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CRITICAL FACTORS AFFECTING HOUSEHOLDS' RED MEAT CONSUMPTION IN TURKEY

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Abstract

Red meat consumption is vital for a balanced diet. This research examines the factors that cause consumers to prefer red meat, determines the shopping channels from which red meat is purchased, and the frequency and consumption of red meat. A face-to-face survey was applied to 273 households selected by simple random sampling. Data were analyzed using SPSS 23.0. The decisive factor in the participants' red meat preferences in the study was taste (61.5%), followed by production date (60.2%) and freshness (58.5%). According to this result, consumers were more pleasure-oriented in choosing red meat products. Advertising was the least important factor. 58.2% of the purchased red meat was from butchers, 10.6% from discount markets and 9.5% from local markets. Participants bought red meat several times a month (26.4% of them.) and consumed it several times a week (44.7%.) Half of the total meat consumed in the households was red meat. The purchasing and consumption frequency of red meat in the families in Bursa was low. Decreasing red meat prices will increase households' purchasing and consumption frequency. Farmers need a subsidy to lower production costs and increase productivity, thus reducing retail meat prices.

Key words: *meat consumption, purchase patterns, purchase outlets, product preferences*

INTRODUCTION

A balanced diet is necessary for people to continue their daily activities [27]. The report prepared by the United Nations Food and Agriculture Organization states that the world population will increase up to 10 billion in 2050 and that Turkey will exceed 110 million [36]. Feeding the growing population in the world and Turkey and meeting the increasing food demand always maintains its importance. Individuals should consume the necessary vitamins, minerals, carbohydrates, fats and proteins for a healthy diet. Red meat provides a significant share of animal protein sources [3], [6]. Daily protein consumption of animal origin is 72.7 g in the United States and 63 g in Germany [8]. According to OECD [20] data, the daily consumption of animal origin protein per capita in Turkey is 37.12 g. In Turkey, red meat consumption is lower than in developed countries. Consumption habits may differ from country to country, region to region, and regionally. Traditions and religion can affect eating culture. For example, fruit and vegetable consumption may be more common in Mediterranean countries. Muslim countries primarily consume beef and mutton, and the demand for pork and its products is high in other countries. Due to Hindu religious beliefs, beef is not consumed in India. The economic development levels of the countries also affect the meat preference of the consumers. Further, new trends such as health concerns, shopping convenience, enjoyment, sustainability, authenticity, and technology lead to diversity in consumption [33], [19]. The primary purpose of this study is to examine consumers' red meat consumption preferences through the example of Bursa province. This research aims to reveal the factors that lead consumers to prefer red meat, consumers' shopping channels and the purchasing and consumption frequency of red meat.

Literature review

Factors affecting red meat preferences

Many factors can influence red meat preferences. Freshness is one of the most sought-after properties in food products [24]. Meat products, which have an essential role in human health, should preserve their freshness.

However, microbial development and chemical changes affect the freshness of food products. Products that lose their freshness can cause various health problems, especially food poisoning [23]. For this reason, especially in meat products, freshness is one of the most important features for consumers.

Meat and meat products are high-priced. They constitute a substantial percentage of the family budget. Especially in low-income families, the budget size allocated to meat products forces the family to spend carefully on these products. Therefore, consumers aim to obtain the best quality meat at the lowest price. The rise in meat prices causes the family to consume less meat [15]. Parents may only buy meat to meet their children's protein needs in some cases.

Another factor that consumers consider when deciding to buy food products is quality. The quality of food distinguishes one food product from another. It consists of the combination of features that play a role in the consumers' food preferences and that can be measured and controlled separately. Quality subjectively includes the degree of usefulness, practicality, price, and reliability of the firm that consumers seek. Objectively quality refers to the product's features that can be measured and determined by quality standards and regulations [26]. Consumers also perceive products with high nutritional content and produced under conditions that suitable for health as high quality. The high price of meat products also raises the quality expectations of consumers. The animal should be slaughtered and meat transported and stored in a hygienic environment. It is crucial for the consumer whether the meat in the aisle ways is kept clean. Selling meat to consumers without complying with sanitary conditions can cause food-borne diseases [25]. The product's hygiene can also be accepted as an indicator of quality. A product offered for sale in unhygienic environments can be considered poor quality. In some cases, hygiene may be more important than freshness in the eyes of the consumer. Likewise, Lorcu and Bolat [17], in their research examining the consumption of red meat of consumers in Edirne, showed that the most crucial factor in the choice of red meat was providing hygienic conditions with 32.7%, and freshness was in the lower ranks with 17.3%.

