+	VATS+WEDGE REZEKSİYON	PNÖMOKONYOZ
57	K	8 AY	ÖKSÜRÜK	+	VATS+WEDGE REZEKSİYON	KONDROMATÖZ HAMARTOM
56	E	9 AY	ÖKSÜRÜK	+	VATS+WEDGE REZEKSİYON	HİPERSENİTİVİTE PNÖMONİSİ

SONUÇ

Akciğer hastalığı saptandığında tanı ve tedavi için gerekli cerrahinin zamanlaması önemlidir. Pandemi döneminde hastaya en az zarar verecek, en uygun zamanda cerrahiyi planlamak daha da önem kazanmıştır. Göğüs cerrahisi işlemleri COVID-19 teması açısından yüksek risklidirler. Pandemi döneminde cerrahi için karar verirken hem hasta hem sağlık çalışanlarının güvenliği göz önünde bulundurulmalıdır. Bunun için cerrahi planlama önerileri sunulmuştur:

*Pozitron Emisyon Tomografi-Bilgisayarlı Tomografi (PET-BT) /perkütan akciğer biyopsisi ile lezyonlar ön planda benign olarak düşünülürse, hastaların elektif cerrahisinin 3 aya kadar ertelenmesi (mümkünse salgın bittikten veya nispeten stabil olduktan sonra),

*Koronavirüs pnömonisine sekonder gelişen akciğer değişikliklerini ekarte etmek için buzlu cam nodüllerinin en az 3 ay takip edilmelisi önerilmektedir (11, 12).

Biz de klinik ve radyolojik olarak benign olarak düşündüğümüz hastalarımızı takibe almıştık. Radyolojik olarak saptanmasından en az 4 ay sonra kontrollerinde lezyonlarda devamlılık saptadığımız hastalara cerrahi uygulamıştık.

Cerrahi esnasında DSÖ'nün önerdiği korunma yöntemlerine uygun olarak davranılmalıdır. Kişisel koruyucu ekipmanları giyme aşamalarında sırasıyla bone giyildikten sonra el hijyeni sağlanıp maske (N95/FFP2), gözlük/ yüz koruyucu siper kullanımı sonrası standart cerrahi el yıkama/ovalama uygulanmalıdır. Ameliyat odası içerisinde steril cerrahi önlük ve steril eldiven giyilerek ameliyata başlanmalıdır. Ameliyat bittiğinde ameliyat odasında eldiven ve önlük çıkarılıp el hijyeni sağlanmalıdır (13). Cerrahi sırasında biz de DSÖ'nün önerierine uyarak kişisel koruyucu ekipmanlarımızı kullanmıştık. Böylece hem cerrahi ekip hem de güvenli şekilde cerrahi süreci tamamlamış olduk.

Sonuç olarak, göğüs cerrahisi işlemleri COVID-19 teması açısından yüksek risklidirler. Pandemi döneminde cerrahi için karar verirken hem hasta hem sağlık çalışanlarının güvenliği göz önünde bulundurulmalıdır. Yayınlanan rehberler bu konuda oldukça faydalıdır. Ancak mevcut testlerin yanlış negatif olabileceği unutulmamalıdır. Tüm hastalar pozitif olarak kabul edilmeli cerrahi müdahale esnasında dünya sağlık örgütünün önerdiği korunma yöntemlerine dikkat edilmelidir. Benign olduğunu düşündüğümüz lezyonların cerrahisini rehberlere uyarak yaptığımızda yüz güldürücü sonuçlar elde edebiliriz.

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EBELİKTE SANAT KAVRAMININ TEORİTİKAL ÇERÇEVESİ

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ÖZET

Giriş: Tarihsel olarak ebe, doğum yapan kadınla birlikte olan kişi olarak bilinmektedir. Ebelik sanatında 'kadınla birlikte olmak' kavramı teknolojik gelişmeler ortaya çıktıkça elde edilmesi daha zor olan bir duruma dönüşmüştür. Bu durum kadını önemseyen ebeliğin ve doğal bir olay olan gebeliğin özünü büyük ölçüde etkilemektedir.

Amaç: Bu derlemede literatür taraması doğrultusunda ebelikte sanat kavramının teoritikal çerçevesinin açıklanması amaçlanmıştır.

Yöntem: Bu derleme literatür taraması sonucu oluşturulmuştur.

Bulgular: Bazı kadınlar tarafından travmatik olarak algılanan doğumun, normal ve doğal bir süreç olduğunu göstermek, ebeliğin özünün ve değerinin anlaşılması açısından büyük önem taşımaktadır. Ebelik uygulama sanatının teoritikal çerçevesi "varlık", "koruyuculuk-vesayet", "önsezi-sezgi", "güven ve cesaret" ve "insan ilişkileri"nden oluşmaktadır. Doğum yapan kadına düşük teknoloji müdahalelerde bulunarak sessiz ve sakin bir ortamda güvenlik hissi vermek, ebenin pozitif "varlığı" olarak tanımlanmaktadır. "Koruyuculuk, vesayet", ebe ve kadın arasında eşit ve güvene dayalı bir ilişkinin sonucu olarak ortaya çıkmaktadır. Bu ilişkinin kurulması için, ebelik uygulama sanatı olan "varlık" kavramının, sürdürülmesi ve korunması için de "sezgi", "güven ve cesaret" kavramının gerekliliği vurgulanmıştır. Ebenin özerk olması ve kadın hakları savunuculuğunu üstlenmesi için "güven ve cesaret" kavramına ihtiyaç duyduğu bildirilmektedir. "İnsan ilişkilerinin" bileşenleri, bu kavramların dördününde gelişimi için ön koşul olarak görülmektedir. Obstetrik uygulama teknolojileri, doğumun doğal sürecini ortadan kaldırmakta, bununla birlikte insan ilişkilerini barındıran ebelik uygulama sanatı yüksek riskli doğumlarda bile doğal süreci koruma mücadelesi olarak tanımlanmaktadır.

Sonuç: Burada (varlık, vesayet, sezgi, güven ve cesaret, insan ilişkileri) bazı metaforlardan ebelik sanatının teoritikal çerçevesi açıklanmıştır. Bu durum ebelikte sanat kavramının netliğini ortaya çıkarmakta ve bu uygulamaya rehberlik eden kanıt temelli yaklaşımları da teşvik etmektedir.

Anahtar sözcükler: Ebelik, Sanat, Varlık

THEORETICAL FRAMEWORK OF THE CONCEPT OF ART IN MIDWIFERY

ABSTRACT

Introduction: Historically, the midwife is known as the person who is with the woman who gives birth. The concept of 'being with a woman' in the art of midwifery has turned into a situation that is more difficult to achieve as technological developments have emerged. This situation greatly affects the essence of midwifery, which cares about women, and pregnancy, which is a natural event.

Objective: In this review, it is aimed to explain the theoretical framework of the concept of art in midwifery in line with the literature review.

Method: This review was created as a result of literature review.

Results: Demonstrating that birth, which is perceived as traumatic by some women, is a normal and natural process is of great importance in terms of understanding the essence and value of midwifery. The theoretical framework of midwifery practice art consists of "being", "protection-guardianship", "intuition-intuition", "trust and courage" and "human relations". Providing a feeling of security in a quiet and calm environment by making low-tech interventions to the woman giving birth is defined as the positive “presence” of the midwife. “Protection, guardianship” emerges as a result of an equal and trusting relationship between the midwife and the woman. It has been emphasized that the concept of "being", which is the art of midwifery practice, is necessary for the establishment of this relationship, and the concept of "intuition", "trust and courage" for its maintenance and protection. It is reported that the midwife needs the concept of "confidence and courage" in order to be autonomous and take on the advocacy of women's rights. The components of "human relations" are seen as prerequisites for the development of all four of these concepts.

Conclusion: Here, the theoretical framework of midwifery art is explained with some metaphors (existence, guardianship, intuition, trust and courage, human relations). This situation reveals the clarity of the concept of art in midwifery and encourages evidence-based approaches that guide this practice.

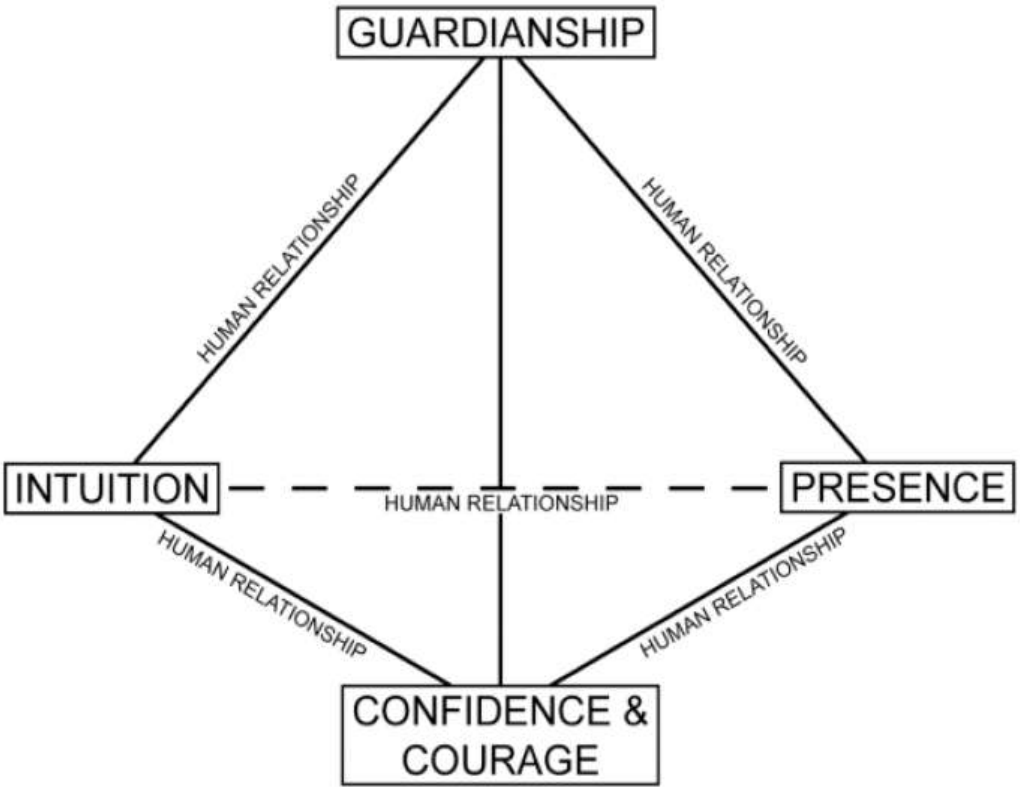
Key words: Midwifery, Art, Being

GİRİŞ

Ebelik yazılı tarihin en eski mesleklerinden biridir. Ebeliğin yazılı kayıtları ve ebenin rolü M.Ö. 1446 yılına kadar uzanmaktadır. Meslekte zaman içinde meydana gelen değişikliklere rağmen, ebelikte kalan bir özellik 'kadın ile' olma kavramıdır. Meslekte zaman içinde meydana gelen değişikliklere rağmen, ebelikte kalan bir özellik 'kadın ile' olma kavramıdır. Tarihsel olarak ebe, doğum yapan kadınla birlikte olan kişi demekti (Bradfield Z &et al 2018). 'Kadınla birlikte olmak' kavramı, teknolojik gelişmeler ortaya çıktıkça elde edilmesi daha zor bir kavram halini almıştır. Bu durum, bir kadını önemseyen ebenin özünü ve harika bir doğal olay olan doğum kavramını büyük ölçüde etkilemektedir. Ebelerin ebeliğin özünü hatırlamaları ve sofistike teknolojilerin artan mevcudiyeti ile mesleki değerleri üzerindeki dikkatlerinin dağılmaması esastır (Cowie & Floyd 1998). Bu derlemede literatür taraması doğrultusunda ebelikte sanat kavramının teoritikal çerçevesinin açıklanması amaçlanmıştır.

EBELİK SANATININ TANIMI

Ebeliğin özünü ve değerini yakalamak için büyük önem taşıyan ebelik sanatı, bazı kadınlar tarafından travmatik olarak algılanan normal doğumun normal ve doğal bir süreç olduğunu göstererek mesleğin felsefesini şekillendirmede çok önemli rol oynamaktadır. Ebelik uygulama sanatının varlık (presence), koruyuculuk, vesayet (guardianship), önsezi, sezgi (intuition), güven ve cesaret (confidence and courage) ve son olarak insan ilişkileri (human relationship)'nden oluştuğu bildirilmektedir (Maclellan J 2011).



Maclellan, J. The art of midwifery practice: a discourse analysis. MIDIRS Midwifery Digest 2011, 21(1), 25-31.

EBELİK SANATININ TEORİTİKAL ÇERÇEVESİ

Varlık (Presence) Kavramı

Ebe'nin pozitif "varlığı (presence)"; "düşük teknoloji müdahalelerde bulunan, doğum yapan kadına sessiz ve sakin bir ortamda güvenlik hissi veren" olarak tanımlanmaktadır. Ancak ebenin varlığı, fiziksel olarak odada bulunandan çok daha fazlası olarak görülmektedir. Ebe, doğum sürecinin doğal sürecine olan varlığı ve inancıyla kadının bebeğini doğurabilmesi için güven ve yeteneğini ortaya çıkarır (Kennedy HP, 2010). Downe ve arkadaşları (2007), ebenin kadını eşsiz bir birey olarak bilmesi ve anlaması, sorumlu olduğu doğum sürecini kadınla ortak olarak yönetmesi gerektiğini belirtmişlerdir. 'Varlık' kavramının başarısı açıkça ebe ve kadın arasında oluşan ilişkinin niteliğine ve derinliğine bağlıdır (Downe S & et al.2007). Ebenin varlığı, sezgisel ve pratik becerileri nedeniyle doğum yapan kadın için güvenli bir ortam sağlamaktır. Bu varlığın hissettirilmesi, kadının doğum sonu güven ve memnuniyeti arttırmada etkili olmaktadır (Anderson T 2002). Stephens (2008)'ın yaptığı çalışmada, kadının ebe varlığında doğum deneyimi, hayatının diğer alanlarına olan güvenini ve fiziksel rafahını arttırmada etkili olduğu bildirilmiştir. Bu fiziksel refah, "koruyuculuk, vesayet (guardianship)," ile

ilişkilendirilen optimum fizyolojik işleyiş ile ilgili olabileceği de bildirilmiştir (Stephens L 2008).

Koruyuculuk, Vesayet (Guardianship) Kavramı

"Koruyuculuk, vesayet", ebe ve kadın arasında eşit ve güvene dayalı bir ilişkinin sonucudur. Kurulması için ebenin "varlığını" ve korunması için de ebenin "sezgi" ve "güven ve cesaretini" gerektirir. "Vesayet" kavramı, kadın için güvenli bir alanın oluşturulması ve korunmasını ifade eder. Bu kavram, bir kadının doğum deneyimi sırasında güvenlik hissini sürdürmesi, doğum boyunca tetikte olma ihtiyacını ortadan kaldırması ve bedeninin bebeğinin doğumunu kontrol etmesine izin vermesi için esastır (Maclellan J 2011). Ebenin bu sanatını icra etmesi, kadının doğum deneyimindeki başarı duygusunu, benlik saygısını olumlu yönde artırarak, yetenek ve gücüyle ilgili yeni sınırları keşfettiği için değişimine yol açmaktadır (Kennedy HP et al 2004).

Önsezi, Sezgi (İntuition) Kavramı

Sezgisel uygulamalara ulaşmak için, aşamalar boyunca ilerleme, uzmanlık, derinlik ve bilgi aralığının bir kombinasyonu gereklidir (Power A 2015). Deneyim arttıkça, bir ebe bilgisinin farklı seviyelere ulaştığını farkeder ve bunu da pratikte yansıtarak daha fazla bütünleştici bakım sağlar. Sonuç olarak "sezgi" kavramı ebeyi geliştirerek doğum eylemine daha fazla hâkim olmasına katkı sağlar (Maclellan J 2011). Ebelikte 'sezgi' sanatı kavramının maksimize edilmesi ve pratik beceriyi tamamlaması için, ebe ve kadın arasında bağlantı kurulması gerekmektedir. Ebenin sezgi sanatı, kadının doğumuna verdiği tepkinin davranış ve işaretlerinin yorumlayabilmesi anlamına gelmektedir (Fry J 2007). Ebelerin sezgi sanatıyla çalışması, doğum yapan kadını potansiyel komplikasyonlardan korumadan ziyade, kadını bakım ve gözlemin merkezi yapmaktadır (Anderson T. 2000). Durham (2002)'ın belirttiği gibi, ebelerin uygulamalarını kanıtlara dayandırırken doğum yapan kadınlara sezgi kavramı yaklaşımını kullanmaları beklenmektedir. 'Sezgi' kavramı uygulama sanatı pratiğinin doğrudan olumlu sonuçları ile ilgili kanıt bulunamamıştır. (Durham R. 2002). Bununla birlikte, sezgi sanatını kullanmada yetersiz olunduğunda, kadınların güveninin azaldığı bildirilmektedir (Hall J &Taylor M 2004).

Güven ve Cesaret (Confidence and Courage) Kavramı

Ebe rol aldığı doğumda, kadına en uygun bakım vermek, planlamak ve sunmak için sanat ve bilimi birleştirmektedir. Ebenin, doğum yapan kadında bu hedeflerini kolaylaştırabilmesi için, kendisini güçlenmiş ve emin hissetmeye ihtiyacı vardır (NMC 2008). Ebenin gerçekten özerk olması ve kadının haklarını teşvik etmesi ve alınan eylemlerin, kararların sonuçlarını kabul etmesi için rolünün gerektirdiği sorumluluğa ve 'güven ve cesaret' kavramına ihtiyaç duyduğu bildirilmektedir (Maclellan J 2011). Bununla birlikte ebe ekibin üyesi olarak çalışırken müdahale kararları çoğu zaman korkudan kaynaklanmakta olup, yüksek riskli bir doğum ortamında bulunmak onun için hassas bir denge hali olmaktadır. Yüksek riskli bir doğum ortamda ekibin üyesi olarak çalışan ebe, obstetrik yönergeleri takip etmek ve kadının mümkün olduğunca doğal bir doğum yapma hakkını savunmaktadır. Bu da en az müdahale içeren ebelik felsefe sanatına gölge düşürmeyen bir doğum ortamını sağlamaktadır. Bu gibi durumların gerçekleştirilebilmesi için 'cesaret ve güven' kavramı uygulama sanatı pratiğinin uygulanmasını gerektirmektedir. Ebenin doğal doğum sürecine duyduğu 'güven, inanç ve cesaret' kavramı uygulama sanatı pratiğinin, kadının kendine olan güvenini, başa çıkma yeteneğini ve gücünü arttırdığı saptanmıştır (Fry J 2007, Maclellan J 2011).

İnsan İlişkileri (Human Relationship) Kavramı

"İnsan ilişkileri" kavramı uygulama sanatı, bu kavramların dördününde gelişimi için ön koşul olarak görülmektedir. Doğum eyleminin doğal sürecine obstetrik uygulama teknolojilerinin olumsuz etkileri olmakla birlikte, 'insan ilişkileri' kavramı uygulama sanatı, yüksek riskli

doğumlardaki doğal süreci koruma mücadelesi olarak tanımlanmaktadır (Maclellan J. 2011). Ebe-gebe ilişkisinde yüksek kalitede bakım, karşılıklılık ve eşitlik sağlanarak güven kazanılır. Karşılıklılık, açıklık, şefkat ve nezaket yoluyla bir bireye saygıyı ifade etmektedir. Bu destekleyici, eşit ilişki, kadın ve ebe arasında bir bağ oluşturarak, ebeyi kadının bakımını belirleme ve yönlendirme konusunda güçlenmesini sağlar. Ebe bir bakım diktatörü olarak değil, bakım sağlarken, doğum yapan kadının hedeflerine saygı göstererek ve karşılık vererek, 'sezgi ve varlık' kavramı uygulama sanatını etkili olarak kullanmalıdır (*Maclellan J. 2011)*.

Ebelik Sanatı Kavramlarının Analizi

'Cesaret ve güven' kavramı uygulama sanatı olmadan, ebe 'sezgi' pratiği sanatını uygulamaya geçiremez, bu durum da ebenin 'varlığı ve koruyuculuğu' uygulama sanatını sürdürme yeteneğini etkilemektedir. 'Sezgi' kavramı uygulama sanatı, 'güven ve cesaret' ya da 'varlık' kavramı uygulama sanatının öncüsü olarak kabul edilebilir. Bu bileşenlerin gerçekleşmesi için vazgeçilmez bir ön koşul, insan ilişkileri uygulama sanatıdır (Maclellan J. 2011). Doğum yapan kadının deneyimi üzerindeki farklı nitelikteki insan ilişkilerinin etkisini belirlemek zor olabilmektedir. Bununla birlikte, ilişki niteliğinin kadınlar için önemli olduğu açıkça vurgulanmaktadır (Kennedy HP&et al. 2004). Ebelik uygulama sanatı kavramları pratiğiyle desteklendiğini hisseden kadınların, doğumlarının daha kısa sürdüğü, daha az ilaç kullandığı, daha az müdahaleli doğum olduğu, doğum sonu bebeklerine daha fazla bağlandığı ve daha çabuk iyileştiği bildirilmektedir (Maclellan J. 2011).

SONUÇ

Burada (varlık, vesayet, sezgi, güven ve cesaret) bazı metaforlardan ebelik sanatının teoritikal çerçevesi tanımlanmıştır. Bu, ebelikte sanat olgusunun netliğinin sağlanmasına katkıda bulunmakta ve uygulamada rehberlik eden kanıt temelli yaklaşımlara da teşvik etmektedir. Tanımlanan kavramların iç içe insan ilişkilerinin nitelikleri bağlamında uygulandığında, doğum yapan kadınlarda olumlu sonuçların olduğu saptanmıştır (Maclellan J. 2011). Kavramların her biri doğumun akışına göre önceliği değiştirerek, herhangi bir anda öncelik alabilir. Ebeliğin hem sanatı hem bilimi birleştiren bir meslek olduğu ifade edilmekte ve bütüncülüğü ve hümanizmi kucaklamak için eğitim ve uygulama ortamlarındaki ebelerin doğumda ebelik sanatının teoritikal çerçevesi unsurlarını benimsemeleri ve değer vermeleri gerekmektedir (Maclellan J. 2011).

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EBELİK EĞİTİMİNDE KANITA DAYALI UYGULAMALARIN YERİ

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ÖZET

Giriş: Kanıta dayalı bakım sağlayabilecek uygun yeterliliklere sahip ve bu yeterlilikler doğrultusunda eğitilmiş ebelerin 2035 yılına kadar yılda 4,3 milyon hayat kurtarabileceği bildirilmiştir.

Amaç: Bu derlemede, yüksek kaliteli sürdürülebilir ebelik eğitim programlarına ulaşmada kanıta dayalı uygulamaların yerini açıklamak amaçlandı.

Yöntem: Bu derleme literatür taraması sonucu oluşturulmuştur.

Bulgular: Uluslararası Ebeler Konfederasyonu (The International Confederation of Midwives)(ICM), belirlenen yeterlilikler doğrultusunda verilen eğitimin ebelerin mesleki gelişimine katkı sağlamasına öncülük edeceğini belirtmiştir. Sanal sınıf eğitimi gibi kanıta dayalı bilimsel yeniliklerin kullanımı, özellikle sınırlı altyapıya sahip olan kurumdaki öğencilere nitelikli eğitim olanağı sağlayarak, teorik ve klinik becerilerini geliştirmektedir. Ebelik eğitiminin önemli bir bileşeni olan simülasyon kullanımının obstetrik acil durumlar gibi klinikte sınırlı olan uygulamaları yönetmede etkili olduğu belirtilmektedir. ICM ve DSÖ (Dünya Sağlık Örgütü) ebelik temel yeterlilikler doğrultusunda web tabanlı öğrenme ile yüz yüze eğitimle harmanlamış öğrenme modelinin, diğer ebelik eğitim program içereğini uyarlama ve geliştirmeye rehberlik edebileceği belirtilmiştir. Mentörlük desteği, öğrencilikten mesleğe geçişte kişilerde özgüvenlerinin artmasına katkı sağlamaktadır. Portfolyo kullanımı ebelik öğrencileri için farklı değerlendirme yöntemlerine olanak sağlamakta, somut, uygun bir çalışma planı hazırlamaya teşvik etmek amacıyla kullanılabilmektedir. Sanal gerçeklik uygulamasının ebelik öğrencilerinde teori ile klinik uygulama becerisi arasındaki boşluğu doldurmayı amaçlayarak eğitimde niteliği arttıracağı öngörülmüştür.

Sonuç: Ebelikte kanıta dayalı eğitim bünyesinde bu öğretim yöntemlerinin kullanılması anne ve yenidoğan için yüksek standartta güvenli, kanıta dayalı bakım sağlayabilecek yetkin ebelerin yetiştirilmesi için hayati önem taşımaktadır.

Anahtar sözcükler: Ebelik, Eğitim, Teknoloji.

THE PLACE OF EVIDENCE-BASED PRACTICES IN MIDWIFERY EDUCATION

ABSTRACT

Introduction: It has been reported that midwives who have the appropriate competencies to provide evidence-based care and are trained in line with these competencies can save 4.3 million lives per year by 2035.

Objective: In this review, it was aimed to explain the place of evidence-based practices in reaching high quality sustainable midwifery education programs.

Method: This review was created as a result of literature review.

Results: The International Confederation of Midwives (ICM) stated that the training given in line with the determined qualifications will lead to contribution to the professional development of midwives. The use of evidence-based scientific innovations such as virtual classroom training improves their theoretical and clinical skills, especially by providing qualified education opportunities to students in institutions with limited infrastructure. It is stated that the use of simulation, which is an important component of midwifery education, is effective in managing clinically limited applications such as obstetric emergencies. It has been stated that the blended learning model with web-based learning and face-to-face education can guide the adaptation and development of other midwifery education program content in line with ICM and WHO (world Health Organization) midwifery basic competencies. Mentoring support contributes to the increase of self-confidence in individuals in the transition from student to profession. The use of portfolio allows different assessment methods for midwifery students and can be used to encourage them to prepare a concrete and appropriate study plan. It is predicted that virtual reality application will increase the quality of education by aiming to fill the gap between theory and clinical practice skills in midwifery students.

Conclusion: The use of these teaching methods in evidence-based education in midwifery is of vital importance for the training of competent midwives who can provide a high standard of safe, evidence-based care for mother and newborn.

Key Words: Education, Midwifery, Technology

GİRİŞ

Anne ve yenidoğan sağlığını iyileştirmek, evrensel sağlık kapsamını ve Sürdürülebilir Kalkınma Hedeflerini (SKH) karşılamanın anahtarıdır. Bugüne kadar ebeler, Binyıl ve Sürdürülebilir Kalkınma Hedeflerine ulaşılmasında kilit rol oynamıştır (1,2). Kanıta dayalı bakım sağlayabilecek uygun yeterliliklere sahip ve bu yeterlilikler doğrultusunda eğitilmiş ebelerin 2035 yılına kadar yılda 4,3 milyon hayat kurtarabileceği bildirilmiştir (3, 4). Kanıta dayalı eğitim, öğrenenlerin gelişimine odaklanan çıktıları gerçekleştirebilmek için neyin daha iyi olduğunu belirlemek ve bu süreçte daha güvenilir kararlar verebilmek için düzenli olarak kanıtlardan yararlanmayı amaçlamaktadır (5). ICM, dünya çapında temel ebelik eğitimi ve uygulaması için ortak kriterler sağlamak amacıyla temel yetkinlikleri ve küresel standartları desteklemiştir. Bununla birlikte ICM profesyonel ebeliğin araştırmalara dayalı uygulamalarla gerçekleştirilebileceğini belirterek; araştırmaların yapılmasını, araştırma alanlarının geliştirilmesini, ebelerin ve öğrencilerin araştırmaları eleştirel bakışla değerlendirebilmeleri için kanıt temelli ebelik eğitiminin gerekliliğini vurgulamıştır (6-8).Bu derlemede, yüksek kaliteli sürdürülebilir ebelik eğitim programlarına ulaşmada kanıta dayalı uygulamaların yerini açıklamak amaçlandı.

BULGULAR

ICM yeterliliklerinin dikkate alınarak verilen eğitimin, ebelerin mesleki gelişimine katkı sağlayarak kadına, yenidoğana ve ailelere kaliteli bakım sağlanmasına öncülük ettiği belirtilmektedir. Yeterlilikler, ebelik eğitim programlarındaki küresel tutarsızlıkları gidermek için gerçek bir fırsat sağlamaktadır (9). Ebelikte Ulusal Çekirdek Eğitim Programı (EUÇEP) ülkemizde uygulanması gereken mezuniyet öncesi ebelik eğitimin Avrupa Birliği kriterleri, Bologna süreci, ICM yeterlikleri ve ulusal ölçekte çerçevesini çizen ve temel dayanıklarını içeren ve 11 ana başlık altında toplanan genişletilmiş bir çerçeve programıdır. EUÇEP, ebelik yetkinliklerini (mezun ebelerin) belirlemede temel oluşturmak ve ebelik eğitiminde kanıt temelli yaklaşımları benimseyerek eğitimi mükemmelleştirmeyi hedeflemektedir. EUÇEP ebelik eğitimine başlamanın asgari ölçütleri belirlemesine katkı sağlamış ve ebelik lisans programlarının akredite edebilmesini kolaylaştırmıştır (10).

İnovasyon, kendi bilgi birikimini oluşturan tüm profesyonel mesleklerde olduğu gibi ebelik/hemşirelik için önem arz eden bir alandır. Ebeler/hemşireler hizmet sunumlarında etkin ve hedeflenen sonuçları yakalayabilmek adına sürekli değişime ayak uydurmak zorundadırlar. Bu durumda ebeler/hemşireler bakım kalitesini iyileştirmek için yeni faaliyetler yürütmektedirler. İnovasyon olarak adlandırılan bu faaliyetler, hasta bakım maliyetini azaltırken, bakım kalitesini de artırmaktadır. Literatürde inovasyon ile iyileşme arasında pozitif bir ilişki olduğu da bildirilmektedir. Ebelik/hemşirelik mesleği, değişen ve gelişen dünya düzeninde var olabilmek için tüm kanalları aktif kullanmalı, tüm varlığıyla birleşmeli, devam eden profesyonel eğitimlerle güçlenmeli ve bilgi birikimini her alanda açık tutarak varlığının niteliğini arttırmalıdır. Bu aşamada inovasyon süreci aktive edilmeli, mesleki değişim ve gelişim sürecini başlatarak mesleki gelecek şekillendirilmelidir (11).

21. yüzyıl bilgi çağı olarak bilinmektedir. Bu çağda, bilginin kapsamında ve erişiminde yeni kanallar ortaya çıkmaktadır. Bütün bu ilerlemeler ışığında günümüzde alınan eğitimden beklenen de bilgiye ulaşma ve onu etkili bir şekilde kullanma becerileriyle donatılmış, teknolojiyi kullanabilen bireyler yetiştirmektir. Eğitimde üzerinde önemle durulması gereken konulardan birisi teknolojinin eğitimde kullanımıdır (12). Eğitim İletişimi ve Teknolojisi Derneği'nin Tanım ve Terminoloji Komitesi (Committee of the Association for Educational Communications and Technology, AECT)'ne göre, eğitim teknolojisi "uygun teknolojik süreçleri ve kaynakları oluşturarak, kullanarak ve yöneterek öğrenmeyi kolaylaştırmak ve performansı arttırmak için uygulanan etik bir çalışmadır (13). Bununla birlikte bilgi paylaşımı ve öğretim için teknoloji kullanımının artması sonucu eğitimde sanal sınıflar gündeme gelmiştir. Sanal sınıfların öğrencilerin öğrenmesini geliştirmek için verimli ve etkili bir yöntem olduğu belirtilmektedir (14). Sanal sınıf uygulaması, merkezi kurumda bulunan öğretim üyelerinin, kurumlardaki internet tabanlı bilgi teknolojisi ara fazı aracılığıyla uzaktan konumlanmış bir öğrenci sınıfına eğitim verildiği bir kurulumdur. Sanal sınıf eğitimi gibi kanıta dayalı bilimsel yeniliklerin kullanılması ile özellikle sınırlı altyapı ve güce sahip kurumlarda hemşirelik-ebelik öğrencilerine nitelikli eğitim sağlanmak hedeflenmektedir. Sanal sınıf eğitiminin, öğrencilerde bilgi ve klinik becerilerini geliştirmede etkili olduğu bildirilmiştir (15). Sanal öğrenme platformları gibi bilgi teknolojilerinin kullanımı, eğitim kurumlarının nitelikli eğitim vermede karşılaştıkları zorlukların üstesinden gelme potansiyeline sahiptir. Bu yaklaşım, öğrencilerin bilgi ve becerilerini geliştirmenin etkili bir yolu olarak küresel olarak giderek daha fazla tanınmaktadır (16).

Kaliteli ebelik eğitimini destekleyebilmek için kurumların etkin bir altyapıya sahip olmaları gerekmektedir. ICM, ebelik eğitiminde akreditasyon programlarının yüksek kaliteli ebelik eğitiminin sağlanması için kurumsal kapasite oluşturduğunu ifade etmiştir. Bu akreditasyon

programı, kadınlar ve yenidoğanlar için sağlık sonuçlarının iyileştirilmesine katkı sağlamakla birlikte ebelik eğitiminin kalitesine yönelik hesap verebilirliği artırarak ebelik bakımının kalitesini iyileştirmektedir (17).

Son on yılda ebelik becerilerinin geliştirilmesinde simülasyon kullanımı önemli bir eğitim stratejisi haline gelmiştir. Simülasyon, klinik bir durumu mümkün olduğu kadar gerçeğine yakın bir şekilde yansıtarak klinik uygulamada bu durum ile gerçekten karşılaşıldığında onun daha kolay anlaşılabilir ve yönetilebilir olmasını sağlayan bir yöntemdir. (18, 19). Simülasyona dayalı öğrenmenin, ebelik öğrencilerini güçlü stratejilerle donatarak mesleki yeterlilik oluşturmada etkili olduğu gerçeği göz önünde bulundurulmalıdır (20). Ebelik becerilerinin simüle edilmiş öğreniminin faydalı olduğuna dair kanıtlar mevcuttur. Simüle edilmiş öğrenmenin eğitici ve klinik bir etkisi olup, didaktik yaklaşımlara göre avantajları vardır. Obstetrik acil durumlar gibi klinik uygulamaların sınırlı olduğu durumlarda simülasyon kullanımı müfredatın önemli bir bileşeni olmalıdır. Simülasyon kullanımı, klinik uygulamayı geliştirmekte ve bu nedenle yeterliliğe ulaşmak için geçen süreyi azaltabilmektedir (18). Yüksek gerçeklikli simülasyon eğitimi alan son sınıf ebelik öğrencilerinin deneyimlerinin araştırıldığı nitel çalışmada, öğrenciler, yüksek gerçeklikli simülasyonu hem eğitim yeterliliklerini hem de özgüvenlerini arttıran, pozitif bir öğrenme yöntemi olarak bulduklarını ifade etmişlerdir. (21). Ebelik eğitimde neonatal resüsütasyon için yüksek gerçeklikli simülasyonun yeterliliği ve etkinliğinin değerlendirildiği çalışmada, öğrencilerin bilgi, beceri, ve özdeğerlendirme ön-test son-test puanları arasında anlamlı fark olduğu bulunmuştur (22).

Web tabanlı öğrenmeyi yüz yüze eğitimle harmanlayarak kullanılan eğitim stratejisi tekniğinin, öğrencilerin lisans eğitimindeki başarılarına olumlu katkı sağladığı açıklanmıştır (23, 24). ICM ve DSÖ, web tabanlı öğrenmeyi yüz yüze eğitimle harmanlanmış öğrenme modeli tekniğini ebelik temel yeterliliklerinin diğer ebelik eğitim programlarının kapasite geliştirme girişimlerine rehberlik edebilmesi için kolayca uyarlanabiliceğini ifade etmişlerdir (25).

“Mentorluk” kavramı bireylerin (mentee) sahip oldukları potansiyeli ortaya çıkaran, güçlü ve zayıf yönlerini keşfetmesini sağlayan, motivasyon ve performanslarını yükselten, liderlik yeteneklerini geliştiren, kişisel gelişim sürecini hızlandıran, zorluklarla nasıl başa çıkılması gerektiğini öğreten, bireyi gereksiz risklerden koruyan bir yönetim anlayışı olarak da ele alınmaktadır (26). Ebelikte mentörlük, öncelikle sadece bir yeterlilik değerlendirmesi değil, daha kişisel bir ilişkiye dayanan güven oluşturma ile ilgili olarak tanımlanmıştır. Ebelik eğitiminde mentörlük uygulamasının devam eden gelişimini desteklemek için sağlık sisteminin kaynak sağlama gerekliliği de dahil olmak üzere alt yapı, zaman ve finansal engelleri mentörlük uygulamasının sınırlamaları arasında bulunmaktadır. Mentörlük desteğinin, öğrencilikten uygulayıcı ebeye geçiş sürecinde kişilerin özgüvenlerini arttırmada etkili olmaktadır (27). Ebelikte mentörlük modelinin geliştirilmesi amacıyla Uganda’da gerçekleştirilen 2015-2017 MOMENTUM (UGANDA) projesinde 41 ebe belli standartları içeren mentörlük eğitimi alarak, 142 öğrenci ile toplam 7 klinikte olacak şekilde dağıtılmıştır. Sonuç olarak; bu programın klinik öğrenme üzerinde iyileştirme yaparak ebelik eğitimine katkı sağladığı bildirilmiştir (28).

Ebelik eğitimi programlanmasında iyi uygulama kriterlerine uyumun hızlı bir şekilde değerlendirilmesi ve günümüzdeki durumuna genel bir bakış sağlamak için tasarlanmış bir Hızlı Değerlendirme Aracı geliştirilmiştir. Araç, beş kanıta dayalı eğitim girdisinin (alt yapı ve yönetim, akademisyenler, öğrenciler, klinik uygulama alanları ve müfredat) değerlendirilmesini ve bu kriterleri öğrencinin mezun olmadan önce kazanılmasını hedeflemektedir (29).

Bakımın sürekliliği modeli ebelik bakımı felsefesini beş açıdan (kişiselleştirilmiş, bütüncül, ortaklık, işbirlikçi ve kanıta dayalı bakım) değerlendirmektedir. Bakımın sürekliliği öğrenme modeli kullanılan klinik eğitimde, öğrencilerin ebelik bakımı felsefesini anlamalarını artırma

olasılığının daha yüksek olduğu ve bu durumun da klinik bakımın kalitesini arttırıp anne ve yenidoğanın genel sağlık durumlarını iyileştirdiği bildirilmiştir (30).

Yüksek kaliteli ebelik bakımı, özellikle birinci basamak sağlık hizmetlerinde, annelerin ve çocukların sağlık durumlarının iyileştirilmesinde önemli ve büyüyen bir role sahiptir. Ebelik eğitimi yoluyla bu hedefi desteklemek için, ebelik öğrencileri giderek artan bir şekilde yenilikçi bir Profesyoneller Arası Eğitim (IPE; Inter Professional Education) biçimine kaydolmaktadır. Ebelik ve diğer sağlık mesleği öğrencileri arasında meslekler arası öğrenmede portföy kullanımına ilişkin raporlar sınırlı olmakla birlikte portfolyo kullanımının ebelik öğrencileri için somut, uygun bir çalışma planı hazırlamaya teşvik edebilir (31).

Avustralya'nın Newcastle Üniversitesi'nde ebelerin öğrenme sürecine sanal gerçeklik uygulamasına olanak sağlayan bir proje geliştirilmiştir. Bu proje ile ebelik öğrencilerinde teori ile klinik uygulama becerisi arasındaki boşluğu doldurmak amaçlanarak eğitimde niteliği arttırmak hedeflenmiştir (32).

SONUÇ

Günümüzde ebelik eğitiminde kanıtları kullanmak için iki ya da daha fazla öğretim yönteminin bir arada kullanıldığı bütünleşik öğretim yöntemleri; öğrencilerin ve yeni mezunların ebelik rolüne hazırlanmasını sağlayan web-tabanlı öğretim, mentorlük, vb. yenilikçi yöntemler, öğrenciyi merkeze alan aktif öğretim yöntemleri; öğrencilere klinik uygulamalara geçmeden gerçek ya da gerçeğe yakın deneyimler (sanal gerçeklik, simülatörler) kazandıran birçok öğretim yöntemleri kullanılabilir. Eğitimde kanıtları kullanmak için yapılması gerekenler;

- Etkin öğrenmeyi sağlamada alan bilgisine sahip bireylerle gerçekleştirilen koçluk/ mentorluk/rehber ebe/hemşire en iyi destek sitemlerinden yararlanmak,
- Gerçek hastalar/standardize hastalarla uygulama yapma ya da çok sayıda duyu organına hitap ettiği için daha kalıcı, daha etkili, daha birey odaklı öğrenme sağlayan, canlı modellerde deneyimlemenin zor olduğu, hatta çevresel ve etik olarak mümkün olmayan deney, test gibi aktiviteleri gerçekleştirmeyi sağlayan (sanal gerçeklik, arttırılmış gerçeklik) ortamlarda uygulama yapmanın önemine dikkat çekme,
- Ebelik öğrencileri motive eden, güven duygusunu arttıran simülasyon eğitiminden en üst düzeyde faydalandırmak,
- Simülasyon uygulamaları haricinde geleneksel ve online stratejilerinin birlikte kullanıldığı, senkronize ve asenkronize eğitimlerin yapıldığı ya da video dosyaları içeren portfolio ve e-portfolio, grup çalışmaları, vaka çalışmaları, kavram haritaları, araştırma değerlendirmeleri vb. araçları uygulamalarını kullanma,
- Ebelik eğitiminde eğitmenler yarar sağlayıcı yeni ve farklı fikirler ortaya koymalıdır. Bu aşamada inovasyon süreci aktive edilmeli, mesleki değişim ve gelişim sürecini başlatarak mesleki gelecek şekillendirilmelidir. Teknolojinin eğitime entegrasyonu sağlanmalı,
- Akademik kalitenin iyileştirilmesi, eğitim programının kalite güvencesi altına alınması gibi durumları sağlayan eğitim sisteminde akreditasyonunundan faydalanılmalı.
- Ebelik lisans ve lisansüstü eğitim programlarında yer alan araştırma dersi, daha fazla önem kazanmalı,
- Ebelik lisans ve lisansüstü eğitim programlarında kanıta dayalı uygulamalar için "Kanıta Dayalı Uygulamalar/Kanıt Temelli Ebelik" dersi gibi müfredat eğitim modellerinin geliştirilmesi ve bu dersler alanda donanımlı, uzman ebe akademisyenler tarafından verilmeli,

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DİYABETİK OBEZ VE DİYABETİK OBEZ OLMAYAN HASTALARDA FTO(RS9939609) GENİNİN BKİ, YAŞ, GLİKOZ VE HBA1C PARAMETRELERİ AÇISINDAN İNCELENMESİ

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ÖZET

Tüm dünyada en sık görülen kronik hastalıklardan birisi olan diyabette bazı genlerin ilişkili olduğu düşünülmektedir. Çalışmamızda hem diyabete hem de obeziteye etkisinin olduğu düşünülen genlerden biri olan FTO geninin diyabetik obez hasta, diyabetik obez olmayan hasta ve kontrol gruplarında BKİ, yaş, glikoz ve HbA1C parametrelerinin incelenmesi amaçlanmıştır.

Araştırmamız üç grupta yapılmıştır. Gruplar; diyabetik obez hasta grubu 82 kişi, diyabetik obez olmayan hasta grubu 82 kişi, kontrol grubu sağlıklı 70 kişiden oluşturulmuştur. Gruplardaki kişilerden son üç ay içindeki BKİ, yaş, glikoz ve HbA1C parametre değerleri ile kan örnekleri alınmış, alınan kan örneklerinden elde edilen DNA izolasyonunun ardından Real-Time PCR Reaksiyonu (qPCR), Tetra-primer Amplifikasyon Refrakter Mutasyon sistem PCR teknikleri kullanılmıştır. Gruplarımıza ait demografik bilgiler SPSS ile değerlendirilmiştir.