Packages provide resistance to temperature and weather conditions that foods need and protect them from bacteria and moulds [28]. It attracts consumers' attention with its colour, shape, material, whether it has an intelligent packaging system and whether it can be opened easily [10]. Packaging provides communication between the consumer and the product. This communication takes place through giving information on how the product will be consumed on the packages, writing the package content information in detail, specifying the expiration date, and the appropriate size of the text on the container. In addition to the specified features, it is vital to display information such as origin, slaughter date, processing date, and animals' certificate number [30]. Meat is very susceptible to bacterial spoilage. Therefore, the packaging ensures that the colour of the meat is preserved, as well as preventing water loss and preventing microbiological spoilage. The presence of production date affects consumer decisions. This factor indicates the shelf life of food items. Products whose shelf life has expired can cause severe consequences such as poisoning.

Brand affects consumer preferences. Features that help identify a product or service, promote them and distinguish them from competitors' products or services are defined as brands. It is getting harder to choose between products, prices and brands that are increasing and differentiating day by day. Therefore, consumers tend to buy products from well-known brands at affordable prices. The brand is also prominent in food products. Consumers prefer branded products because brands sell products that are inspected, healthy and with a quality certificate. When a problem is encountered, brands generally stand behind their goods and solve problems more effectively [13].

Advertisements are one of the most frequently used resources to provide brand recognition. All kinds of work with advertisements aim to influence consumers' shopping peferences [21]. Advertisements present product

information, inform about taste, appearance, promotions, and discounts, and pass messages using images, sound, and slogans to attract consumers' attention.

For some agricultural products, consumers particularly want to know their origin. Meat and meat products are particularly included in these agricultural products. For example, meat and meat products obtained from animals in Eastern Anatolia are more in demand. There are specific breeds; the fauna is richer so that the meat is tastier [18].

Purchase points of red meat and factors affected that choice

Consumers could purchase red meat only from butchers in the past. They can buy it from a wide variety of places today. Local markets, chain markets, farmer's markets, and organic markets are places where meat is bought frequently. What extent to which consumers can consume red meat from these places varies according to household income, food prices, and the local food and shopping culture. In addition, trust in the quality of the meat offered habit, ease of transportation, ease of payment, price, hygiene, knowing where the meat comes from and the feeling of trust in the seller and the company have an essential place in the selection of the place of purchase for red meat.

Butchers are the most common and most common places to buy red meat. The fact that the butcher is a local artisan and the meat's origin is known ensures the continuation of trust and demand for butchers. Butchers generally know their customers personally, know their preferences, advise them on meat selection, and offer convenience in payment (sell on account) [32]. Especially in recent years, consumers have become increasingly conscious of supporting local merchants, and they divert their purchases to local merchants as much as possible. After the Covid-19 pandemic in March 2020, the number of online orders for all foodstuffs increased rapidly. Meat and meat products also benefited from this increase. Online food shopping increased by 19% at the beginning of the Covid-19 epidemic in Taiwan [9]. A study conducted in Turkey revealed that online shopping increased by 85% in 2020. At this rate, the share of food expenditures was 22.5% [11].