Araştırmanın sonucunda; FTO geninin BKİ, yaş, glikoz ve HbA1C parametreleri açısından tüm gruplarda kıyaslamaları yapılmıştır. Çıkan sonuçlarda FTO geninin tüm bu parametreler açısından istatistiksel olarak yüksek düzeyde anlamlılık göstermiştir.

Sonuç olarak FTO geninin; BKİ, yaş, glikoz ve HbA1C parametreleri ile ilişkili olduğu, çıkan yüksek anlamlılıklara dayanarak bu genin hem diyabet ile hem de obezite ile ilişkili olduğu tespit edilmiştir:

Anahtar Kelimeler: FTO Geni, Diyabetik Obez Hasta, Diyabetik Obez Olmayan Hasta, BKİ,Glikoz

INVESTIGATION OF FTO(RS9939609) GENE IN TERMS OF BMI, AGE, GLUCOSE AND HBA1C PARAMETERS IN DIABETIC OBESE AND NON-DIABETIC OBESE PATIENTS

ABSTRACT

Some genes are thought to be associated with diabetes, which is one of the most common chronic diseases in the world. In this research, it was aimed to examine the BMI, age, glucose

and HbA1C parameters of the FTO gene, which is one of the genes thought to influence both diabetes and obesity, in diabetic obese, non-diabetic non-obese patients and control groups.

This research was conducted in three groups. Groups: The diabetic obese patient group consisted of 82 people, the non-diabetic non-obese patient group consisted of 82 people, and the control group consisted of 70 healthy people. BMI, age, glucose and HbA1C parameter values and blood samples were taken from the individuals in the groups in the last three months, and after DNA isolation from the blood samples, Real-Time PCR Reaction (qPCR), Tetra-primary Amplification Refractory Mutation system PCR techniques were used. Demographic information of our groups was evaluated with SPSS.

As a result of the research, Comparisons of the FTO gene were made in all groups in terms of BMI, age, glucose and HbA1C parameters. The results showed that the FTO gene was statistically highly significant in terms of all these parameters.

As a result, the FTO gene; It has been determined that this gene is associated with BMI, age, glucose and HbA1C parameters, and based on the high significance obtained, this gene is associated with both diabetes and obesity.

Keywords: FTO Gene, Diabetic Obese Patient, Non-Diabetic Obese Patient, BMI, Glucose

SONOGRAPHIC EVALUATION OF COPROSTATIC IMPACTION WITH SAND AND INGESTA IN DRAFT EQUIDS

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ABSTRACT

The objective of the current study was to perform the detailed ultrasonographic examination of equids suffering from abdominal discomfort and to identify which measurable parameters were important in reaching a diagnosis of small intestinal abnormality and determining treatment options. In this study twenty five equids (age 10-13 years) with history of cessation of defecation ranging from 2-4 days were subjected to sonography. The impaction of left ventral colon in all animals was imaged as hyperechoic intraluminal structure casting a strong acoustic shadow with loss of normal sacculations, edema, increase in wall thickness and absence of peristaltic activity. Findings giving an indication of sand colic were the flattening of left ventral colon wall against the ventral body wall with loss of normal sacculations, peristaltic activity, presence of small pinpoint hyperechoic structures on the mucosal surface seen casting small acoustic shadows and reverberation artifacts in different directions were highly suggestive of sand impaction. In all animals the loops of small intestine were observed in transverse as well as longitudinal sections as hypermotile distended with fluidy ingesta and hyperechoic feed particles swirling inside that fluidly ingesta. The presence of dilated multiple loops of intestine in a single scanning area was a consistent feature of left ventral colon impaction. Hence detailed ultrasonographic examination was useful to delineate normal and abnormal conditions and to distinguish between true and false colic which provided an important diagnostic lead in management of affections of left ventral colon.

Keywords: Ultrasonography, Horses, Mules, Impaction, Equines, Left ventral Colon.

EMBRİYO İMPLANTASYONUNDA ENDOMETRİYAL RESEPTİVİTE

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ÖZET

Sağlıklı bir gebelik oluşumu öncelikle kaliteli bir embriyoya ve implantasyona hazır reseptif bir endometriyuma bağlıdır. Reseptif bir endometriyum ile blastosist arasındaki etkileşimler implantasyonun ön koşulu niteliği durumundadır ve implantasyon penceresi süresince tamamen maternal kaynaklı olarak kabul edilmektedir Endometriyum progesteron varlığında şekillenen implantasyon penceresi sürecinde blastosist için reseptiftir. Bu reseptivitede damarlı ve ödemli bir stroma, salgı yapan endometriyal bezler ve pinopod oluşumu gibi pek çok moleküler ve hücresel değişiklikler etkilidir. Blastosist trofektoderminin ve endometriyal lüminal epitelyum hücrelerinin hücre yapışması olayında integrinler, selektinler, kadherinler ve immünoglobulinlere benzeyen immünoglobulin (Ig) süper ailesi olarak bilinen hücre adezyon moleküllerinin rol oynadığı bilinmektedir. Ayrıca hücre adezyon moleküllerinin aksine antiadeziv etkili olan Müsin 1 (MUC1) proteini embriyonun uygun endometriyal tutunma alanına taşınmasından ve yönlendirilmesinden sorumludur. Apozisyon ve adezyonda etkili olan diğer belirteçler ise interlökinler (IL-1, IL-6, IL-10, IL-11, IL-15, IL-18), lösemi inhibitör faktör (LIF), koloni uyarıcı faktör (CSF), tümör nekrozis faktör (TNF) ve transforming growth factor (TGF) gibi sitokin üyeleridir. Bunlar hakkındaki sınırlayıcı bilgiler ve moleküler yolların tam olarak anlaşılamamış olması infertilite ve tedavisinde sınırlı gelişmelere ve iyileşmelere neden olmaktadır. Bu konuda yapılan çalışmaların hedefi endometriyal reseptivitede rol oynayan faktörlerin ve sinyal yolaklarının tam olarak anlaşılabilmesidir. Sonuçta, embriyo kalitesini ve endometriyal reseptiviteyi belirleyen yeni metodların geliştirilmesi implantasyon ve desidualizasyon başarısızlıklarının da önüne geçebilecektir. Ayrıca, moleküler mekanizmaya yönelik yapılabilecek yeni tedavi yaklaşımlarının da yardımcı üreme tekniklerindeki başarı oranlarını yükselterek infertilite sorununa çözüm olabileceği düşünülmektedir.

Anahtar Kelimeler: Endometriyum, endometriyal reseptivite, embriyo, implantasyon, pinopod.

THE ENDOMETRIAL RECEPTIVITY IN EMBRYO IMPLANTATION

ABSTRACT

A healthy pregnancy initially depends on a quality embryo and a receptive endometrium ready for implantation. Interactions between a receptive endometrium and the blastocyst are prerequisites for implantation and are considered to be entirely of maternal origin during the window of implantation. The endometrium is receptive to the blastocyst during the window of implantation, which is formed in the presence of progesterone. In this receptivity, many molecular and cellular changes are effective, such as a vascular and edematous stroma, secretory endometrial glands, and pinopod formation. It is known that cell adhesion molecules known as integrins, selectins, cadherins and immunoglobulin (Ig) super family like to

immunoglobulins, play a role in cell adhesion of blastocyst trophectoderm and endometrial luminal epithelial cells. In addition, mucin 1 (MUC1) protein, which has an antiadhesive effect unlike cell adhesion molecules, is responsible for the transport and orientation of the embryo to the appropriate endometrial attachment area. Other markers that are effective in apposition and adhesion are cytokine members such as interleukins (IL-1, IL-6, IL-10, IL-11, IL-15, IL-18), leukemia inhibitory factor (LIF), colony stimulating factor (CSF), tumor necrosis factor (TNF) and transforming growth factor (TGF). The limited information about them and the incomplete understanding of the molecular signal pathways lead to limited developments and improvements in infertility and its treatment. The aim of studies on this subject is to fully understand the factors and signaling pathways that play a role in endometrial receptivity. In conclusion, the development of new methods to determine embryo quality and endometrial receptivity will also prevent implantation and decidualization failures. In addition, it is thought that new treatment approaches that can be made for the molecular mechanism can be a solution to the problem of infertility by increasing the success rates in assisted reproductive techniques.

Key Words: Endometrium, endometrial receptivity, embryo, implantation, pinopod.

GİRİŞ

Hormonal değişikliklere çok duyarlı olan endometriyum değişen derecelerde vaskülarizasyon gösteren kompleks bir doku olarak bilinmektedir (1). Başarılı bir gebelik; trofoblast invazyonuna ve uterustaki bazı immün sistem hücrelerinin varlığı ile oluşan sağlıklı bir endometriyal yatağa bağlıdır (2,3). Endometriyum fertilite belirleyici bir faktör olarak kabul edilmektedir (Strowitzki ve ark 2006). Embriyo ile endometriyum arasındaki uyum implantasyon sürecinde önemli bir yere sahiptir (4). İmplantasyon, insan üremesinde önemli bir kilit noktasıdır (5).

İmplantasyon; serbetsçe yüzen blastosist safhasındaki embriyonun luminal endometriyum tarafından yakalanması ile başlamaktadır (6). Blastosistin uterus duvarına sıkıca bağlanması, dış hücre yığınındaki trofoblastların göç ederek endometriyuma penetre olmaları ve embriyonun uterus içine gömülmesi implantasyon süreçleridir (7). Maternal yönden, reseptif bir endometriyum; implantasyonun ön koşulu niteliği durumunda olup implantasyon penceresi süresince tamamen maternal kaynaklı olarak kabul edilmektedir (4). Bir embriyo için ortalama implantasyon oranı %30 ila %40 arasında değişmektedir (5).

Embriyonal gelişime paralel olarak şekillenen endometriyal senkronizasyon ve duyarlılaşma gebeliğin gelişimi ve devam ettirilmesi açısından önemlidir (3). Çeşitli sinyal yolaklarıyla etkin hale gelen moleküller endometriyal duyarlılaşma ve senkronizasyonu şekillendirmektedir (8). Reseptif endometriyuma blastosistin implantasyonu, gebeliğin oluşumundan önce şekillenen apozisyon, adezyon (bağlanma) ve invazyonu (istila) içeren ardışık bir süreci kapsamaktadır. Başarılı bir implantasyon, dinamik ve yüksek düzeyde düzenlenmiş olan embriyo yeterliliğine, kalitesine, gelişim potansiyeline ve endometriyal reseptiviteye bağlıdır (9). Blastosistin epitel yüzeyine yerleşmesi ve bağlanması hakkındaki bilgiler oldukça sınırlıdır. Yapılan son çalışmalar, lümen epitelinden gelen moleküler sinyallerin, bağlanma sırasında bariyerin kırılması için gereken trofoblast farklılaşmasını düzenlediği ve uterus bezlerinin implantasyon zamanlamasını koordine ettiği yönündedir (10,11).

Endometriyum progesteronun etkisiyle “implantasyon penceresi’’ olarak adlandırılan bir sürede blastosist için reseptiftir. Ovaryal steroidler tarafından yönlendirilen endometriyal reseptivite doğru transkripsiyonel imzaların oluşturulmasına da bağlı olan bir "implantasyon

penceresi" ile sonuçlanır (12). Endometriyal reseptivite; damarlı ve ödemli bir stromaya, salgı yapan endometriyal bezlere ve pinopod oluşumu gibi pek çok moleküler ve hücresel değişikliklere bağlıdır (13,14). Desidualizasyon açısından endometriyumun stromal kompartmanı gebeliğin kurulması ve sürdürülmesinde önemli bir rol oynamaktadır. Bu bölüm bir embriyo kalitesi biyosensörü gibidir (15,16). Embriyolar için tutunma yeri olan pinopodlar (uterodomlar) endometriyumun apikal yüzeyinde meydana gelen mikro hücresel çıkıntılar olup endometriyal epitelin mikrovilluslarını ve kinosilyumlarını kaybetmesi sonucu şekillenmektedirler (4).

Uteral duyarlılık; prereseptif, reseptif ve nonreseptif olarak 3 faz içermektedir (17). Blastosist endometriyumun reseptif fazında implante olmaktadır. Endometriyal farklılaşma; ovaryan steroidler (östrojen ve progesteron), insülin benzeri büyüme faktörü (IGF-I), TGF-α ve epidermal büyüme faktörü (EGF) gibi çeşitli büyüme faktörleri ve sitokinlerle düzenlenmektedir (18). Endometriyal reseptivitede uterusun nötral ve saldırgan dönemleri etkili olmakla birlikte embriyonal gelişim için nötral dönemin en uygun zaman olduğu bildirilmektedir (19).

Günümüzde toplumsal bir sorun halini alan infertilite dünyada ve Türkiye'de sırasıyla %8–12 ve %10–20 oranları arasında değişmektedir (20). Yardımcı üreme tekniklerinden biri olan in vitro fertilizasyondaki (IVF) implantasyon başarısızlığının sebeplerden biri de kullanılan ovaryan steroidlerin yüksek seviyeye ulaşarak endometriyal reseptivitenin azalmasına yol açabilmesidir (21).

1. RESEPTİF ENDOMETRİYUMUN MORFOLOJİK MARKERİ: PİNOPODLAR

Endometriyumun reseptif özellik kazanabilmesi implantasyon penceresi olarak adlandırılan ve 48 saatten daha kısa süren bir periyotta gelişen bazı morfolojik değişimlere bağlıdır (22). İlk defa Noyes ve ark. (22) bu morfolojik değişimlerden biri olan pinopodlardan bahsetmişlerdir. Embriyolar için tutunma yeri olan pinopodlar (uterodomlar) endometriyumun apikal yüzeyinde meydana gelen geniş ve düz mikro çıkıntılar olup endometriyal epitelin mikrovilluslarını kaybetmesi sonucu şekillenmektedir (4,18). Enders ve Nelson (23) bu uzantılara pinositotik özelliklerinin olabileceği fikriyle pinopod ismini verirlerken Nardo ve ark (24) uterine-dome olarak tanımladıkları bu yapıların birçok molekülün ekspresyonunda rol oynadığını ileri sürmüşlerdir.

Luteal fazın etkin hormonu olan progesteron ve HOXA-10 gen transkripsiyonu pinopod gelişiminden sorumludur. İmplantasyonun adezyon fazının önemli sitokinlerinden biri olan lösemi inhibitör faktör (LIF) pinopodlar tarafından salgılanmaktadır (25,26). Pinopodların en önemli özelliği, implantasyon penceresi sırasında hücreden hücreye yapışmayı engelleyen hücre yüzeyi glikoprotein müsin-1'in (MUC1) çıkarılmasıdır (27). Bununla birlikte, pinopodların adet döngüsünün luteal fazı boyunca ve hamilelikte tespit edilmesi nedeniyle pinopodların uterus reseptivitesinde bir belirteç olabileceği bildirilmektedir (28).

Endometriyum progesteron varlığında şekillenen implantasyon penceresi sürecinde blastosist için reseptiftir. Bu reseptivitede; maksimum pinopod oluşumu, pinopod ekspresyonu ve uterine epitelyal hücrelerindeki heparin bağlayıcı epidermal büyüme faktörünün yoğunluğu etkilidir (14,29). İmplantasyon için spesifik bir gösterge olan endometriyal pinopodların sayısı ile implantasyon arasında bir bağlantının olduğu bildirilmektedir (30).

2. RESEPTİF ENDOMETRİYUMUN BİO-MARKERLERİ

Reseptif bir endometriyum, uterus boşluğunda yüzen blastosisti uygun hücre yüzeyi proteinleri veya ligandları ile "yakalayabilmelidir" (7). Östrojen ve progesteron arasındaki moleküler ağın ve faaliyetlerin tam olarak halen bilinememesine rağmen (31) blastosist trofektoderminin ve endometriyal lüminal epitelyum hücrelerinin hücre yapışması olayında

hücre adezyon moleküllerinin rol oynadığı bildirilmektedir (32). İnvaziv trofoblast yüzeyinde eksprese edilen bu moleküller desiduanın hücre dışı matriksi tarafından geçici ve mekansal bir şekilde eksprese edilen ligandlarla etkileşime girmektedirler (33).

İntegrinler

Endometriyumda en bol bulunan adezyon molekülleri integrinler olup endometriyal, desidual ve ekstravillöz sitotrofoblast (EVCT) hücrelerinde bulunmaktadır. Hücre dışı matriks bileşenleri ile hücrelerin yapışmasında, hücre-hücre yapışmasında ve implantasyonun ilk aşaması olarak bilinen salgı fazındaki endometriyal fenotip değişikliğinde görev alan heterodinamik membran glikoproteinleridir (34,35). Gebeliğin başlangıcında, integrin ekspresyonundaki değişiklik embriyo-endometrium etkileşimleri (trofoblast bağlanması, integrinler αvβ3 [alfa 5 beta 3], α4β1, α6β1 ve α7β1 ile) ve embriyonun desiduaya invazyonu (α6β4→α5β1→α1β1→α4β1 integrinlerin proliferatiften endovasküler EVCT'ye geçişi) ile senkronizedir (34). Trofoblast adezyon süreci, integrin bağımlı bir süreçtir (36). "Vitronektin reseptörü" terimi, plazma proteini vitronektin'i bağladığı için ilk olarak αvβ3 için kullanılmıştır. Plasentadan saflaştırılan αvβ3 integrin 1985'te Pytela tarafından vitronektin reseptörü olarak tanımlanmıştır (37). β3 integrinlerin (sitoadezinler) vitronektin reseptörü içerenlerinin çoğu mezenşim hücresinde yer almaktadır (38). Farelerde yapılan son çalışmalar, embriyonik gelişim sırasında αv integrinlerin yetişkin dokularda aşağı regüle edilen ekspresyon ile merkezi sinir sistemi ile iskelet kasında düzenlendiğini göstermiştir (37). Lessey (39) trofoblastla ilk etkileşimde αvβ3 integrin molekülünü immünohistokimya ile endometriyum epitel hücrelerinde pozitif olarak tespit ederek bu molekülün embriyonik tutunma için bir reseptör olabileceğini bildirmiştir. Haddad-Filho ve ark. (40) endometriyal reseptivitenin bir göstergesi olarak αvβ3 integrin ekspresyonunun artmasını göstermişlerdir.

Selektinler

Selektinler endotel hücreleri, lökositler ve trombositlerde bulunan, dolaşımdaki lökositler ve endotelyum arasındaki ilk etkileşimlere aracılık eden, kalsiyum bağımlı tip I transmembran yapısında, karbonhidrat bağlayan glikoproteinlerin bir ailesidir (7, 41). Diğer adezyon moleküllerindeki gibi protein-protein bağlanması gerekliliği yoktur (42). Selektinler ve bunların oligosakkarit ligandları lökositlerin damar endotelinden inflamatuvar dokuya göçünde, kanserde ve son yapılan çalışmalar sonucunda embriyonun endometriyuma implantasyonunda da rollerinin olduğu bildirilmektedir (43,44). Lökositlerin yüzeyinde bulunan ve endotel hücresindeki ligandı ile etkileşen L-selektinler en küçük selektin molekülüdür. Diğer selektinlere göre daha hızlı bir şekilde hücre membranında bulunmaktadırlar (38). Trofoblast yüzeyinde eksprese edilen L-selektin ve endometriyal epiteldeki pinopodlarda eksprese edilen L-selektin ligandları; yüzen blastosistin endometriyuma yapışması ve sitotrofoblastların endometriyuma invazyonunu kapsayan implantasyon olayından sorumludurlar. P-selektin ve E-selektin ise maternal toleranstan ve trofoblastların desidual spiral arteriyollere migrasyonunda görev almaktadırlar (7).

Kadherinler

Kadherinler hücre-hücre bağlantısını sağlayan, kalsiyum bağımlı, transmembran hücre adezyon molekülleridir. Embriyonun preimplantasyonunda, morfogeneziste, doku diferansiyasyonunda, yara iyileşmesinde ve tümör metastazında görev almaktadırlar (42). Oosit ve sperm ilişkisinin kadherinler aracılı olabileceği bildirilmektedir (45). Kadherin ailesinden biri olan epitelyal kaderinler (E-kadherinler), endometriyal reseptivitede önemlidir. Tüm epitelyal hücrelerden eksprese edilen E-kaderinler özellikle blastomerler arası bağlantının kurulmasında ve hücresel bütünlüğün sağlanmasında etkin bir role sahiptir (41). Hem trofoblastlarda hem de endometriyal epitelde E-kadherinin varlığı ilk bağlanma sürecinde önemli bir rol oynayabileceğini gösterir niteliktedir (46). Progesteronun etkisiyle

implantasyonda düzenleyici rol oynayan kalsitonin hormonu endometriyal epitelyumda E-kadherin ekspresyonunu düzenleyerek blastosist yerleşimini sağlamaktadır (47).

İmmünoglobulin süper ailesi

İmmünoglobulinlere benzeyen immünoglobulin (Ig) süper ailesi morfogenez, yangı, hemostaz ve bağışıklıkta hücrelerin tanınması olaylarında görev alan hücre adezyon moleküllerididir (42). Hücreler arası (ICAM), sinirsel hücre (NCAM), vasküler (VCAM), L_1-hücre (L_1-CAM), lökosit fonksiyonlu (LFA) ve trombosit endotelyal (PECAM) hücre adezyon molekülleri olarak 6 gruptur. Ig süper ailesi üyeleri hücre-hücre etkileşimlerinde fonksiyon görürler. NCAM; embriyonun doku gelişimi ve hücre büyümesinde görülen kontak inhibisyona katılmaktadır (48). ICAM-1 molekülü β_2 integrinler için bir ligand görevi görmektedir (49).

MUC1 protein

Müsinler (MUC) hücre adezyon moleküllerinin aksine antiadeziv etkili olan bir gruptur. Endometriyumun lüminal yüzeyi glikoprotein yapısında, östrojen ve progesteron etkisiyle salınan MUC1 ile kaplıdır. MUC1 embriyonun uygun tutunma alanına taşınmasından ve yönlendirilmesinden sorumludur (50). MUC1 ile pinopodlar arasında zıt bir ilişkinin olduğu bildirilmektedir (51).

Sitokinler ve Büyüme Faktörleri

Sitokinler düzenleyici peptidler ya da glikoproteinlerdir (32). İnterlökinler (IL-1, IL-6, IL-10, IL-11, IL-15, IL-18), lösemi inhibitör faktör (LIF), koloni uyarıcı faktör (CSF), tümör nekrozis faktör (TNF) ve transforming growth factor (TGF) en önemli sitokin üyeleridir (14). LIF; sitokinlerin IL-6 ailesinin bir üyesi olup östrojen aktivasyonunun önemli bir mediyatörüdür (52). Embriyonun implantasyon sürecinde rol oynamaktadır (53). LIF ekspresyonu implantasyon sırasında daha yüksektir (54). LIF, embriyo invazyonu için bir bariyer görevi gören hücre-hücre bağlantı moleküllerinin geri regülasyonuyla (down regulation) lüminal epitelyumun proliferatif fazından farklılaşmış bir duruma geçişine aracılık etmektedir. Ayrıca, LIF epidermal büyüme faktörü (EGF) sinyal yolağını düzenleyerek stromal proliferasyondan da sorumludur (55). LIF'in ovulasyonda, erken embriyonik gelişimde, implantasyonda ve desidualizasyonda rol oynadığı bildirilmektedir (54). Sitokinlerinden biri olan CSF-1'in implantasyon oranlarını ve fetal canlılığı etkilediği söylenmektedir. Hem embriyo hem de endometriyum CSF-1 reseptör mRNA'sını eksprese ettiği ve endometriyal epitelyal CSF-1'in trofektodermal CSF-1 reseptörü ile karşılıklı etkileşiminin bağlanmayı arttırdığı öne sürülmektedir (56).

İnterlökin-1 (IL-1), embriyonun implantasyonunda ve implantasyon öncesi gelişiminde önemli bir faktördür. IL-1, vasküler endotelyal büyüme faktörü (VEGF) ekspresyonunu uyarmakta ve matriks metalloproteinazları (MMP'ler) ve metalloproteinazların (TIMP'ler) doku inhibitörlerini düzenlemektedir (57). Plasental villus oluşumunda serin proteazlar, matriks metalloproteinazlar (MMP'ler) ve kollagenazlar gibi çeşitli proteinazlar rol oynamaktadır. Bu bileşikler hücre dışı matriksin yeniden modellenmesinde etkilidir (58).

Dominguez ve ark. (59) endometriyal epitelyal hücrelerde en yüksek protein konsantrasyonu olduğu bilinen interlökin-6 (IL-6) protein mikrodizileri, multiple protein hedeflerinin tanımlanması ve değerlendirilmesinde eşsiz bir platform sunmaktadır. Blastosist gelişimi ve implantasyonunda IL-6'nın potansiyel bir rolü olduğu bildirilmektedir.

Heparin bağlayıcı epidermal büyüme faktörü-benzeri büyüme faktörü (HB-EGF) transmembran bir protein olarak sentezlenmektedir (60). HB-EGF foliküler gelişim, ovulasyon, implantasyon ve embriyo gelişimi gibi olaylarda rol oynayan önemli bir moleküldür (61). Bağlanma işleminden 6-7 saat önce blastosisti saran lüminal epitelyumdan

eksprese edilmektedir (51). HB-EGF ekspresyonu pinopodlarla eşzamanlıdır (62). HB-EGF bir jukstakrin yapışma faktörü olarak blastosist yüzeyinde eksprese edilen reseptörlerin EGF ailesi aracılığıyla blastosisti etkilemektedir (60). Ayrıca HB-EGF blastosist büyümesini ve blastosistin zona pellusida'dan çıkmasını da sağlamaktadır (63).

Tetraspanin ile zenginleştirilmiş mikrodomianların bir bileşeni olan CD98 amino asit taşınması ve hücre füzyonunda görev alan multifonksiyonel tip II glikoproteinidir (64). Endometriyumundaki CD98 ekspresyonu implantasyon penceresiyle ilişkilidir. Endometriyal epitel hücrelerinin apikal yüzeyindeki lokalizasyonu ile blastosist adezyonu arasındaki ilişki birbiriyle uyumludur (65).

İmplantasyon bölgesindeki endometriyal vasküler geçirgenliğin devamlılığını sağlayan prostaglandinlerin sentezinde siklooksijenaz (Cox) enzimi hız sınırlayıcıdır (66). Cox-2 aracılığla sentezlenen prostaglandin E_2 implantasyonda kilit bir bileşik olup trofoblast istilasının önemli düzenleyicilerinden biri olarak bilinmektedir (67). İmplantasyon bölgesindeki lüminal epitelde ve stromada prostaglandin E_2'nin artması bağlanma ve lokalize endometrial vasküler geçirgenlikteki rolünün göstergesidir (66).

Embriyo tarafından salgılanan koryonik gonadotropin farklılaşmada, korpus luteumun progesteron salgılamaya devam etmesinde ve trofoblasttaki invaziv aktivitenin düzenlenmesinde etkili olan bir glikoprotein hormondur (68). Bu hormon lüteinleştirici hormon (LH) etkisi göstererek gebelik boyunca korpus luteumun gerilemesini engelleyerek gebeliğin devamını sağlamaktadır (69).

Platelet aktive edici faktör (PAF) embriyodan salınan otokrin etkili bir moleküldür. Erken embriyo için hayatta kalma faktörü olduğu bildirilmektedir. Maternal fizyolojide bir dizi değişikliklerin meydana gelmesine yol açmaktadır. Yapılan çalışmalar PAF'ın implantasyon oranlarını artırdığı, embriyo gelişimini iyileştirdiği ve implantasyon potansiyeli yüksek oositlerin elde edildiği yönündedir (70,71).

SONUÇ

Sağlıklı bir gebelik oluşumu başlangıçta kaliteli bir embriyoya ve implantasyona hazır reseptif bir endometriyuma bağlıdır. Endometriyum ile blastosist arasındaki etkileşimler implantasyon için kilit rol oynamaktadır. Bu maternal fizyolojik olaylarda pek çok molekül ve hormonlar görev almaktadır. Bunlar hakkındaki sınırlayıcı bilgiler ve moleküler yolların tam olarak anlaşılamamış olması infertilite ve tedavisinde de sınırlı gelişmelere ve iyileşmelere neden olmaktadır. Bu konuda yapılan çalışmaların hedefi endometriyal reseptivitede rol oynayan faktörlerin ve sinyal yolaklarının tam olarak anlaşılabilmesidir. Embriyo kalitesini ve endometriyal reseptiviteyi belirleyen yeni metodların geliştirilmesi implantasyon ve desidualizasyon başarısızlıklarının da önüne geçebilecektir. Ayrıca, moleküler mekanizmaya yönelik yapılabilecek yeni tedavi yaklaşımları yardımcı üreme tekniklerinde de başarı oranlarını yükselterek infertilite sorununa çözüm olabilecektir.

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EVALUATION OF VIMENTIN EXPRESSION IN UMBILICAL CORDS IN PREGNANT WOMEN WITH COVID-19

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ABSTRACT

The new type of coronavirus (SARS-CoV-2), called Covid-19, emerged in Wuhan, China and caused a global pandemic worldwide. Millions of deaths and different complications have been detected worldwide with virus infection. Likewise, maternal and fetal complications have been observed in pregnant women after this Covid-19. Complications on the Covid-19 umbilical cord still remain unclear. Therefore, in our study, we aimed to evaluate the histological and immunohistochemical expression of Vitemin expression in the umbilical cord changes of pregnant women who have had Covid-19. tissue was followed. Afterwards, some sections were stained with Hematoxylin & Eosin and some were immunohistochemically stained.

When hematoxylin & eosin sections were examined, apoptotic nuclei structures were observed in the nuclei of endothelial cells towards the lumen in the transerval section of the umbilical artery. Edema areas were observed in the extracellular matrix between the collagen fibers in the mucous connective tissue and the uneven distribution of muscle fibers. In addition, it was observed that the mucous connective tissue and muscle tissue were intertwined. Vimentin immunohistochemically stained Covid-19 umbilical cords showed positive Vimentin expression especially in fibroblasts and collagen fibers in the mucous connective tissue. Vimentin expression was found to be positive in the basement membrane of the umbilical artery, where endothelial cells were located, and in the tunica intima.

As a result, we think that Covid-19 may affect the blood circulation, which is vital for the fetus, by disrupting the muscle bundles in the umbilical cords of pregnant women and increasing the expression of Vimentin in the collagen fibers in the mucous connective tissue structure.

Keywords: Umbilical cord, Covid-19, Vimentin, Immunohistochemistry

INTRODUCTION

The new (novel) coronavirus-2019 (2019-nCoV), which emerged in late 2019 in Wuhan, China, has spread rapidly all over the world, causing a pandemic. The World Health Organization (WHO) reported the cause of COVID-19 (CoronaVirus Disease 2019) as "Severe Acute Respiratory Syndrome Coronavirus-2" (SARS-CoV-2). COVID-19 infection is a multi-system

disease and predominantly the respiratory system is affected. In severe cases of COVID-19, typically increased release of pro-inflammatory cytokines and chemokines, abnormal cellular immune responses, abnormal coagulation indices, respiratory and cardiovascular failure, organ damage, and even death have been detected (1, 2). SARS-CoV2 binds to angiotensin converting enzyme 2 (ACE2) with the S protein, which is a cell surface receptor, and initiates viral infection by entering type II pneumocytes in the human lung. The ACE2 enzyme is expressed in human placenta, primarily in syncytiotrophoblast, cytotrophoblast, endothelial and vascular smooth muscle, and secondarily in placental villi. ACE2 is also found in the arterial and venous endothelium and smooth muscle of the umbilical cord (3,4).

Although more than 1 year has passed since the pandemic, there are uncertainties both in the treatment of Covid-19 and in the complications that develop after the disease. The data we have show the multi-organ and system efficacy of COVID-19 (4,5). Again, during pregnancy, COVID-19, possible maternal-fetal transmission and newborn infection present with different complications (6). However, studies remain uncertain about changes in the umbilical cord structure of pregnant women who have had Covid-19 (7,8).

The umbilical cord is the blood-carrying structure that provides the relationship between the mother and the fetus. The squamous epithelium that covers the umbilical cord is called the amniotic epithelium. Mucous connective tissue (Wharton's gel) forms the main tissue of the umbilical cord. Consisting of a connective tissue containing a large amount of extracellular matrix, mainly hydrophilic, proteoglycans and hyaluronic acid, Wharton gel forms a protective layer around the vessels. In the umbilical cord, two longitudinal arteries and a vein are seen in Wharton's gel (9).

Vimentin is a type III intermediate filament cytoskeleton protein expressed mainly in cells of mesenchymal origin. It is found mainly in fibroblasts, endothelial cells and cells of the immune system. At the cellular level, vimentin has been shown to be associated with cell proliferation, stiffness, adhesion, migration, differentiation, senescence, and apoptosis (10-14). In addition, it plays a role in epithelial-mesenchymal transition (EMT), opening of epithelial barriers and cell migration (15,16). Strikingly, intracellular vimentin has been shown to be involved in the processes of virus fusion, replication and assembly. Vimentin has also been found to serve as the site of viral attachment outside the cell in most cases (17-20).

With this information, we aimed to show the histopathological effect of covid-19 on the umbilical cord and the immunohistochemical expression of Vimentin in our study.

MATERIAL METHOD

This study was conducted with the approval of Siirt University Non-Invasive Clinical Research Ethics Committee (approval number: E.11597). The study consisted of two groups as control and COVID-19 group. The umbilical cords of 10 pregnant women diagnosed with COVID-19 in the first group and 10 normol pregnant women in the second group were included. Patients with chronic and systemic diseases were not included in the study. Patients whose PCR test was positive for the COVID-19 virus were accepted. The umbilical cord tissue samples were fixed in formalin. After fixation (24 hours), tissues will be washed (1 night), increased alcohol series (50%, 70%, 80%, 90%, 96% and pure ethyl alcohol series) and clearing (3x30 minutes in xylene) followed by 58° C was paraffin infiltration. Then, the tissues were embedded in paraffin blocks and 5 μm thick sections were taken from the blocks for Hematoxylin-Eosin and immunohistochemical staining with the help of a microtome (catalog no: Leica RM2265, Wetzlar, Germany).

Hematoxylin-Eosin Staining

Umbilical cord tissue sections from paraffin blocks were placed in a bain-marie set at 37°C. Sections were kept in an oven at 58-62°C for 6 hours to dissolve excess paraffin on the slide. After the sections were deparaffinized in xylene for 3x15 minutes, 10 minutes were passed through the decreasing alcohol series (100%, 96%, 90%, 70%, 50% ethyl alcohol) and brought to distilled water for 5 minutes. After 8 minutes of hematoxylin stay on the sections, they were kept in tap water for 5 minutes. Afterwards, eosin dye was applied for 4 minutes in sequence. After the dyeing step, the sections were rapidly immersed in increasing alcohol series (through 80%, 90%, 96% ethyl alcohol series) and kept in absolute alcohol for 2 minutes. Finally, the sections were covered with a coverslip by keeping them in xylene for 3x15 minutes and dripping entellan onto the tissue.

Immunohistochemical Staining

Sections taken from paraffin blocks were taken into a bain-marie set at 37°C and from there on to polylysine slides. Sections were kept in an oven at 58-62°C for 6 hours to dissolve excess paraffin on the slide. Sections were deparaffinized in xylene for 3x15 minutes. Sections were kept in distilled water for 5 minutes by passing through decreasing alcohol series (100%, 96%, 90%, 70%, 50% ethyl alcohol) for 10 minutes each. Sections will be washed in phosphate buffer solution (PBS) for 3x5 minutes. Sections were placed in EDTA buffer solution (pH: 8.0, catalog no: ab93680, Abcam, Cambridge, USA) and heat-induced epitope retrieval was performed. Sections left at room temperature for 20 minutes were taken back into PBS. Hydrogen peroxide solution (catalog no: TA-015-HP, Thermo Fischer, Fremont, CA, USA) was dripped onto the sections and incubated for 20 minutes. Afterwards, they were washed with PBS for 3X5 minutes and kept in Ultra V Block (catalog no: TA-015-UB, Thermo Fischer, Fremont, CA, USA) solution for 7 minutes. Sections were overnight at +4°C with Vimentin antibodies. Biotin-containing secondary antibody (catalog no: TP-015-BN, Thermo Fischer, Fremont, CA, USA) was dripped onto the sections washed with PBS and incubated for 14 minutes. Then, streptavidin-peroxidase (catalog no: TS-015-HR, Thermo Fischer, Fremont, CA, USA) was dripped and left for 15 minutes. Diaminobenzidine (DAB) (catalog no: TA-001-HCX, Thermo Fischer, Fremont, CA, USA) was dripped onto the sections. After the tissues were kept in PBS for 15 minutes, counterstained with Harris hematoxylin, then the sections were covered with entellan (catalog no: 107961, Sigma-Aldrich, St. Louis, MO, United States) and visualized under Zeiss Imager A2 photomicroscope.

RESULTS

When the Hematoxylin & Eosin staining of the transverse section of the umbilical cord was examined, pycnotic apoptotic nuclei were observed in the nuclei of the endothelial cells of the umbilical artery. Again, apoptotic changes in the nuclei of the muscle cells in the tunica media and uneven distribution of the muscle fibers were observed. Edema areas were observed with an intense increase in the extracellular matrix. Invaginated groove of mucous connective tissue and muscle tissue was also observed (Figure 1.).

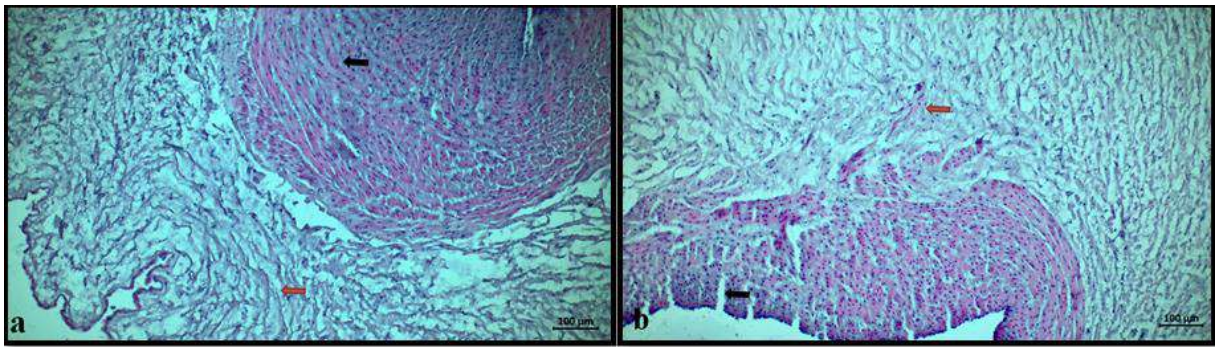

Figure 1. a) Control group hematoxylin-eosin umbilical cord cross-section: Normal-looking vascular structure (black arrow) and mucous connective tissue (red arrow). b) Covid-19 group umbilical cord section: degeneration in the vascular endothelial structure (black arrow) and vascular media structure invaginated into mucous connective tissue (red arrow).

Vimentin immunohistochemically stained Covid-19 umbilical cord transversal section showed an increase in Vimentin expression in fibroblast cells together with collagen fibers in mucous connective tissue. Likewise, it was observed that Vimentin expression was positive in the basement membrane and intimal layer where endothelial cells in the arterial structure of the umbilical cord were located (Fig. 2.).

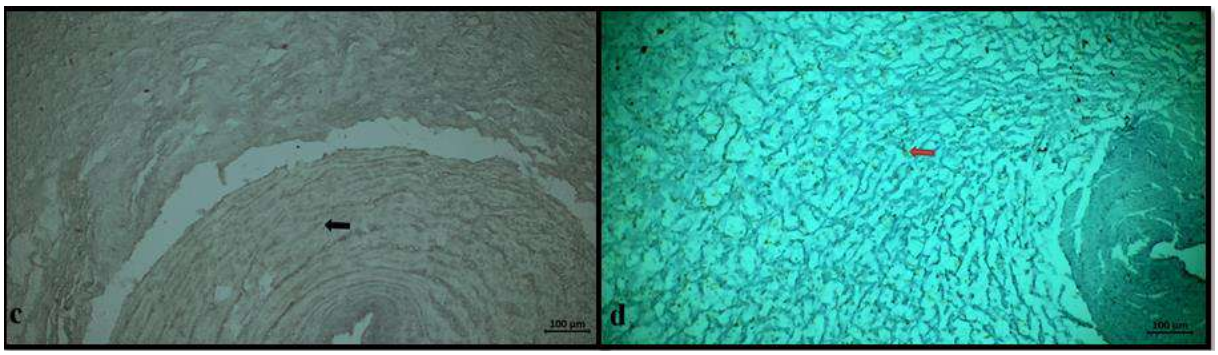

Figure 2. c) Expression of control group negative vimentin (black arrow). d) Positive vimentin expression in the mucous connective tissue structure of the Covid-19 umbilical cord (red arrow).

DISCUSSION

There is still limited data on the impact of the current COVID-19 outbreak on women affected during pregnancy, newborns and the pediatric population. Therefore, diagnosis and treatment of a disease in pregnancy requires great importance to prevent maternal and neonatal complications related to this disease.

Previous coronavirus pandemics such as SARS and Middle East respiratory syndrome (MERS) are known to cause maternal or perinatal distress such as maternal infections, maternal death, and spontaneous abortion during pregnancy (Schwartz and Graham, 2020). Similarly, Di Mascio et al., in their recent study, reported pathological conditions such as miscarriage, premature birth, stillbirth and preeclampsia related to Covid-19 disease. For this reason, histopathological examination of the umbilical cord will make important contributions to the protection of both maternal and fetal health.

Studies have found the SARS-CoV-2 genome in the vaginal mucosa of a pregnant woman and term placenta. In addition, the presence of specific anti-SARS-CoV-2 IgM and IgG antibodies in the umbilical cord blood and milk samples of pregnant women has been reported. Again, studies have been conducted showing that vertical transmission is possible in SARS-CoV-2

positive pregnant women. This explains the inflammatory response triggered by SARS-CoV-2 infection in pregnant women at both systemic and placental levels (23).

A study of sixteen placentas from pregnant women with SARS-CoV-2 viral infection showed maternal vascular malperfusion, decidual arteriopathy, atherosis, fibrinoid necrosis, and mural hypertrophy of membrane arterioles. The authors also reported perivillous fibrin deposition in some placental tissues, intervillous thrombus, villous edema, and chorangioma. Among these findings, chorangioma is associated with a decrease in maternal oxygen saturation (Shanes et al., 2020). The pathological changes between root villi in the umbilical cord ligature stem region, which we detected in our study, were reported by Shanes et al. was supportive.

SARS-CoV-2 infects target host cells by binding to cell membrane angiotensin-converting enzyme II, especially facilitated by Type II transmembrane serine protease (TMPRSS2) (25). Cell types that express ACE2 in the placenta are syncytiotrophoblasts and cytotrophoblasts in the villi, decidual stromal cells, decidual perivascular cells, and endothelial and vascular smooth muscle cells. Co-expression of the viral receptors ACE2 and TMPRSS2 in abundance in the human placenta could theoretically increase the susceptibility of the placenta and possibly the fetus to SARS-CoV-2 infection (26,27).

However, some studies have reported that ACE2 is not sufficient to sensitize host cells to infection and vimentin acts as a co-receptor for SARS-CoV virus entry into the cell (28). SARS-CoV virus improves cell surface vimentin expression and, more importantly, reported the presence of a direct interaction between vimentin and the SARS-CoV spike protein during viral entry. However, it was stated that SARS-CoV and SARS-CoV-2 used similar spike protein sequences and the same cell entry route (chun-yu et al.). Vimentin is an important extracellular protein content that provides the coordination of the fibronblast and some blood vessels endothelial cells with the amniotic epithelium and the basement membrane of mesenchymal origin. It has been predicted that vimentin causes increased inflammation due to SARS CoV-2, cell degeneration, and deterioration in the signaling of the extracellular matrix structure, and may also cause changes in both the cellular membrane and muscle structure (30).

In our study, an increase in Vimentin expression was observed in fibroblast cells together with collagen fibers in mucous connective tissue in the umblical cord immunohistochemical examination of Covid-19 pregnant women. Likewise, it was observed that Vimentin expression was positive in the basement membrane and intimal layer where endothelial cells in the arterial structure of the umbilical cord were located (Figure 2d).