Consumers' red meat purchasing places have shifted from traditional butchers to supermarkets and discount markets. Supermarkets in Turkey are generally of foreign origins, such as Migros (Switzerland), Carrefour (France) and Metro (Germany) and generally operate throughout the country. In addition, Turkish branded markets are generally based on a specific province or region. However, discount markets like Lidl in Germany and Billa in Austria operating throughout the country have become widespread and preferred by consumers in recent years. Supermarkets contain a vast number of products, offer a wide range of quality and have long opening hours. These markets can promote more frequently and various products. Markets offer promotions more regularly and on a wider variety of products. Consumers can pay by credit card in supermarkets, which is handy for consumers who are short of cash. Supermarkets pay more attention to the shelf life and storage conditions. Unlike bazaars, they can choose the product themselves. In larger cities, the convenient parking that markets offer gives an advantage. Most markets in Turkey offer a shuttle service to consumers, making the market a desirable shopping place.

The popularity of discount markets is increasing due to the increasing food demand after covid, the rise in food prices, and the country's economic contraction. Discount markets offer a lower price policy compared to other retail stores and sell local or less known brands [4]. These markets have fewer employees. They pay less attention to shelf layouts than supermarkets [2]. Similar to supermarkets but on a restricted scale, discount markets offer discounts. Consumers tend to shop at such markets on special occasions when large amounts of food are consumed. Discount markets are about to replace local corner shops [16].

Many people in Turkey still buy red meat directly from livestock farmers. Notably, large families, families that care about the origin of the beef, and families with connections or family members in villages prefer this option.

Turkey has developed animal husbandry, and meat is fundamental in Turkish cuisine still; research on red meat consumption is scarce [22], [24], [3].

Existing research primarily focused on the types and amounts of meat consumed. Factors affecting meat consumption, red meat shopping outlets and reasons for choosing those outlets were not examined in detail. Additionally, the existing research was generally carried out in rural provinces where livestock production is intense. Meat consumption preferences of consumers living in metropolitan areas have not been examined explicitly. This research aimed to explore consumers' preferences in Bursa, an economically developed industrial city where more individuals are in business life.

This research seeks answers to the following questions:

1) What factors affect consumers' preferences for red meat?

2) Where do consumers buy red meat?

3) How often do consumers buy and consume red meat?

MATERIALS AND METHODS

Study area

Bursa province is the 4th most populous city in Turkey. The city has a surface area of 10,886.38 square meters and is located in the South Marmara Region, between 40˚ West longitude and 29˚ North latitude circles. The province has a population of 3,147,818 million (1,573,362 males and 1,574,456 females). 35% of its population is young, 51% is middle-aged, and 14% is elderly. It is one of the most economically developed cities in Turkey, and a significant part of the country's major industrial facilities are located in this province. The average household size in Turkey was 3.3 people, and in Bursa was 3.24 people. The total number of households in Turkey in 2020 was 25,329,833. There were a total of 966,765 households in Bursa. Food and non-alcoholic beverages constituted 20.8% of household consumption expenditures in Turkey [34], [35]. The survey was conducted with the person responsible for main shopping in the family. If the person who does the shopping in the family does not consume red meat himself, the questionnaire was asked to be answered by considering the people who consume red meat from the family members.

Sampling

A simple random sampling method was used to determine the number of households to be surveyed. This method ensures that participants can participate in the sample with the same probability. Below formula was used to determine the sample size [31]:

$$n = \frac{t^2 2[1+(0,02)(b-1)]pq}{E^2} = 257 \qquad (1)$$

where:

n: sample size, t: significance level (assumed 95%), p: the probability of consuming red meat, q: the probability of not consuming red meat, E: accepted error (assumed to be 5%).

The survey was terminated with 270 participants. Considering the possibility of missing or misleading data, 257 questionnaires were included in the analyses.

Data collection

This study was conducted in September-December 2021 with a family member responsible for the main food shopping in the family. Face to face structured survey was conducted. Before applying the questionnaire, the participants' consent was obtained. Participants were ensured that their personal information would be carefully stored and information they provided would be used for academic purposes only.

The questions were obtained and adapted from the relevant research. To ensure the clarity of the questions, the questions were shown to an expert academician. Before the survey was applied, a pilot study was conducted with 20 graduate students in the Department of Agricultural Economics at Bursa Uludag University. Data from the pilot study were not included in the primary sample.