CONCLUSION

As a result, we think that SARS CoV-2 virus causes pathological changes in the umbilical vessels and membrane due to increased inflammation and angiogenesis and degeneration of the cell membrane.

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EVALUATION OF ADAMTS13 EXPRESSION OF UTERINE TISSUE AFTER EXPOSURE TO THE FUNGICIDE -MANCOZEB IN WISTAR ALBINO RATS

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ABSTRACT

Mancozeb, a polymeric complex of zinc salt and manganese ethylenebisdithiocarbamate, is widely used as a fungicide in agriculture. People exposed to mankozeb have exhibited a range of health problems on many tissues and organs, including neurotoxic effects, Parkinson's-like symptoms. In this study, it is aimed to investigate the histopathological and immunohistochemical changes in the uterus after Mankozeb administration. The rats were divided into two groups as Control group (n= 7) and Experimental group (n=7). The experimental group was given 500 mg/kg mancoseb dissolved in corn oil orally for four weeks. The control group was given only corn oil for four weeks. Experimental animals were dissected under anesthesia. Uterine tissue from rats was first fixed in containers containing 10% buffered formaldehide. Hematoxylin & Eosin expression levels of the sections taken after routine tissue follow-up were compared histochemically and Adamts-13 expression levels immunohistochemically.

When the Hematoxylin & Eosin stained sections of the experimental group were examined, hyperplasia was observed in the cells located in the luminal epithelium of the uterus. Dilatation and congestion were seen in the blood vessels towards the lamina propria and basal layer. Thickening was observed in some of the collagen fibers. When Adamts-13 was examined in immunohistochemically stained sections, it was observed that Adamts-13 expression was positive in cells located in the epithelial layer. When the endothelial cells of blood vessels were examined, it was observed that there was an increase in Adamts-13 expression.

Mancozeb increases inflammation and affects angiogenesis. As a result, it is thought that it may be toxic to the uterine mucosa and blood vessels after exposure to Mancozeb.

Keywords: Mancozeb, uterus, Adamts-13, immunohistochemistry

INTRODUCTION

Mancozeb, which was first registered in the USA in 1948, is used as a broad spectrum fungicide (1). Since 1948, Mancozeb's fungicidal activity has been demonstrated in various agricultural products (tomato, potato, grape, citrus) for approximately 400 different plant pathogens in industrial applications. Mancozeb has been recognized as a pesticide by the environmental protection agency (EPA). According to 2014 data, Mancozeb represents the fastest growing volume of global fungicide, accounting for 20% of the market. It is known that Mancozeb production is growing rapidly due to its non-selective fungicide effectiveness, low purchase price and increasing global demand for fruit and vegetables (2). Exposure to Mancozeb is in the general population through dietary intake of contaminated food and drink; On the other hand, exposure in the workplace occurs through direct skin contact, inhalation of particles, feeding and/or smoking without hand washing. Mancozeb has been characterized as rapidly metabolized by the body and has low acute toxicity in animal studies (3). With this; It has been shown that neurotoxicity and Parkinson's-like symptoms occur as a result of drug exposure, and that there are irregularities in fetal brain development as a result of chronic exposure in women (4,5). It has been observed to cause thyroid hormone disorders in susceptible populations (women and children) (6). In its 2005 re-suitability decisions (RED), the environmental protection agency (EPA) expressed its concern over the developmental, reproductive and thyroid toxicity from exposure to Mancozeb. After 2005, EPA published strict rules regarding Mancozeb residues in almonds, cabbage, broccoli, peppers in 2011 and walnuts and tangerines in 2013 (7,8). In these final guidelines, the EPA acknowledged the adverse effects of Mancozeb on the thyroid and reproductive system. In 2013, studies of rats and rabbits exposed to Mancozeb also acknowledged increased maternal mortality, low birth weight, and negative effects on the thyroid. The EPA also noted that various congenital malformations, such as hydrocephalus, were observed in rats and rabbits exposed to Mancozeb.

In recent studies, it has been observed that there are permanent genotoxic and premalignant changes in human ovarian cells and immune cells after exposure to mancozeb, and cancer and reproductive health risks increase in this human population (9,10). In experiments on rodents, it was revealed that Mancozeb and ETU cross the placental barrier, impair reproductive performance, cause DNA damage and cause premalignant changes in fetal cells (11). Increasing evidence raises unresolved questions regarding the relationship between routine use of Mancozeb and human reproductive and developmental outcomes. There are limited studies on the menstrual cycle changes and bio-histochemical effects of Mancozeb on the uterus in experimental animals.

ADAMTS are zinc-dependent proteinases that are responsible for the destruction of extracellular matrix (ESM) structures and have roles in many physiological and pathological processes in the organism.

For the first time, Kuno et al. 19 different ADAMTS and 7 different ADAMTS-like protein subtypes have been defined by studies on this protein and gene family since ADAMTS-1, which was defined by Dr. ADAMTS are involved in the conversion of procollagen to collagen, degradation of matrix proteoglycans such as aggrecan, versican and brevican, inhibition of angiogenesis, and regulation of coagulation by degrading von Willebrand factor protein. It has also been shown to have roles in connective tissue restructuring, wound healing, inflammation, organogenesis, morphogenesis, angiogenesis, ovulation, implantation, congenital anomalies, cancer and atherosclerosis (13,14).

The aim of our study is to show whether the histopathological changes in the uterine mucosa and ADAMTS 13 immune reaction of mancozeb, which is widely used in agriculture with toxic effects, alter the angiogenic process and apoptotic effect.

MATERIAL METHOD

Experimental animals and study design

Allproceduresperformed in thisexperimentwereapprovedbythe Ethics Committee for the Treatment of Experimental (Animals (Dicle University, Turkey, protocolnumber: 2021/03). Theratswereprovidedby Dicle University, Department of MedicalSciencesResearchand Application Center. Animals had an acclimationperiod of 72 hourspriortouse in the study. Twogroupswereformedfromtwentyyoungadult (60 days) femaleWistar albino rats, weighed 180-210 g andkeptunderStandardlaboratoryconditions; 12/12 h light/darkperiod, with 50–70% humidity, at 23±2 o C in standard steel cages at room temperature. Rats were fed as libitum with standard rat pellets and water.

Experimental groups were designed as follows

1. Experimental group rats (n=7) were given 500 mg/kg mancozeb dissolved in corn oil daily for four weeksgiven orally.

2. Control gruops rats (n=7) were given the same daily quantity of corn oil in the samemanner without mancozeb as the treated animals.

During the experiment, the rats were sacrificed under xylazine (5.8 mg/kg) and ketamine (75-90 mg/kg) anesthesia and the uterine tissue was removed. These tissues were enclosed in 10% buffered formalin. After routine histological tissue follow-up, the tissues were embedded in paraffin blocks.

Hematoxylin-Eosin Staining

Uterine tissue sections taken from paraffin blocks were placed in a bain-marie set at 37°C. Sections were kept in an oven at 58-62°C for 6 hours to dissolve excess paraffin on the slide. After the sections were deparaffinized in xylene for 3x15 minutes, they were passed through decreasing alcohol series (100%, 96%, 90%, 70%, 50% ethyl alcohol) for 10 minutes and brought to distilled water for 5 minutes. After 8 minutes of hematoxylin stay on the sections, they were kept in tap water for 5 minutes. Then, eosin dye was applied sequentially for 4 minutes. After the dyeing step, the sections were quickly dipped in increasing alcohol series (through 80%, 90%, 96% ethyl alcohol series). Finally, the sections were kept in xylene for 3x15 minutes and entellan was dripped onto the tissue, covered with a coverslip and examined.

Immunohistochemical Staining

Sections taken from paraffin blocks were taken into a bain-marie set at 37°C and from there on to polylysine slides. Sections were kept in an oven at 58-62°C for 6 hours to dissolve excess paraffin on the slide. Sections were deparaffinized in xylene for 3x15 minutes. Sections were kept in the decreasing alcohol series (100%, 96%, 90%, 70%, 50% ethyl alcohol) for 10 minutes and brought to distilled water for 5 minutes. Sections were washed 3x5 minutes in phosphate buffer solution (PBS). Sections were placed in EDTA buffer solution (pH: 8.0, catalog no: ab93680, Abcam, Cambridge, USA) and heat-induced epitoperetrieval was performed. Sections left at room temperature for 20 minutes were taken back into PBS. Hydrogen peroxide solution (catalog no: TA-015-HP, ThermoFischer, Fremont, CA, USA) was dripped onto the sections and incubated for 20 minutes. Afterwards, they were washed with PBS for 3X5 minutes and kept in Ultra V Block (catalog no: TA-015-UB, ThermoFischer, Fremont, CA, USA) solution for 7 minutes. Sections were overnight at +4°C with ADAMTS13 antibodies. Biotin-containing secondary antibody (catalog no: TP-015-BN, ThermoFischer, Fremont, CA, USA) was dripped onto the sections washed with PBS and incubated for 14 minutes. Then, streptavidin-peroxidase (catalog no: TS-015-HR, ThermoFischer, Fremont, CA, USA) was dripped and left for 15 minutes. Diaminobenzidine (DAB) (catalog no: TA-001-HCX, ThermoFischer, Fremont, CA,

USA) was dripped onto the sections. After the tissues were kept in PBS for 15 minutes, they were counterstained with Harris hematoxylin, then the sections were entellan (catalog no: 107961, Sigma-Aldrich). , St. Louis, MO, United States) and visualized under the ZeissImager A2 photomicroscope

RESULTS

In the transverse section of the uterus stained with hematoxylin and eosin, solitary inflamed cells with hyperplasia in the cells in the luminal epithelium and degenerative changes in the underlying basement membrane were observed. Congestion, occasional hemorrhagic areas and freely dispersed erythrocytes were observed with dilatation of the blood vessels towards the lamina propria and basal layer. Some collagen fibers were thickened in places and inflammatory cell infiltrations were observed in between (Figure 1.b).

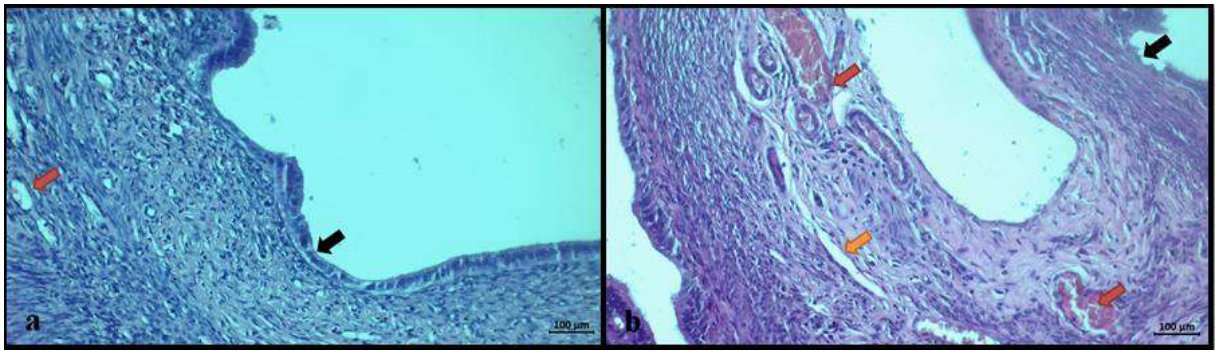

Figure 1. a) Section of the control group stained with hematoxylin eosin: Germinal epithelium in normal appearance (black arrow) and blood vessel structure with regular course and no erythrocytes (red arrow). b) Degenerated germinal epithelium (black arrow), dilated blood vessels containing erythocytes (red arrows) and impaired tissue integrity (orange arrow) in the Manzoceb group hematoxylin-eosin stained section.

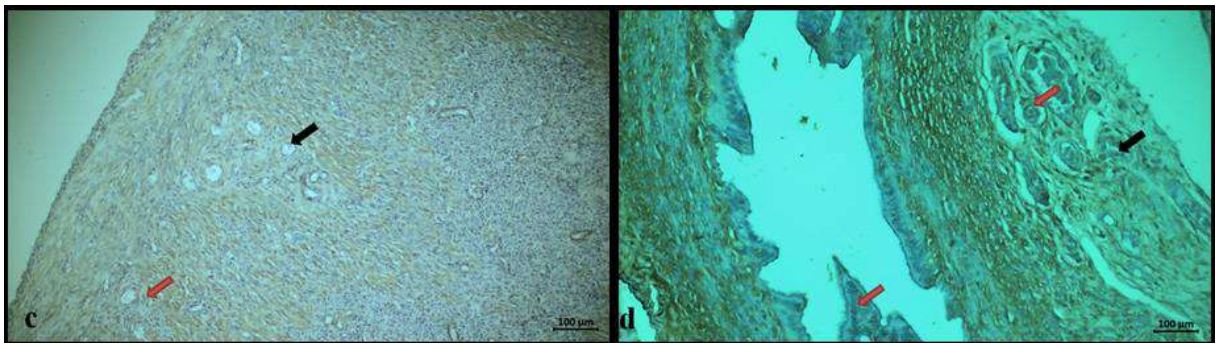

Figure 2. c) positive expression of adamts-13 in the blood vessel of the control group (red arrow) and negative expression of adamts-13 near the blood vessel (black arrow). d) positive expression of adamts-13 (red arrows) in the Mancozeb group blood vessel and germinal epithelium and negative expression of adamts-13 near the blood vessel (black arrow).

In the transverse section of the uterus, it was observed that adamts 13 expression was positive in some cells that may be degenerative, especially in the epithelial layer, which may undergo apoptotic changes, and which are hypoplasic. However, when the epithelial structure was examined, it was determined that most cells showed negative adamts 13 expression. It was observed that adamts 13 expression was intensely positive in solitary cells in the inflammation region, and a significant increase in adamts 13 expression was observed in the collagen fibers here, as well as in endothelial cells with blood vessels and in the basement membrane (Figure 2). Therefore, we think that Mancozeb may increase inflammation and affect angiogenesis. We

think that since Mancozeb causes epithelial cell degeneration, its use in humans may be a toxic substance especially for the uterine mucosa and because it may affect the fetus in development.

DISCUSSION

Studies from 1973 to the present confirm that Mancozeb jeopardizes female reproductive health. In vitro studies have proven that Mancozeb directly or indirectly affects the female reproductive system.

Abdoon et al. suggested that Mancozeb induces a dose-dependent degeneration process in buffalo oocytes during in vitro maturation (16). Exposure to Mancozeb reduces oocyte nuclear maturation with a direct effect on the female reproductive system by affecting cytoplasmic and nuclear maturation (16). Mancozeb exposure affects embryo development, especially at the morula and blastocyst stages (16). Greenlee et al. reported a significant reduction in mouse blastocyst development with Mancozeb (17); on the contrary, Fejes et al. suggested that this pesticide did not have a toxic effect on embryo and blastocyst development (18). In the study conducted by Palmerini et al., nuclear membrane irregularities, intercellular contact changes, cytoplasmic vacuolization and chromatin condensation were found in the granulosa cells of mice exposed to high dose Mankozeb (19). Atmaca et al. They showed that exposure to Mancozeb significantly reduced the steroid synthesized in the luteal cells of bovine ovaries (20). According to in vivo studies, exposure to high doses of Mancozeb reduces ovarian weight and growth (21,22). However ; Jacobsen et al. He stated that there was no change in uterine and ovarian weights of rats exposed to mankozeb (23). Mahadevaswami et al. showed that exposure to mankozeb was associated with qualitative and quantitative changes in ovarian follicles (22). In this study, they showed that the number of unhealthy ovarian follicles increased and the number of healthy ovarian follicles decreased in rats (22). Baligar et al. obtained data supporting this study with his studies (24,25). Liu et al. observed an increase in atretic follicles with a decrease in the number of follicles (26). In addition, Mehdi et al. found increased apoptotic follicles due to increased oxidative stress in his study (27).

Previous studies have shown that Mancozeb has negative effects on fertilization. Mahadevaswami MP et al. (28) It was predicted that mancozeb probably caused lipid peroxidation and glycogen accumulation by increasing the mda value, which may affect oxidative stress. In our study, hyperplasia, degenerative changes in uterine epithelial cells, and dilatation and hemorrhage in blood vessels were detected. We observed that inflammatory cell infiltration and normal uterine histology were disrupted, and tissue integrity was impaired (figure 1-b). Based on these results, Mahadevaswami MP et al. (28) was thought to be compatible with the study in the literature.

In a study, it was stated that ADAMTS13 protein is important in trophoblastic activity and uterine structure in different trimesters of pregnancy, and its angiogenetic effect has a positive effect on vascular development. Although Adamts 13 protein functions as a regulatory protein for hemostasis and thrombogenetic activity in vessels, it has been reported that it may affect apoptosis in signaling related to inflammation in the cell (29). In our study, it was found that hyperplasia and degenerative change in the uterine epithelium due to mancozeb were a result of the increased inflammation process with the change in blood vessels, however, in the mancozeb group, both in hyperplasic epithelial cells, inflamed cells and matrix metalloprotein.

CONCLUSION

We predict that Mancozeb may be an important signal stimulator at the point of stopping the developmental apoptotic process in the uterus by following the adamts 13 protein pathway, where it significantly affects the signaling in cell degeneration.

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EVALUATION OF Kİ-67 EXPRESSION IN THE OVARY AFTER EXPOSURE TO FUNGICIDE-MANCOZEB IN WISTAR ALBINO RATS

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ABSTRACT

Mancozeb is a dithiocarbamate fungicide known to be genotoxic and inducing tumors in rodents of various regions. It has been found to have harmful effects on human health and the environment. Indeed, its mass use has raised the question of possible health risks to farming communities; The molecule can also reach human cells through the food chain and affect the lifespan of cells. In this study, it is aimed to investigate the histopathological and immunohistochemical changes in the ovary after Mancozeb administration. The rats were divided into two groups as the control group (n= 7) and the experimental group (n=7). The experimental group was given 500 mg/kg Mancozeb dissolved in corn oil orally for four weeks. The control group was given only corn oil for four weeks. After the experiment, ovarian tissue taken from rats was first fixed in containers containing 10% buffered formol. Hematoxylin & Eosin expression levels of the sections taken after routine tissue follow-up were examined histochemically and Ki-67 expression levels were examined immunohistochemically.

In the sections stained with Hematoxylin & Eosin in the experimental group, degenerations were observed in some cells with the germinal epithelium of the ovary. Vacuole-like images were observed in the lamina propria of the primordial cells located just below the germinal epithelium. Degenerations were observed in prenatal follicles and interfollicular areas. In addition, widespread dilatation and congestion were detected in the blood vessels located in the interfollicular areas. It is possible to talk about the presence of positive expression in Ki-67 immunohistochemically stained sections, especially in cells located in the germinal epithelium. Likewise Ki-67 expression was found to be positive in granulosa cells. However, Ki-67 expression was found to be negative in vascular endothelial cells.

Increased expression of Ki-67, which plays an important role in the proliferation of tumor cells due to toxicity, is observed in the ovaries of rats exposed to Mancozeb. In conclusion, we think that after

exposure to Mancozeb, abnormal cells are present in the ovary, especially in the germinal epithelium and follicles.

KEYWORDS: Mancozeb, ovary, ki-67, immunohistochemistry

INTRODUCTION

Mancozeb (ethylene bis-dithiocarbamate fungicide (EBCD)) was first registered in the USA in 1948. In 1962, it took its place in the global fungicide market (1). Pesticides cause adverse health problems in applied animal models and humans (2, 3). Looking at the literature, it is possible to say that Mancozeb is a low genotoxic product (4). Considering the exposures of mankozeb, it is assumed that the main source is contaminated products (eg. potatoes, citrus fruits) or various drinking water. Exposure to Mancozeb causes a number of Parkinson's-like symptoms, as well as dangers such as reproductive dysfunctions and defects in fetal development (5). Fetal malformations and maternal complications were observed in experimental models after exposure to Mancozeb (6) Mancozeb is immediately metabolized in the body and subsequently causes acute toxicity (7). In addition, it causes teratogenic, mutagenic and carcinogenic risks in human ovarian cells due to its genotoxic state (8). Reports, malignancy has been observed in human egg cells after exposure to Mancozeb, raising concerns that it increases cancer and reproductive risks in exposed humans. Reports have observed malignancy in human egg cells after exposure to Mancozeb, raising concerns that it increases cancer and reproductive risks in exposed humans (9).

We reviewed the literature for notable experimental and human health studies linking environmental or occupational exposure to Mancozeb with adverse reproductive and developmental health effects. Considering all these data, we aimed to immunohistochemically evaluate the changes that will occur in the ovary after exposure to Mancozeb and the expression of Ki-67, which is a proliferation marker, in tumor cells, which we think is a study that will be included in the literature.

MATERIAL METHOD

Experimental Animals and Study Design

All procedures performed in this experiment were approved by the Ethics Committee for the Treatment of Experimental Animals (Dicle University, Turkey, protocol number: 2021/03). The rats were provided by Dicle University, Department of Medical Sciences Research and Application Center. Animals had an acclimation period of 72 hours prior to use in the study. Two groups were formed from twenty young adult (60 days) female Wistar albino rats, weighed 180-210 g and kept under Standard laboratory conditions; 12/12 hour light/dark period, with 50–70% humidity, at 23±2 ºC in standard steel cages at room temperature. Rats were fed as libitum with standard rat pellets and water. Experimental groups were designed as follows.

1. Experimental group rats (n=7) were given 500 mg/kg Mancozeb dissolved in corn oil daily for four weeks given orally.

2. Control groups rats (n=7) were given the same daily quantity of corn oil in the same manner without Mancozeb as the treated animals.

After the experiment, they were sacrified under anesthesia and ovarian tissues of all animals were taken into 10% buffered formalin. After routine histological tissue follow-up, the tissues were embedded in paraffin cavities.

Hematoxylin-Eosin Staining

Paraffin blocks were taken to positively charged slides by taking 5 µm sections with a microtome device. The sections were kept in an oven at 58-62°C for 6 hours. After the sections were deparaffinized in xylene for 3x15 minutes, they were passed through decreasing alcohol series (100%, 96%, 90%, 70% ethyl alcohol) for 10 minutes and brought to distilled water for 5 minutes. After 8 minutes of hematoxylin stay on the sections, they were kept in tap water for 5 minutes. Then, eosin dye was applied sequentially for 4 minutes. After the dyeing stage, the sections will be rapidly dipped in increasing alcohol series (through 80%, 90%, 96% ethyl alcohol series) and kept in absolute alcohol for 2 minutes. Finally, the sections were kept in xylene for 3x15 minutes and covered with a coverslip by dripping entellan onto the tissue.

Immunohistochemical Staining

Sections were deparaffinized in xylene for 3x15 minutes. The sections were kept for 5 minutes by passing through the decreasing alcohol series for 10 minutes and brought to distilled water. Sections were washed 3x5 minutes in phosphate buffer solution (PBS). Sections were retrievaled in EDTA buffer solution (pH: 8.0, catalog no: ab93680, Abcam, Cambridge, USA) for 3 minutes in microwave at 90 ^{0}C heat-induced epitope retrieval. Sections left at room temperature for 20 minutes were taken back into PBS. Hydrogen peroxide solution (catalog no: TA-015-HP, Thermo Fischer, Fremont, CA, USA) was dripped onto the sections and incubated for 20 minutes. Afterwards, they were washed with PBS for 3X5 minutes and kept in Ultra V Block (catalog no: TA-015-UB, ThermoFischer, Fremont, CA, USA) solution for 7 minutes. Sections were overnight at +4°C with ki-67 (1: 100 Abcam) antibodies. Biotin-containing secondary antibody (catalog no: TP-015-BN, Thermo Fischer, Fremont, CA, USA) was dripped onto the sections washed with PBS and incubated for 14 minutes. Then, streptavidin-peroxidase (catalog no: TS-015-HR, ThermoFischer, Fremont, CA, USA) was dripped and left for 15 minutes. Diaminobenzidine (DAB) (catalog no: TA-001-HCX, ThermoFischer, Fremont, CA, USA) was dripped onto the sections. Tissues were soaked in PBS for 15 minutes, counterstained with Harris hematoxylin, then sealed with entellan (catalog no: 107961, Sigma-Aldrich, St. Louis, MO, United States). Evaluated and viewed under a Zeiss Imager A2 photomicroscope.

Statistical Analysis

The live weights of the rats belonging to the experimental and control groups were measured before the experiment and before the end of the experiment anesthesia. After the experiment, the number of ovarian weights were evaluated statistically. All data were analyzed using the SPSS 20.0 program. Independent t test (means ±ds) was used to determine whether there was a difference between the groups.

RESULTS

Statistical Findigs

It was observed that there was no statistically significant difference in live animal weights measured before and after the experiment (Table 1.). After the experiment, the ovaries obtained from the animals were measured. There was a significant difference between the Mancozeb group and the control group (Table 2.).

Livestock Weights	Number of animals (n)	Mancozeb Group	Control Group
Animal weights (g) on the first day of the experiment, before the start of the experiment.	(n=7)	195 ±1.02	196 ±0.2
Animal weights (g) on the last day of the experiment.	(n=7)	193,2 ±1.1	194,02 ±1.7

Table 1. The weights of the experimental groups were measured before the start of the experiment and after the end of the experiment. It was determined that there was no significant decrease in the weights of the groups before and after the experiment ($p>0.05$).

	Number of animals (n=7)	Mancozeb Group	Control Group
Ovarian Weights (mg)	Total number of ovaries (14)	27.5±1.3	31.1±1.7

Table 2. After the experiment, a total of 14 ovarian weights taken from 7 animals in each group were measured and their averages were taken. The difference between the Mancozeb group and the control group was found to be significant ($p<0.05$).

Histochemical and İmmunohistochemical Findings

When the hematoxylin-eosin stained sections were examined, degenerations were observed in some cells of the ovarian germinal epithelium in the sections belonging to the Mancozeb group. Vacuole-like images are observed in the lamina propria of primordial cells located just below the germinal epithelium. Degenerations were observed in prenatal follicles and interfollicular areas. it is also possible to say that inflammatory cell infiltration is increased. In addition, widespread dilatation and congestion were detected in the blood vessels located in the interfollicular areas (Figure 1.).

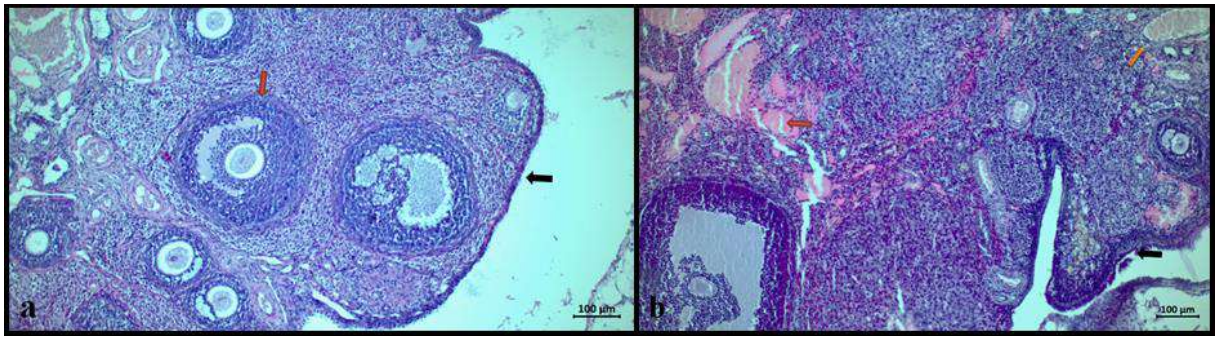

Figure 1. a) Control group: Normal-looking germinal epithelium (black arrow) and primary follicle structure (red arrow). b) Mancozeb group: Germinal epithelium (black arrow) with impaired tissue integrity, tissue destruction between follicles (red arrow) and congestion and dilatation in blood vessels (orange arrow).

Ki-67 immunohistochemically stained sections showed positive expression, especially in cells located in the germinal epithelium. Likewise, Ki-67 expression was found to be positive in granulosa cells. However, Ki-67 in vascular endothelial cells expression was found to be negative. Mancozeb shows increased expression of Ki-67 in the exposed ovary, which plays an important role in the proliferation of tumor cells due to toxicity (Figure 2.).

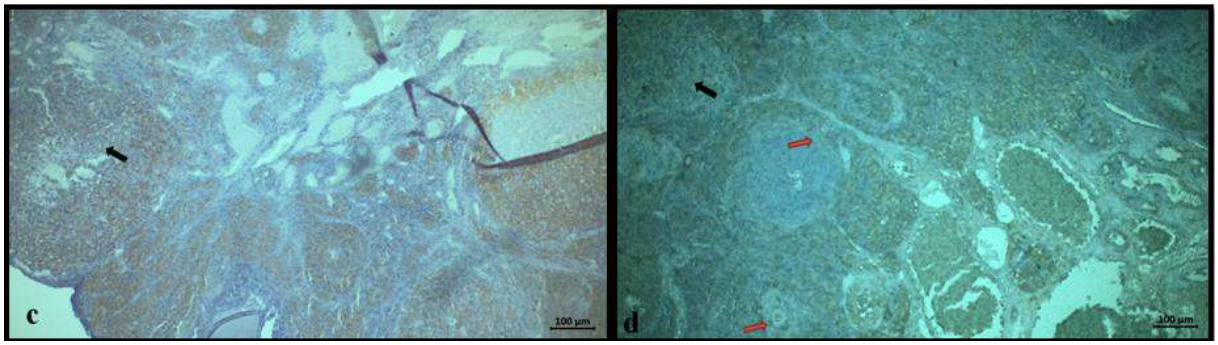

Figure 2. c) Control group negative expression of ki-67 (black arrow. d) Mancozeb group Ki-67 negative expression (black arrow) and positive expression areas (red arrows).

DISCUSSION

Mancozeb is widely used in a wide variety of agricultural and industrial applications, including use as a fungicide. However, studies conducted for years have shown that Mancozeb has negative effects on reproductive health.

When studies with were examined, Yu Liu et al. in 2017 observed that there was a significant decrease in mouse ovaries after oral exposure to Mancozeb in an experimental model (10). However, Jacobsen et al. reported that there was no change in ovarian weight in their study in rats (11). In our study, we see that there is a significant loss in ovarian weights after exposure to Mancozeb (Table 2). From this point of view, we can say that the data we obtained as a result of the study are similar to the data obtained by Yu Liu et al. In a study by Mahdi et al., they observed that exposure to Mancozeb had an apoptotic effect on first-generation testicular and ovarian tissues (12). In a study by Mahdi et al., they observed that Mancozeb exposure had an apoptotic effect on testicular and ovarian tissues (12). From this point of view, we see an increase in inflammatory cell infiltration in our study (**Figure** 1.). Apart from the effectiveness of Mancozeb on the reproductive system, unsuccessful implantations have been reported, as well as disruptions in the hormonal balance and related follicle structure (13).

Within the data, it is possible to say that exposure to Mancozeb increases the incidence of apoptosis. In our study, we observed a significant increase in tissue damage caused by Mancozeb in the ovarian structure (**Figure** 1.). In a study by Mahadevaswami et al., they reported an increase in the number of atretic follicles and a significant decrease in the number of healthy follicles after exposure to high doses of Mankozeb in hemicastrated albino rats. (14). Atmaca et al. found that Mancozeb caused a reduction in steroid synthesis in cattle luteal cells (15).

When our study was examined, we observed that there was a significant increase in the level of ki-67 expression immunohistochemically after exposure to Mancozeb. In fact, ki-67 is an important marker in the proliferation of multiple cancer cells (16). In this context, in our study, thanks to this marker, Mancozeb is very important in terms of seeing how important changes it causes in the ovarian structure. Mancozeb exposure raises concerns about potential cancer and reproductive health risks in humans (9). It is possible to say that these concerns are not unfounded, thanks to our study, which aimed to investigate the immunohistochemical investigation of Ki-67 expression.

When we look at these data, we see that although pesticides contain harmless components, they often have a negative effect on the reproductive system. Reports suggest that the reproductive health of pregnant women who are at risk from Mancozeb's side effects may be

affected. Obtained data show that Mancozeb crosses the blood-placenta and has a negative effect from the intrauterine period to the postpartum life (18).

The histopathological data we obtained in our study are important in terms of seeing the changes in the ovarian tissue. In addition, the increase in Ki-67 expression is very important in terms of seeing the maling condition that Mancozeb may cause on the ovarian tissue.

CONCLUSION

As a result, we observed that after exposure to Mancozeb, it caused negative changes in the ovarian structure and an increase in Ki-67 expression level, which is an important marker of tumor cells.

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EFFECT OF DIFFERENT METABOLIC CONDITIONS ON LACTIC ACID PRODUCTION OF A549 LUNG CANCER CELLS

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ABSTRACT

Normal cells produce energy (ATP) through mitochondrial oxidative phosphorylation in the presence of oxygen. It is known that most cancer cells produce energy through accelerated glycolysis under normoxic conditions and perform lactic acid fermentation. This metabolic event is called “Aerobic glycolysis” or “Warburg effect”. In this study, the cellular responses of human lung carcinoma cells (A549) to normoxia and hypoxia conditions after incubation in glycolytic or OXPHOS metabolic media were investigated. A549 cells growed in medium containing 5 mM, 25 mM glucose (Glc) or 10 mM galactose (OXPHOS/aglycemic) were further incubated under hypoxia (1% O_2) or normoxia conditions. After 4 hours of incubation, the expression of HIF-1α in the cells was reached at the maximum level and then HIF-1α expression level decreased by increasing the incubation time to 6 hours. After A549 cells incubated in normoxia or hypoxia conditions for 48 hours, p-PDH/PDH protein expression level was determined by western blot method. While p-PDH/PDH protein expression level, which is a marker of Warburg phenotype, was found to be higher in the Glc cell group incubated under normoxic conditions, the p-PDH/PDH protein expression level in the OXPHOS cell group was significant declined as compared to the Glc cell group (*$p<0.005$, **$p<0.01$). Under these conditions, cells appear to prefer glycolysis metabolism as their energy source. On the other hand, no significant difference was observed in p-PDH/PDH protein expression level in cell groups incubated under hypoxia conditions.

Lactic acid productions of A549 cells incubated in 5 mM or 25 mM Glc medium were found to be 15.1±0.38 and 15.3±0.39 ng/µl, respectively under normoxi condition. However, the lactic acid production of OXPHOS cells group under normoxi condition was decreased dramatically at about 3.1±0.1 ng/µl. In hypoxia conditions, lactic acid productions of cells in 5 or 25 mM Glc cells were found to be at 16.2±0.5 and 14.7±0.6 ng/µl respectively. The OXPHOS group cells showed about 3.1±0.1 ng/µl lactic acid production. Contrary to metabolic conditon, hypoxia condition was not affected on lactic acid production of A549 cells. It was determined that mitochondrial oxidative phosphorylation became functional when A549 cells were incubated in OXPHOS medium, despite the metabolic reprogramming regulated by HIF-1α. Considering that the majority of cancer cells are hypoxic, these data are important in terms of determining targets in therapeutic intervention.

Keywords: A549 cells, Warburg effect, Hypoxia, HIF-1α.

FIRST REPORT OF DIFFERENT FURCOCERCUS CERCARIAE WITH OTHER PARASITIC INFECTIONS IN FRESHWATER SNAILS OF JAKARA DAM, KANO STATE, NIGERIA

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ABSTRACT

Snails from different parts of Jakara dam namely Wasai, Bangare and Yadakunya (Minjibir, Gezawa and Ungoggo LGA respectively), were examined for cercarial infection between February and December, 2018. Out of the 613 snails examined only 104 (17%) were infected with different types of cercariae, nematode larva and annelids (Oligochaetes). Lymnea and Bulinus species were the only snails infected with cercariae while Bithynia species were infected with nematodes larva. Five types of furcocercus cercariae were recovered from the Bulinus snails only during the cold harmattan season while Fasciola cercariae and other cercariae were recovered at the end of the harmattan season. There was no significant association between the locations sampled and the prevalence of infected snails. A prevalence of 17.24% of infected snails was observed in Bangare; this was not significantly different from the 19.20% observed in Wasai (PR: 0.89, $\chi 2$:0.11, P = 0.7370) and 16.14% observed in Yadakunya. There were no snails during the rainy season which usually starts in May and stops by the end of September. This is the first-time different types of furcocercus cercariae were recovered from snails in Jakara dam. The implication of this is discussed.

Key words: Furcocercus cercaria, Fasciola, Jakara dam, Snail intermediate hosts

STUDY ON ANTICYANOTOXICITY DEGRADATION USING PSUDOMONAS SPECIES

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ABSTRACT

Eutrophication is the natural ageing process of lakes. Excessive algae and rooted plant growth degraded fresh water quality, extensive deoxygenating of the bottom water layers and decreased harvest quality. To protect hydro resources from eutrophication anti algal bio agents needed to reduce the algal growth. This study investigates to evaluate the biocontrol of algal bloom using *Pseudomonas species*. The organism was isolated and identified by microscopic, macroscopic and biochemical analysis. The result revealed that *Pseudomonas putida* has directing attacking algae by secondary metabolites. Green algal species is reported to induce polysaccharide production to protect it against oxidative stress caused by toxins. The results obtained in each step are relevant to state that the *Pseudomonas putida* is a potential algicide against toxic *Microcystis aeruginosa*. It is an efficient biocontrol agent over toxic algal blooms. Results confirmed that algicidal effect of *Pseudomonas putida* on cyanobacterial bloom is highly effective which can be applicable in the field of hydro resources.

Keywords: *Microcystis aeruginosa,* Eutrophication, Biocontrol, Hydro resources.

ISOLATION OF OLEAGINOUS BACTERIA FROM DIFFERENT OIL CONTAMINATED SOIL

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ABSTRACT

Animals, plants, and microorganisms are main sources of oil and fatty acid. Oils produced form microorganisms are 'Single Cell Oil'. Our aim is to isolate oleaginous bacteria for the production and amendment of single cell oil. This ensures to evaluate the efficiency of lipid extraction. As we need only isolation, the process of done by three steps; Collection of soil from three different oil contaminated places; to isolate oleaginous bacteria using mineral salt agar medium; screening of single cell oil producing bacteria by Sudan black B staining. A total of 23 morphologically different strains were isolated. Among 23 isolates 9 isolates from sample A, 6 from soil sample B and 8 from soil sample C. They are cultured in mineral salt agar medium and among 23 isolates 17 strains were showed gram positive 6 strains showed gram negative. Isolated strains are screened by Sudan black B stain, of those 4 isolates showed positive results for lipid accumulation. 1 strain from soil sample A, 2 strain from soil sample B and 1strain from soil sample C contained bacteria was identified as effective producers of lipid content. The production of bacteria Single cell oil (SCO) done by shake flask method. The lipids were extracted by folch method which is an effective method to extract lipid content from dry cell matter. It can be then analyse by chromatographic techniques. Many unknown bacteria may result in better production of SCO and use it as a supplementary material. Efforts to implement more methods currently in use for production of single cell protein and may result in valuable nutrient supplement on global basis.

Key words: Single Cell Oil, Oil Production, Oleaginous bacteria, Lipid Extraction, Shake flask method, Chromatography, Screening

SIGNIFICANT DIFFERENCE (HSD) TEST OF MEAN SCORES FOR MOSQUITOES' GENERA

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ABSTRACT

This study investigates the relative abundance of adult mosquitoes in four selected sites in Nigeria Police Academy, Wudil, Kano; Nigeria in June, 2019 via two-factor analysis model. A total of eight hundred and thirty nine (839) adult mosquitoes involving of 3 genera namely Anopheles, Aedes, and Culex were identified in the four selected sites, and 125 of the mosquitoes were males (14.90%) and 714 were females (85.1%). More so, Anopheles mosquitoes were higher in terms of abundance with a total number of 476 samples (56.7%) followed by Culex species, 203 (24.20%), and then Aedes species, 160 (19.07%). Furthermore, the population of mosquitoes in the girls' hostel is 250 (29.80%), the girls' hostel staircase, 241 (28.72%), the quarter guard, 330 (39.33%), and the clinic, 18 (2.15%). Residual of the ANOVA for the transformed data are normally distributed and homogeneity of variances exist across samples; hence, insect group means are all equal while, the surveyed site group means are different from the others. More so, no significant differences between groups sample means of girls' hostel and clinic, as well as the girls' hostel staircase and quarter guard; thus, the factor effects are additive and no interaction between factors. Furthermore, significant differences were noticed between groups sample mean of quarter guard and clinic, girls' hostel staircase and clinic, quarter guard and girls' hostel, girls' hostel staircase and girls' hostel; thus, the factor effects are no means additive and interaction between factors exist. Succinctly, no significant differences between sample means of the insects considered; thus, the factor effects are additive and no interaction between factors.

Improvement of environmental sanitation around the surveyed sites is required to protect cadets from getting infected with the mosquitotransmitteddiseases.

Keywords: Additive, Homogeneity, Insects, Interaction, Mosquitoes, Two-factor analysis

INTRODUCTION

The abundance of mosquitoes has been related to the prevalence of infection. Mosquitoes are the most important vectors of public health due to their roles in the transmission of diseases such as Malaria, Lymphatic filariasis and others. Different species of this insect have been identified as the vector transmitting these diseases. Malaria is a life-threatening disease caused and spread by *Plasmodium* parasite and female mosquito vectors, respectively with 92% of malaria cases and 93% of malaria deaths occurring in the African region (WHO,2018). According to WHO, 2015 the transmission of diseases by mosquitoes is more intense in places where the mosquito life span is longer (so that the parasite has time to complete its development inside the mosquito) and where it prefers to bite humans rather than animals.

According to the 2019 World Malaria Report, Nigeria had the highest number of global malaria cases (25 % of global malaria cases) in 2018 and accounted for the highest number of deaths (24 % of global malaria deaths). The mature female anopheles mosquito needs a blood meal for its reproduction (WHO, 2019).

The individual and joint effects of two independent variables on one dependent variable can be verified via the two-way analysis of variance and this tells us about the main effect and the interaction effect(Bland & Altman, 1996c; Fisher, 1925; Fujikoshi, 1993).Repeatedly, ANOVA has been used to test equality among several means by comparing variance among groups relative to variance within groups (random error).Additionally, the design gives natural replications that result from overlapped factors. Tests of main effects are tests of one factor averaged over levels of the other factors. Absence of interaction between two factors implies that the additive effect of one factor is identical across all levels of the other factor. In that situation, tests and interpretation of main factors are straightforward. If interactions exist, one must interpret main effects carefully, because relations among mean levels of one factor differ according to levels of the second factor (Fisher, 1925; Kleinbaum, et al., 1988; Wineret al., 1991; Fujikoshi, 1993; Bland & Altman, 1995c;Zar, 1999; Gelman, 2005; Sit, 2007;Kass, 2011).

MATERIALS AND METHODS

Description of Study Area

The study was carried out in four selected sites in some parts of the Nigeria Police Academy Wudil Kano, Nigeria. These sites are Girls' hostel, staircase, Quarter guard (a building used mainly for the detention of offenders in the Academy premises), and the clinic. This study area has a coordinate (latitude 11°49`N and longitude 8°51` E), falls in within the semi-arid Sudan savannah zone of West Africa about 840 kilometers from the edge of the Sahara Desert as shown in Figure 1. Kano has a mean height of about 472.45m above sea level. The temperature of Kano usually ranges between a maximum of 33°C and a minimum of 15.8°C although sometimes during the harmattan it falls down to as low as 10°C. Kano has two seasonal periods, which consist of four to five months of wet season and a long dry season lasting from October to May. The rainfall in this area ranges between 1016mm and 1524mm with a relative humidity between 60% and 80%. The guinea savannah is divided into two vegetation zone; the northern and southern guinea savannah. The temperature of this area is highly influenced by the Niger Benue trough where heat is trapped.



Figure 1: Map of Nigeria Police Academy Wudil Kano, Nigeria

Sample Collection

Mosquitoes were collected indoors between 05:30pm and 06:00 am using the pyrethrum-base aerosol spray (Raid) and also photo-catalysis inhaled mosquito killer was used for more accurate results. When using the Raid method mosquitoes were collected on white clothes spread on the floors of the four (4) selected sites: Girls hostel, staircase, quarter guard, and clinic, but when using the Photocatalytic inhaled mosquito killer the machine was connected

to a light source either directly to the socket or to a power bank. All knocked down mosquitoes were collected into sample bottles and taken to the laboratory for morphological identification as described by (Amusan, et al., 2007; Gillies& Coetzee, 1987).