The red meat consumption questionnaire consists of 39 questions. The first 10 questions in the survey are aimed at determining the demographic characteristics of the participants. 25 questions are about

determining the red meat consumption of the participants. The remaining 4 questions are related to choosing red meat, not choosing red meat, processed foods, red meat preference and frequency, and were prepared in a 4-point Likert Scale (1=Strongly Agree; 2=Disagree, 3=Agree; Prepared as 4=Strongly Agree).

The data were analyzed using the SPSS 23.0 Package Program. Cronbach's alpha coefficient was found as $\alpha=0.905$. The analysis results being $0.8<\alpha<1.00$ means "the scale is highly reliable" [14]. Frequency tables were prepared to test the research hypotheses.

RESULTS AND DISCUSSIONS

Socio-demographic characteristics of the participants

The gender, marital status, age, education level, number of people living in the household, occupation and monthly income were examined. Details of the findings are given in Table 1. Over half of the participants (59.7%) were men, 40.3% were women, 72.5% were married, and 27.5% were single. In Turkey, the rate of single individuals aged 15 and over was 27.4%, and for married individuals, this rate was 63.8% [35]. Therefore, the survey results coincide with the data for Turkey. The highest participant group in the study was families with three people (24.9%) in the household, followed by families with four (24.2%). In other words, half of the participants (49.1%) were from nuclear families. Almost a quarter (24.9%) of the participants were civil servants, 19.4% were retired, and 18.6% were blue-collar workers. Confirming this finding, 42.1% of the participants were graduates.

Participants were mainly from the middle-income group. While 22.7% of the respondents had an income between 4,000 Turkish Lira (T.L.) and the minimum wage, 69.5% of them had an income of more than 4,000 TL. As the family income increases, the ratio of food expenditures to income decreases [7]. The present research supports this thesis.

Approximately half of (46.2%) participants' food expenditures constituted less than 35% of their total household expenditures. A third (35%) of participants' food expenditure made up between 36% to 50% of the total spending. In contrast, the study conducted by Alev [3] reported that approximately 56% of the participants spent the most on food.

Table 1. Demographic characteristics of participants (N=273)

		N	%
Gender	Female	110	40.3
	Male	163	59.7
Marital Status	Married	198	72.5
	Single	75	27.5
Age	23-30	63	23.1
	31-40	56	20.5
	41-50	56	20.5
	51-60	47	17.2
	61≥	51	18.7
Education	Illiterate	1	0.4
	Literate	18	6.6
	Primary School	31	11.4
	Secondary Sch.	32	11.7
	High School	58	21.2
	Graduate	115	42.1
	Postgraduate	18	6.6
Number of people in the family	1	19	7.0
	2	51	18.6
	3	68	24.9
	4	66	24.2
	5	33	12.1
	6 ≥	36	18.6
Occupation	Artisan	32	11.7
	Blue-collar	51	18.6
	Civil servant	68	24.9
	Retired	53	19.4
	Unemployed	19	7
	Student	9	3.6
	Private sector	2	0.7
	Housewife	16	5.8
	White-collar	5	1.8
	Other	18	6.5
Total monthly household income (T.L.)	≥ 2825 TL	21	7.7
	2826-4000	62	22.7
	4001-6000	88	32.2
	6001-8000	67	24.5
	8001 TL ≥	35	12.9
Share of food expenditures in total expenditures	≥ %25	33	12.1
	%26-35	93	34.1
	%36-50	96	35.2
	%51-75	48	17.6
	%76≥	3	1

Source: Field Survey Data Analysis, 2021

Meat consumption and purchasing habits of participants

26.4% of the participants purchased red meat several times a month; another quarter (24.2%) purchased it weekly. When asked

about the frequency of red meat consumption, 44.7% of the participants consumed it several times a week. When the participants were asked about the share of red meat in the total meat consumption, 71 (26%) declared that half of the total meat consumption consisted of red meat (Table 2).