Sample Identification

Mosquitoes were picked with forceps, dropped on a clean slide and then observed under a light microscope with × 40 objectives. Features such as size of antennae, color and size of the maxillary palps, length of proboscis, colour and shape of abdomen, colour and length of legs, colour of wings etc., were observed and compared. Individual mosquitoes were identified into species level, counted and recorded.

Statistical Analysis Technique

The dataset comprises of three insects (mosquito); Anopheles, Culex, and Aedes being surveyed at different sites (Girls Hostel, Girl's hostel staircase, Quarter Guard, and Clinic) of Nigeria Police Academy, Wudil, Kano State. The insects have male and female as interaction.

A two-way ANOVA test analyzes the effect of the independent variables on the expected outcome along with their relationship to the outcome itself (Yates,1934; Kass, 2011).All these variables are varying independently and normally around a mean. Let Y_{ijk} denote the response random variable in k-th measure for treatment (i,j); $k = 1,\ldots,\mathrm{n_{ij}}$, $i = 1,\ldots,\mathrm{I}$ indexes the levels of the first factor, and $j = 1,\ldots,\mathrm{J}$ indexes the levels of the second factor, then:

$$Y_{ijk} = \mu_{ij} + \varepsilon_{ij} \qquad (1)$$

Besides the variation explained by the factors, there remains some amount of unexplained variation ε_{ijk}, random error. The mean of the response variable is modeled as a linear combination of the explanatory variables (Gelman, 2005; Gelman and Hill, 2006):

$$\mu_{ij} = \mu + \alpha_i + \beta_j + \nu_{ij} \qquad (2)$$

where μ is the population group means, α_i is the additive main effect of level i from the first factor (i-th row in the contigency table), β_j is the additive main effect of level j from the second factor (j-th column in the contingency table) and ν_{ij} is the non-additive interaction effect of treatment (i,j) from both factors (cell at row i and column j in the contingency table) (Fujikoshi, 1993).

A two-way ANOVA partitions the total sum of squares into within sum of squares and between sum of squares. Carrying out hypothesis test on an appropriate test statistic requires the assumption of normality for the ANOVA model that is; $Y_{ijk} \sim N\left(\mu_{ij}, \sigma^2\right)$ (homoscedasticity) or equivalently $\varepsilon_{ijk} \sim N\left(0, \sigma^2\right)$ and the homogeneity of variance among groups being compared is expected to be similar across all groups. If one of these assumptions is not met, we might need to transform the data using a logarithmic or exponential transformation to reduce the variability in the data, or you may be able to use a non-parametric alternative.

The mean corresponds to mosquitoes (anopheles, culex, aedes) by gender groups (female, male) that are defined by the combination of the two independent variables surveyed at girls hostel, girls' hostel staircase, quarter guard, and clinics has the following hypothesesadopted at 0.05 level of significance. The dataset was analyzed using R programming language.

Hypothesis (I): Main effect insects

H_0: insect group means are all equal versus

H_A: at least one insect group mean is different from the others

Hypothesis (II): Main effect of site surveyed

H_0: surveyed site group meansare all equal versus

H_A: at least one surveyed site group meanis different from the others

RESULTS AND DISCUSSION

Descriptive statistics of table 1 revealed that, a total of eight hundred and thirty nine (839) mosquitoes comprising of 3 genera, Anopheles, Aedes and Culex were identified during the month of June, 2019 in the four selected sites.The population of mosquitoes in girls' hostel is 250, about 29.80%; the girls' hostel staircase is 241, about 28.72%; the quarter guard 330, about 39.33%); and the clinic is 18, about 2.15%; thus, abundance of mosquitoes is prevalent in the quarter guard followed by the girls' hostel,girls' hostel staircase, and the clinic. Also, Anopheles mosquitoes was higher in terms of abundance with a total number of 476 samples, about 56.7% followed by Culex mosquitoes with a total number of 203 samples, about 24.20% and Aedes mosquitoes with a total number of 160 samples, about 19.07%. More so, 125 of the mosquitoes were males, about 14.90% and 714 of the mosquitoes were females, about 85.10% in Nigeria Police Academy.

Table 1: Descriptive Statistics

Sites surveyed	Anopheles		Culex		Aedes		Total (mean)
	Male	Female	Male	Female	Male	Female	
Girls hostel	18	170	5	54	0	3	250
Staircase	17	51	8	36	33	96	241
Quarter guard	23	185	14	80	5	23	330
Clinic	1	11	1	5	0	0	18
Total (mean)	59	417	28	175	38	122	839

The F test in table 2for the main effect of insect with p-value=0.243 indicates that the insects group means are all equal. Also, the F test for the main effect of the sites surveyed with p-value=0.322 indicates that surveyed site group means are all equal.

Table 2: Analysis of Variance (Original data)

Response data	df	SS	MS	F-value	Pr(>F)
Insect	2	7343	3672	1.532	0.243
Sites_surveyed	3	8971	2990	1.248	0.322
Residuals	18	43137	2397		

To validate the inferences made in table 2, the normality and homogeneity of variances assumptions of the model's residual need to be checked.

Testing Normality Assumption of the Dataset

The visual representation of the residuals is experiential by plotting the histogram of the residuals or standardized residuals; also, the quantile-quantile plot was observed. Shapiro Wilk and JarqueBera tests for normality of the residuals were also verified.

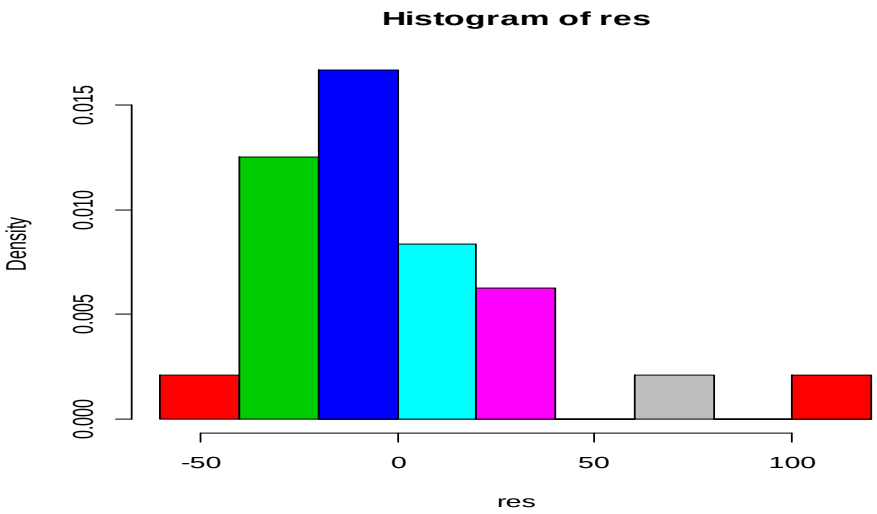

Figure 1: Histogram of the original data

It can be seen in figures 1 above that the residuals of the original data are not distributed symmetrically around the centre of all scores. Figure 2 is the plot of sample quantiles against theoretical quantiles to check whether both sets of quantiles truly come from normal distributions. It can be seen that the datasets are not normally distributed since the points seem to deviate markedly away from the straight line with outliers points at the ends of the line, distanced from the bulk of the observations.

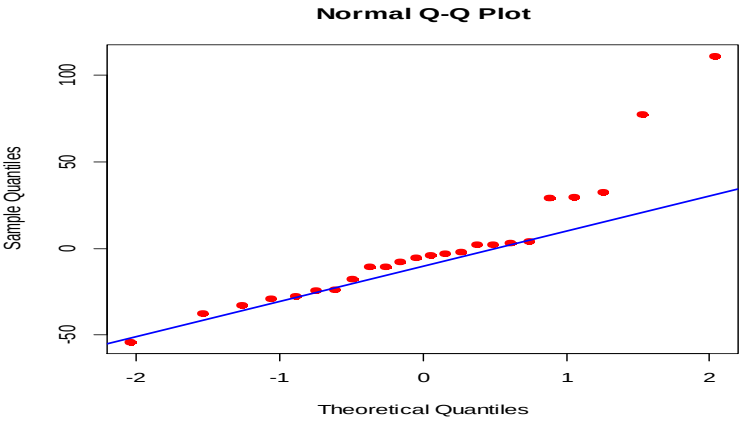

Figure 2: Quantile to quantile plot

Shapiro-Wilk and Jarque-Bera tests in table 3 revealed that, the residuals are not normally distributed with p-values of 0.006257 and 6.895e-06 which are less than significance level, 0.05.

Table 3: Normality test (Original data)

Tests	Statistics	P-value
Shapiro-Wilk	0.8738	0.006257
Jarque-Bera	23.7693	6.895e-06

Testing Homogeneity of Variances Assumption

Bartlett's test is used to test if k samples are from populations with equal variances. The results of table 4 revealed that variances are not equal across groups or samples, since the p-value of 8.009e-05 is less than 0.05 significance level.

Table 4: Homogeneity of Variances test (Original data)

K-squared	df	p-value
21.5715	3	8.009e-05

The residual of the original data did not satisfy the assumptions of normality and homogeneity of variance; so, the inferences made from table 2 are not valid; as such, logarithmic transformation of the data is required.

The F test on table 5 for the main effect of insect with p-value=0.0888indicates that the insects group means are all equal. Also, the F test for the main effect of the sites surveyed with p-value=0.0037indicates that surveyed site group means are all not equal, that is, they are different from one another.

Table 5: Analysis of Variance (Transformed data)

Response data	df	SS	MS	F-value	Pr(>F)
Insect	2	8.471	4.236	2.779	0.0888
Sites_surveyed	3	29.528	9.843	6.457	0.0037
Residuals	18	27.439	1.524		

To validate the inferences made for the ANOVA in table 5, we check for normality and homogeneity of variances assumptions of its residuals as done previously.Shapiro-Wilk and Jarque-Bera tests in table 6 revealed that, the residuals are normally distributed with p-values of 0.3054 and 0.5451 greater than significance level, 0.05.

Table 6: Normality test (Transformed data)

Tests	Statistics	P-value
Shapiro-Wilk	0.9524	0.3054
Jarque-Bera	1.2137	0.5451

The results of table 7 revealed that variances are equal across groups or samples, since the p-value of 0.3848 is greater than significance level, 0.05.Thus, after the transformation of the data the basic assumptions of ANOVA were satisfied. Hence, the inferences made previously in table 5are valid and we conclude that insect group means are all equal; while, the surveyed site group means are different from the others.

Table 7: Homogeneity of Variances test (Transformed data)

K-squared	df	p-value
1.6624	3	0.3484

The design plot of figure 3 showed that Aedes mosquitoes has low mean of yields and Culex mosquito is just on the overall mean; while Anopheles mosquitos' mean of yields is above the overall mean of the samples. Thus, Anopheles mosquito is more in Polac during the month of

June. Furthermore, the quarter guard and girls' hostel staircase have the high means of yields for mosquitoes, while the girls hostel's mean yield is just on the overall mean, the clinics mean yield fall below overall mean of the sample. Thus, the quarter guard and girls' hostel staircase are breeding places for mosquitoes in Polac.

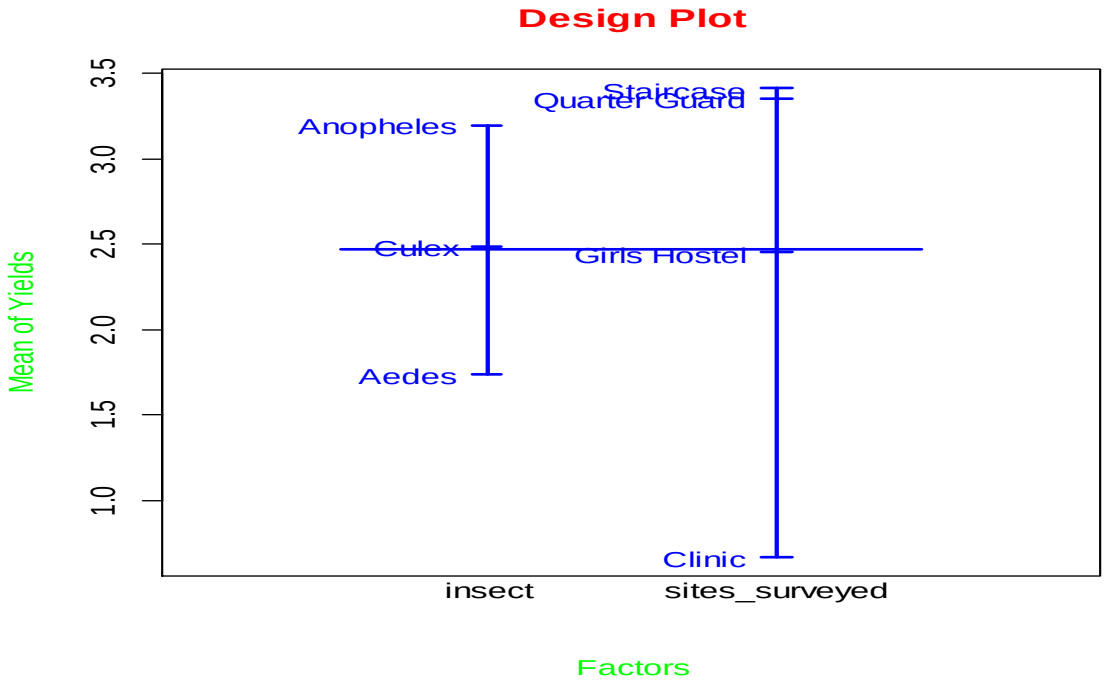

Figure 3: Design plot for mean of yields against the factors

The line that connects the means of Culex and Anopheles are quite parallel; thus, the interaction effects are very small compared to main effects or they are only apparent in a small number of treatments; so, they are probably unimportant and there is no interaction between them. Also, the mean of data for Aedes crisscross the mean of data for Anopheles and Culex; thus, the differences between levels for one factor for Aedes will depend on the level of the other factors of Anopheles and Culex mosquitoes and thus has a significant interaction effect.

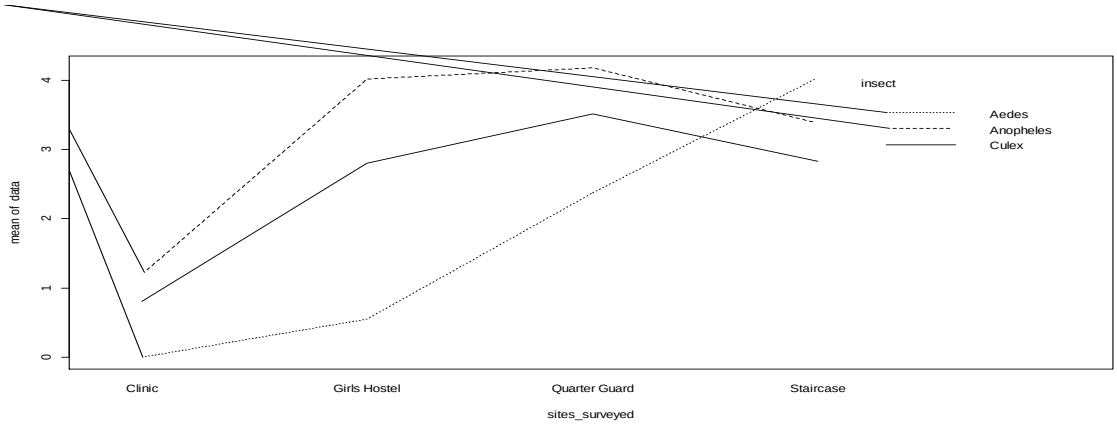

Figure 4: Interaction plot for mean of insects against site surveyed

In figure 5 below, the interaction plotted lines for quarter guard, girls hostel and clinic are close to parallel; thus, the interaction effects will be very small compared to main effects or

only apparent in a small number of treatments; so, they are probably unimportant and there is no interaction between them. The girls' hostel staircase interaction plot line crisscross that of girls hostel and quarter guard, and a decrease in the mean of the data was observed; thus, the differences between levels for one factor of the girls' hostel staircase will depend on the level of the other factors of girls hostel and quarter guard. Hence, the interaction effects for girls' hostel staircase are so large and/or pervasive that the main effects cannot be interpreted on their own, so the means of insects do differ at the girls' hostel staircase.

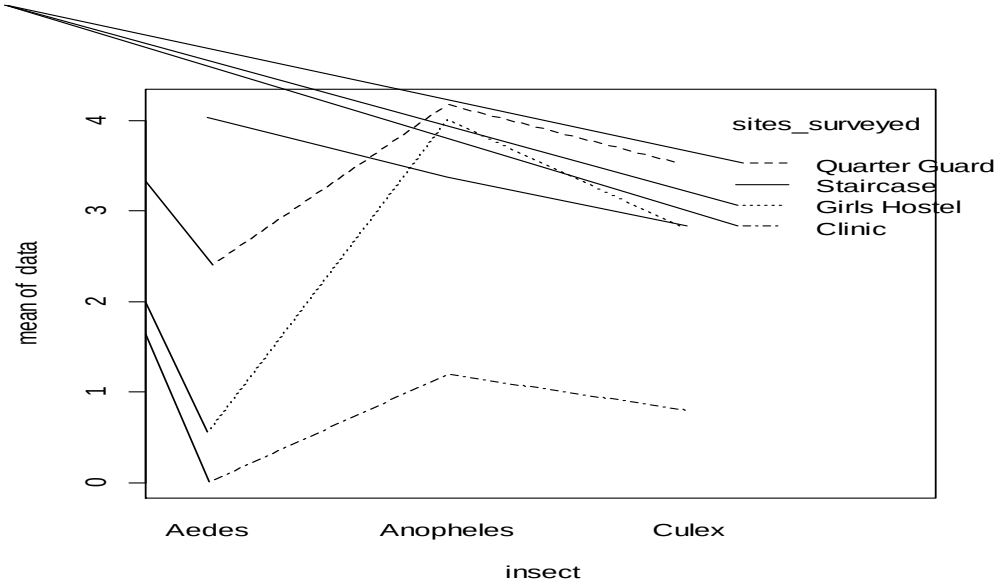

Figure 5: Interaction plot for mean of site surveyed against the insects

Table 8 shows the population means compared by a two sample t-test with pooled standard deviation to know which mean(s) is(are) significantly different from which. It can be seen that, the mean of observation of the girls' hostel is significantly different from the mean of observation of the clinics. Also, the mean of observation of quarter guard is significantly different from the mean of observation of the clinic; but, not significantly different from the mean of the observation of the girls' hostel. More so, the mean of observation of the girl's hostel staircase is significantly different from the mean of observation of the clinics; but, not significantly different from the means of the observation of the girls' hostel and the quarter guard.

Table 8: Fisher's Least Significant Different (LSD) Test

	Clinic	Girls Hostel	Quarter Guard
Girls Hostel	0.0318	-----	-----
Quarter Guard	0.0024	0.2585	-----
Staircase	0.0020	0.2286	0.9378

The Tukey's honestly significant difference (HSD) test is used to test differences among sample means for significance. It tests all pairwise differences while controlling the probability of making one or more Type I errors; i.e., the probability of rejecting the null hypothesis (no significance difference) given that the null hypothesis is true. This post-hoc analysis will provide greater insight into the differences or similarities between specific groups.

In table 8, it was observed that no significant differences between groups of sample means of the insects considered. This inference was confirmed by figure 6 were the between groups of all insects sample means' plots were seen to have crossed the boundary line to the left.