Table 2. Participants' attitudes towards red meat consumption

		N	%
How often do you buy red meat?	Everyday	5	1.8
	Once a week	66	24.2
	Several times a week	52	19.0
	Once a month	51	18.7
	Several times a month	72	26.4
	Several times a year	14	5.1
	Only on special occasions	9	3.3
	Never	4	1.5
How often do you consume red meat?	Everyday	6	2.2
	Several times a week	122	44.7
	Once a week	77	28.2
	Once a month	65	23.8
	Never	3	1.1
What is the share of red meat in the total meat you consume?	One-quarter	69	25.3
	One-third	67	24.5
	Half	71	26.0
	More than half	57	20.9
	All	7	2.6
	I don't consume	2	0.7

Source: Field Survey Data Analysis, 2021.

The reasons for preferring and not preferring red meat

Of the 273 participants who participated in the survey, 127 (46.5%) expressed that palatability as "very important" in their red meat preferences. 104 participants (38.1%) bought red meat because they found it beneficial for health.

The most insignificant factors in the meat preferences were the ease of finding (15.5%) and habit (14.7%).

When the respondents were asked about the reasons for not primarily consuming red meat, the most critical factor was that the meat was expensive (37.4%), followed by the disease risk in meat (20.9%).

The most insignificant factor for not consuming red meat was that the individual had a vegan and vegetarian style (60.1%) (Table 3).

Table 3. The reasons for preferring or not preferring red meat over other meat types

	1	2	3	4
The reasons why you primarily prefer red meat?				
Habit	12.1	22.7	50.5	14.7
Easy to find	16.8	24.5	43.2	15.5
Palatable	8.8	5.1	39.6	46.5
Filling	9.2	11.0	47.6	32.2
Healthier	7.3	9.5	45.1	38.1
Easy to cook (especially minced meat)	11.7	25.3	38.5	24.5
Kids like it	9.9	24.5	37.0	28.6
The reasons why you primarily do NOT prefer red meat?				
Expensive	22.3	13.9	26.4	37.4
Do not like the smell	41.4	28.2	19.0	11.4
Health reasons	28.6	24.5	30.4	16.5
Not used to eating meat	41.0	33.7	20.1	5.2
Do not like the taste	45.1	27.5	16.1	11.3
Disease risks that can be transmitted from red meat	38.5	23.4	17.2	20.9
Having a Vegan or vegetarian diet	60.1	23.8	9.1	7.0
Prefer white meat more	32.2	28.2	26.0	13.6
Concern for animal welfare	42.9	33.7	16.1	7.3

(1=Highly Unimportant, 2=Unimportant, 3= Important, 4=Highly Important)
Source: Field Survey Data Analysis, 2021.

Factors affecting consumers' choices of red meat

Respondents primarily found the taste “very important” when purchasing red meat (61.5%) (Table 4).

The date of manufacture (60.1%), freshness (58.5%) and quality (58.2%) were other important factors. On the other hand, advertisements were the least important factor (25.6%).

Table 4. Factors affecting the purchasing preferences of red meat products

	1	2	3	4
Good farming/livestock practice	9.2	16.5	47.6	26.7
Place of purchase	4.4	6.2	46.9	42.5
Freshness	2.6	2.6	36.3	58.5
Price	3.7	5.9	42.1	48.3
Packaging	7.0	18.6	41.4	33.0
Quality	1.5	4.0	36.3	58.2
Brand	8.4	20.6	41.0	30.0
Advertising	25.6	43.2	18.7	12.5
Taste	3.7	1.8	33.0	61.5
Place of Origin	10.3	28.9	34.8	26.0
Date of manufacture	1.8	5.5	32.5	60.2

(1=Highly Unimportant, 2=Unimportant, 3= Important, 4=Highly Important)
Source: Field Survey Data Analysis, 2021.

Places where red meat are purchased

Table 5 shows that 58.2% of the participants bought red meat from butchers. Only 10.6% purchased red meat from discount markets. Similarly, supermarkets (7%) and local markets (9.5%) are less preferred places for meat purchase.