Table 8: Tukey Honestly Significant Difference (HSD) Test for Insects

Insects	differences	lower	upper	p-value adj
Anopheles-Aedes	0.9908037	-0.4801978	2.4618053	0.2254570
Culex-Aedes	0.3426259	-1.1283756	1.8136275	0.8248193
Culex-Anopheles	-0.6481778	-2.1191794	0.8228238	0.5118061

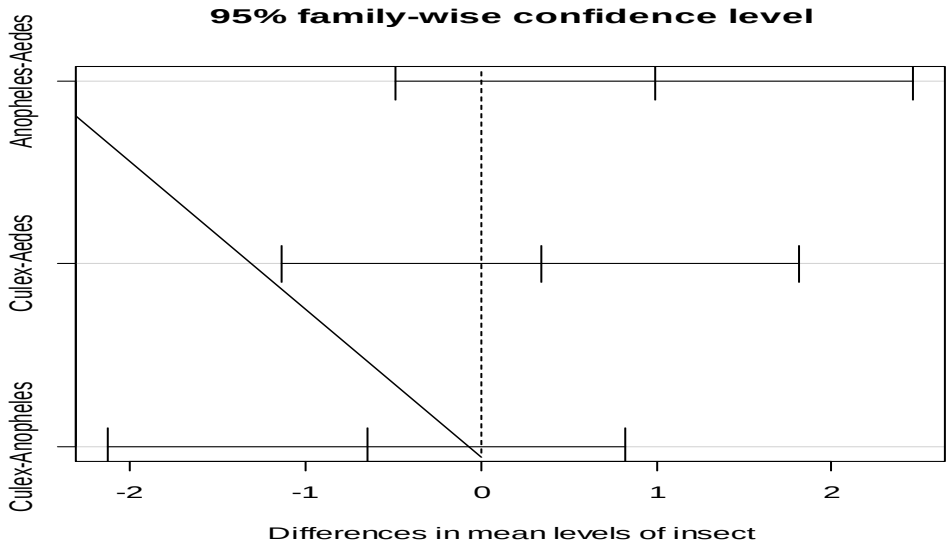

Figure 6: Tukey HSD confidence interval plot of insects

In table 9, no significant differences between groups sample means of girls' hostel and clinic, as well as the girls' hostel staircase and quarter guard were observed. Succinctly, significant differences between groups sample mean of quarter guard and clinic, girls' hostel staircase and clinic, quarter guard and girls' hostel, girls' hostel staircase and girls' hostel were detected. Moreover, figure 7 below confirmed the inferences made here; and the plots of the 95% confidence interval for the differences in site surveyed sample means for girls' hostel and clinic, as well as the girls' hostel staircase and quarter guard were seen to have crossed the boundary line to the left, while the remaining site surveyed plots did not cross the boundary line and remained at the right side

Table 9: Tukey Honestly Significant Difference (HSD) Test for sites surveyed

Sites surveyed	differences	lower	upper	p-value adj
Girls Hostel-Clinic	0.8830529	-0.99795578	2.764062	0.5585873
Quarter Guard-Clinic	2.8230200	0.94201135	4.704029	0.0025197
Staircase-Clinic	3.3460734	1.46506470	5.227082	0.0004649
Quarter Guard-Girls Hostel	1.9399671	0.05895846	3.820976	0.0418850
Staircase-Girls Hostel	2.4630205	0.58201180	4.344029	0.0080968
Staircase-Quarter Guard	0.5230533	-1.35795533	2.404062	0.8598632

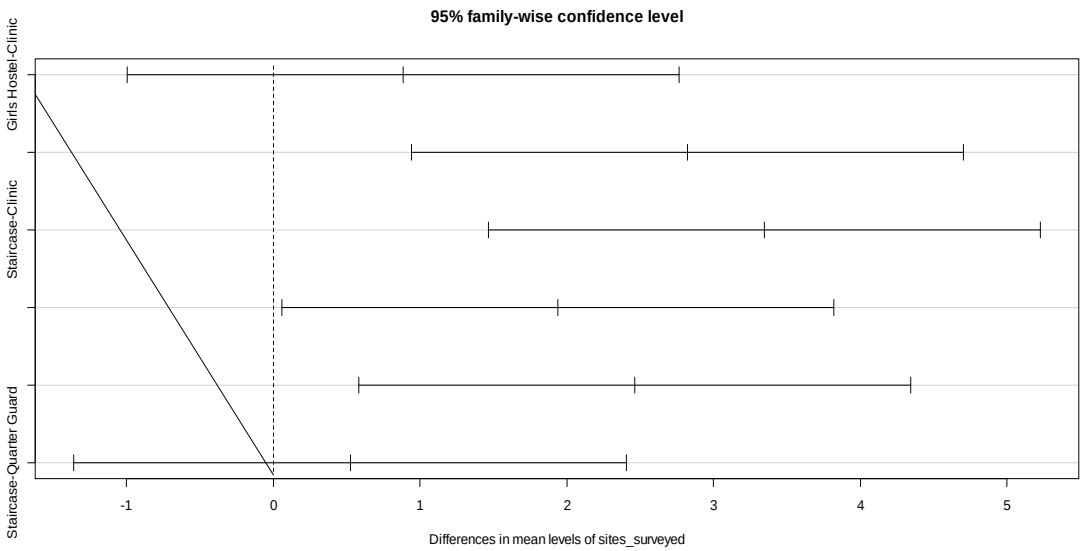

Figure 7: Tukey HSD confidence interval plot of sites surveyed

CONCLUSION

A total of eight hundred and thirty nine (839) mosquitoes comprising of 3 genera, Anopheles, Aedes and Culex were identified during the month of June, 2019 in the four selected sites. The population of mosquitoes in girls' hostel is 250, about 29.80%; the girls' hostel staircase is 241, about 28.72%; the quarter guard 330, about 39.33%; and the clinic is 18, about 2.15%; thus, abundance of mosquitoes is prevalent in the quarter guard followed by the girls' hostel, staircase of the girls' hostel, and the clinic. Furthermore, Anopheles mosquitoes was higher in terms of abundance with a total number of 476 samples, about 56.7% followed by Culex mosquitoes with a total number of 203 samples, about 24.20% and Aedes mosquitoes with a total number of 160 samples, about 19.07%. More so, 125 of the mosquitoes were males, about 14.90% and 714 of the mosquitoes were females, about 85.10% in Nigeria Police Academy.It was apparent that, the mean of observation of the girls' hostel is significantly different from the mean of observation of the clinics. Also, the mean of observation of quarter guard is significantly different from the mean of observation of the clinic; but, not significantly different from the mean of the observation of the girls' hostel. More so, the mean of observation of the girl's hostel staircase is significantly different from the mean of observation of the clinics; but, not significantly different from the means of the observation of the girls' hostel and the quarter guard. No significant differences between groups sample means of girls' hostel and clinic, as well as the girls' hostel staircase and quarter guard; thus, the factor effects are additive and no interaction between factors. Furthermore, significant differences were noticed between groups sample mean of quarter guard and clinic, girls' hostel staircase and clinic, quarter guard and girls' hostel, girls' hostel staircase and girls' hostel; thus, the factor effects are no means additive and interaction between factors exist. Succinctly, no significant differences between group sample means of the insects considered; thus, the factor effects are additive and no interaction between factors.

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NONLINEAR OPTICAL BEHAVIOR OF ZNO NANOPARTICLES UNDER CONTINUOUS WAVE LASER EXCITATION

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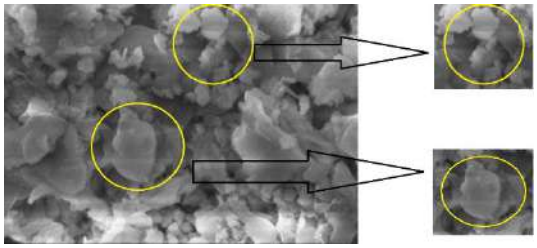
ABSTRACT

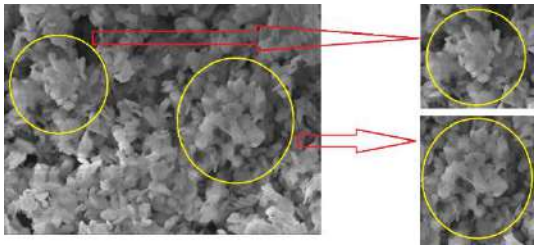
Electric Arc Furnace dust collected from iron and steel manufacturing industries was employed as the raw material for the synthesis of Zinc oxide nanoparticles (ZnO NPs). The suitability of the as-synthesized nanoparticles in optical device fabrications was confirmed through various characterization analyses post refining of the raw material followed by annealing. Crystallinity of the ZnO NPs was validated through XRD analysis and other parameters such as grain size, dislocation density, lattice strain was also acquired. Linear optical analysis revealed that the title material is transparent in the visible region without any strong absorption which is the key feature of a nonlinear optical material. The characteristic absorption edge was observed around the wavelength of 250 nm. Nominal difference in surface morphologies was observed between raw and grained samples through SEM analysis. A morphological transformation from hexagonal shaped structures to Flower shape was observed as the impact of microwave irradiation. The third order nonlinear optical property of ZnO NPs was examined by Z-Scan analysis which established that the material is self-defocusing in nature. The experimental data highlighted the proficiency of ZnO NPs as a prospective candidate for optical limiting applications. The results thus suggest that a hazardous waste material which is dumped in the atmosphere can be recycled and used for the fabrication of protective layers that actively limit the laser radiation.

Keywords: Furnace dust, Nanoparticles and Non-linear optical materials.

Graphical Abstract



SEM Micrograph of raw ZnO nanoparticles



SEM micrograph of Grained ZnO nanoparticles

EMAIL ENCRYPTION USING DOMINATING SET

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M Sivasankari
SAS, VIT, India[1, 3], Arbaminch University, Ethopia[2]

ABSTRACT
Email encryption targets to encrypt the content of message sent through emails. Emails are encrypted to shield sensitive information to avoid anyone other than the recipient to read and, it is a puzzle that the receiver alone can decrypt. Many times, emails not only contain sensitive information but also contain personal information such as bank account numbers, login credentials, social security numbers. Hackers getting access to email account can access such attachments or even hijack entire email account. Encrypting email messages before they are sent means that even if a hacker or any other person other than the intended recipient open your email message, they are not readable and hence useless. There are a variety of technology to use that can be used to encrypt emails. Using traditional methods for encryption might lead to making the task of hackers easy. Hackers might be familiar with the routine traditional methods. A dominating set is not in frequent use for this purpose. A set of vertices S in a graph G dominates G if every vertex in G is either in S or adjacent to a vertex in S. The cardinality of the smallest possible dominating set is called the domination number of G. In the literature of graph theory the domination number of a graph G is denoted by γ (G). In this article we propose a method of encrypting email messages using domination in graphs.
Keywords Domination, Trees, Encryption, Decryption, Email.

1. Introduction
In this modern-day email became an essential form of communication. For business communications email is a main tool for internal use and also used to communicate with customers. Even for confidential matters like personal data, contract papers and sending passwords people use electronic communicating tools. We know how insecure email actually is. Outsiders read it easily. So, encryption is very essential now a days. There are many encryption software and encryption programs that ensure the confidentiality of email messaging. [1] Meltem Kurt Pehlivanoğlu et al created RC4 algorithm for email encryption. [2] Tatwadarshi P. Nagarhalli provided a system called advance cipher technique to secure the contents of the emails before it is sent over the email. The paper also proposed to secure the email contents by using substitution and permutation, with the fronts provided by the email systems acting as the keys. [3] Adrian Reuter et al presented the results of a usability study focused on three end to end encryption technologies for securing email traffic, namely PGP, S/MIME, and pretty easy privacy. But often traditional techniques are known to hackers also. They break codes easy. In this article we propose to encrypt an email using dominating sets.

2. Terminology and Concepts
This section gives some basic concepts that we have used in this article. A graph G is an ordered pair of two sets V and E, where V is a finite nonempty set of objects called vertices and E is a 2 element subsets of V called edges. A tree T is a connected graph without any circuits. A set $D \subseteq V(G)$ of vertices is called a dominating set if every vertex $v \in V(G)$ is either an element of D or is adjacent to an element of D. A dominating set $D \in V(G)$ is said to be a circuit dominating set if D covers all the circuits in G. Let $D \subseteq V(G)$ be a γ-set, and let D, then v is a private neighbour of u w.r.to D, if $N[v] \cap D = \{u\}$.

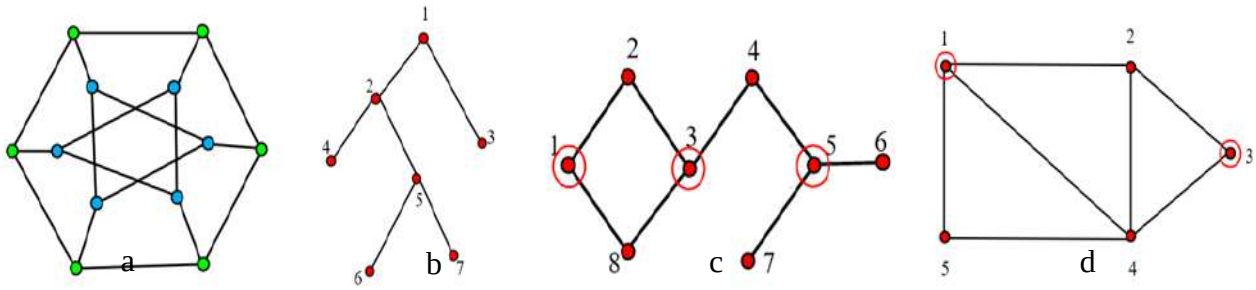

Fig. 1

Fig. 1(a), 1(b), (c) and 1(d) are examples of a graph, a tree, a dominating set and a circuit dominating set.

3. Encryption Algorithm

Step1 Let S be any email to be encrypted. Let the length of S = k.

As an illustration choose S:6GB RAM be the email to be sent. Here k=7.

Step 2 Convert S into a string of numbers $S_1 = \{w_1, w_2, \ldots, w_k\}$ using Table 1.

A	B	C	.	.	.	Z	BS	1	2	.	.	.	10
1	2	3	.	.	.	26	27	28	29	.	.	.	37

Table 1

So, the given message is converted into

6	G	B		R	A	M
33	7	2	27	18	1	13

Step 3 Consider any circuit dominating graph G, which has a γ-set D such that D is a circuit dominating γ – set and $|V - D| \geq k$.

Let |D| = m. For our illustration let us choose the graph G in Fig. 2

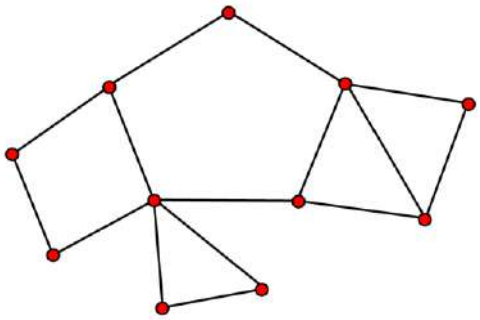

Fig. 2

Step 4 Label the vertices of G in any random order. For our illustration let us label the vertices as in Fig. 3.

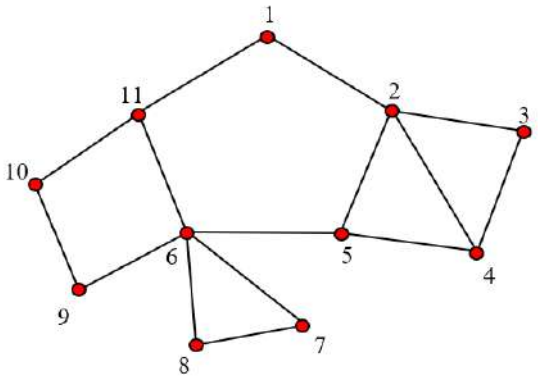

Fig. 3

Here D = {2,8,10} is a γ - set for G such that

i. D is a circuit dominating γ - set.
ii. $|V - D| = 8$ which is greater than 7.

Step 5 Arrange the vertices in D in the increasing order of the labels. Let the ordered set be D= $\{u_1, u_2, \ldots, u_m\}$. For our example m=3, D = {2,8,10}. i.e., $u_1 = 2$, $u_2 = 8$ $u_3 = 10$. Let pn(u_i, D) = $u_{i1}, u_{i2}, \ldots, u_{ip_i}$. i.e., X = { $u_{11}, u_{12} \ldots, u_{1p_1}, u_{21}, u_{22}, \ldots, u_{2p_2}, \ldots, u_{m1}, u_{m2}, \ldots, u_{mp_m}$} are the private neighbours of G w.r.to D such that p_i = number of private neighbour of u_i. Similarly, let non private neighbour of (v_i,D) = $v_{i1}, v_{i2}, \ldots, v_{iq_i}$. i.e. Y = { $v_{11}, v_{12} \ldots, v_{1q_1}$, $v_{21}, v_{22}, \ldots, v_{2q_2}, \ldots, v_{m1}, v_{m2}, \ldots, v_{mq_m}$} are the non-private neighbours of G w.r.to D such that q_i= number of non-private neighbour of v_i.

Step 6 Choose X and Y for G such that

i. Label of u_{i1} > label of u_{i2} > ... > label of u_{ip_i}, for every $0 \leq i \leq m$.
ii. Label of v_{i1} > label of v_{i2} > … > label of v_{iq_i}, for every $0 \leq i \leq m$.

For example pn(2, D) = {1,3,4,5}, pn(8, D) = {7}, pn(10, D) = {9}.So, X = {1,3,4,5,7,9}. Vertex {11}is the only 2-dominated vertex. So non private neighbour of {2} and {8} are empty. Non private neighbour of 10 = {11} which implies Y= {11}.

Let |X| = r and |Y| = s. Note that $|r + s + m| = |V(G)|$, $|r + s| = |V - D|$

Step 7 Choose the vertices in X. Assign the first r values of string S_1as the labels of the vertices in X. For our example vertices {1, 3, 4, 5, 7, 9} receive the labels {33, 7, 2, 27,18, 1}. Let $S_2 = S_1 - \{w_1, w_2, \ldots, w_r\}$.

Step 8 Choose the vertices in Y. Assign the first s values of S_2 as labels for the vertices in Y. For our example vertex {11} receives the label {13}. The resulting graph is as seen in Fig. 4.

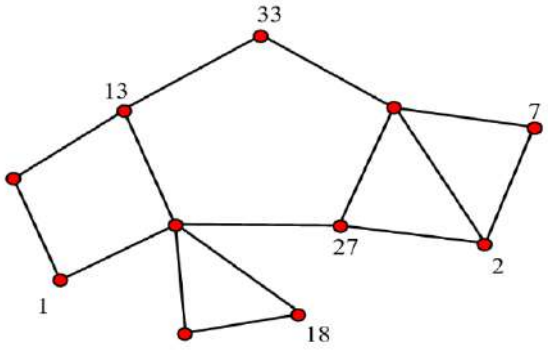

Fig. 4

Step 9 Assign random labels to the remaining vertices in G. For our example, the graph with labels assigned is as seen in Fig. 5.

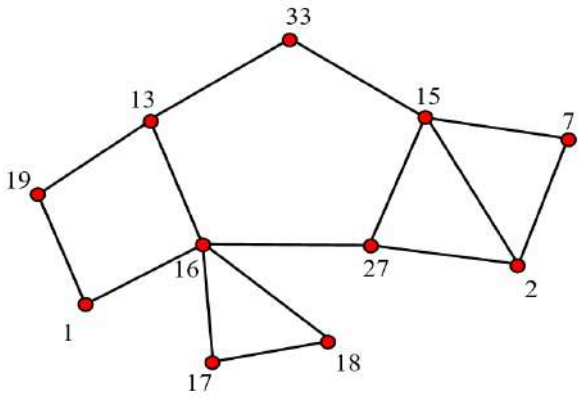

Fig. 5

Step 10 Send the graph in Fig. 5 to the receiver.
Decryption is possible by reversing the procedure.

4. Conclusion

The proposed method aims to send any email message as a graph.

1. We have used graphs which has a γ-set D such that |V -D| is a tree. The caterpillar gives an exact such a graph. The general structure of a caterpillar graph is as seen in Fig. 6. Here encircled vertices denote the γ-set and this graph is defined for any $n \geq 2$. So, this method can be used for an email of any length. Any email can be encrypted as a single graph.



Fig. 6

2. We have used random vertex labels to the vertices in D. Unless this ordering is known, decryption becomes almost impossible. If |D| = m for any graph G with n vertices then there is m! possible ways of labelling the vertices in D.
3. The private neighbours and the non-private neighbours are used for encrypting the message. These vertices are chosen based on the label assigned to the set D and the ordering followed for labelling these vertices. Since |X| = r and |Y| = s, these r and s vertices can be labelled in r! and s! ways
4. Combining steps 1, 2, 3 we conclude that the vertex labels can be assigned in $m! \times r! \times s!$. For the graph in Fig. the message can be encrypted in $3! \times 6! \times 1! = 4320$ ways.
5. The γ-set D has been chosen such that $\langle V - D \rangle$ is a tree. Given any graph G there is more than one γ-set that satisfies this property. For example for the graph G in Fig. 7.

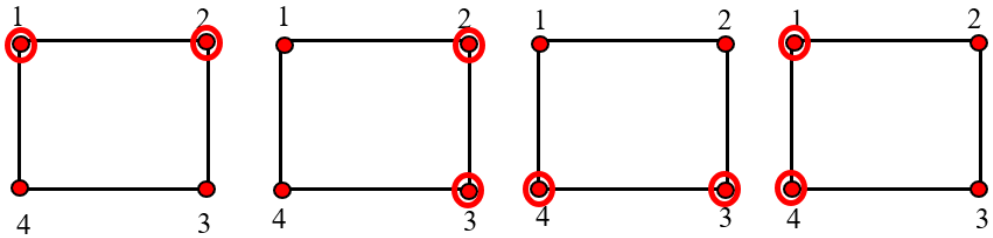

Fig. 7

{1,2}, {2,3}, {3,4} and {1,4} are the possible γ-set such that $\langle V - D \rangle$ is a tree. Unless the correct γ-set is known, decryption becomes impossible. Even if the property of picking the γ-set is known.

6. The receiver would receive a graph. It is difficult for any hacker to guess that an email is encrypted in the graph. It would look like a graph communicated for a general discussion in graph theory.
7. So, the proposed method can be used for a safe communication of any email content.

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AN EVALUATION OF SERVICE QUALITY AND ITS ROLE IN CUSTOMER SATISFACTION: THE CASE OF A SAVINGS BANK IN BOTSWANA

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ABSTRACT

As the service industry becomes increasingly competitive, banks continuously look for ways to distinguish themselves from competitors. Service quality has attracted major attention from academic researchers as well as marketers in the past few years due to its significant role in business performance and maintenance of customer loyalty. Recent growth in the service sector, banking included, has necessitated the need for service providers to understand customers' view of the quality of service offered. Only then can they effectively optimise their returns from the service and stay ahead of competitors. The aim of the study is to evaluate the service quality of a selected savings bank in Botswana and establish its role in customer satisfaction. The study adopted a cross sectional survey design. A questionnaire was administered to 200 respondents who were sampled from a population of 400 customers of the bank with 164 questionnaires successfully completed and returned culminating in an 82% response rate. The findings of the study established a positive relationship between service quality and customer satisfaction at the bank. The conclusion of this study is that customer satisfaction can lead to higher customer retention. The study outcomes showed that the bank staff had a good understanding of customers; they were courteous, and the bank is trustworthy to customers. However, the bank's services that were reaching the clients were limited. To enhance customer satisfaction at the bank and stimulate customer loyalty, it is recommended that the bank should enroll its customer contact employees in courses that are aimed at improving their interpersonal skills to improve their friendliness which is important to customers. The bank should review its operating hours and integrate technologies such as queuing applications to improve customer satisfaction.

Key Words: Customer satisfaction, quality service, banking services, customer, customer service.

REPRESENTATIONS OF WOMEN'S WORK IN PUBLIC POLICY. THE ELLAS HACEN CASE

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ABSTRACT

This paper aims to present the evolution of the concept of work in the Argentine social policy "Ellas hacen"-which encouraged the creation of cooperatives of working women to achieve their economic autonomy- until their unification in the program "Hacemos Futuro Juntas" -which called for personal development-. To carry out this analysis it was necessary to make a tour of the governmental efforts of Cristina Fernández de Kirchner (2011-2015) and Mauricio Macri (2015-2019). In this way, it was problematized in the way in which this policy was (re)defining the work from a purported approach of gender, being that, in the evolution of this, in its design and its practice they omitted problems related to it. In this sense, it was necessary to link gender studies to public policies. It is in this area that the importance of this presentation is expressed, since it is explained how the State exempts the uniqueness of women in this type of measures, which would help to further deepen gender inequities.

Keywords: Feminization of poverty, public policies, women, care.