Table 5. Purchasing places of red meat products

	N	%
Super Markets (Migros, Carrefour)	19	7.0
Discounted Markets (A101, Bim, Sok)	29	10.6
Local Markets (Ozhan, Yıldırım, Onur etc.)	26	9.5
Butcher	159	58.2
Others*	40	14.7

* Those who shopped a combination of the above places.

Source: Field Survey Data Analysis, 2021.

Discussions

Households' frequency of purchasing and consuming red meat

Individuals lead their lives healthily if they follow an adequate and balanced diet. The first step of sufficient and balanced nutrition is to take the daily protein needed regularly. Experts also recommend red meat, which has many health benefits. However, red meat prices are high, and consumer incomes are limited, which affects their purchasing frequency. Red meat is more expensive than other types of meat. However, it has an important place in Turkish food culture. Families make an effort to include red meat in their meals, albeit forcing their means. In the present study, less than one fifth (18.7%) of the participating families bought red meat once a month. The high meat prices can explain this low rate. About half of the participants could consume red meat only once a week or several times a month. Similarly, Karakaya and Kiziloglu [12] underlined that 62.2% of local people purchased red meat once a month. A relatively larger portion of consumers in Bursa could consume red meat. More people work in the household, and more money comes to the family due to the higher education. However, the constant increase in meat prices and the fact that white meat is cheaper lead consumers to buy white meat. Therefore, consumers buy red meat less frequently. Participants, who were aware of the importance of red meat for health, made an effort to buy red meat at least once a month.

Red meat consumption frequency

Socio-demographic characteristics affected the consumption frequency of individuals due to their red meat purchases. In particular, the difference in the income levels of consumers directly affected the frequency of meat consumption. Low-income families bought and consume red meat less frequently, while high-income families did more regularly. Studies also support the variation in the frequency of red meat consumption. Akcay and Vatansever [1], in their study on red meat consumption in Kocaeli, a province close to Bursa, stated that 37.1% of them consumed red meat once a week, 26.57% of them once a month. In the current study, 28.2% of the participants consumed meat once a week and 23.8% once a month (Table 2). The research areas' geographical proximity and economic development ensured similar consumption patterns. Consumers confirmed that half of their total meat consumption (71 people) consists of red meat in the current study. Sixty-nine participants (25.3%) who participated in the survey stated that a quarter of their total meat consumption was red meat. According to OECD [20] data, the share of red meat in Turkey's total meat consumption was 41.03%. According to these data, consumers in Bursa consume less red meat than consumers in the country on average. The share of red meat consumption in total meat consumption was 83% in Uruguay, 72.9% in South Korea, 66.8% in the European Union, 65.6% in Pakistan, 63.6% in Bangladesh, 61.7% in Japan, 54.4% in Russia and 50.1% in the U.S. Red meat consumption is declining in the world. This is due to health concerns in developed countries. However, this is primarily an economic reason for Turkey. Still, red meat consumption in those countries, including developing countries such as Uruguay, Bangladesh and Pakistan, was higher than in Turkey [5].

Factors affecting red meat purchase

Many factors affect consumers' red meat preferences. Besides demographic factors consumer preferences are influenced by

factors originating from product characteristics and environmental factors. Factors stemming from freshness, taste, and quality; advertisements, price, packaging, and brand are among the factors originating from the environment. Among these factors, price is a factor that varies in line with the income of consumers. Lorcu and Bolat [17] stated that the factors that most affect consumers' red meat preferences were taste (53.7%), being nutritious (20.7%) and being healthy (12.6%). In the same study, the least important factor was the ease of finding. Similarly, Yaylak et al. [37] stated that the factor that consumers paid most attention to was taste (52%). Both current and existing research confirmed that taste was the most critical factor affecting red meat purchase. Since meat is expensive and the high cost of red meat vastly affects purchase volume, the price was not the top factor that affected red meat preference. The taste was decisive for consumers. For a person who has provided basic needs, eating is also an activity of pleasure. The most prominent role in this pleasure is the taste of the consumed product. Additionally, taste stimulates appetite, provides pleasant smells and leaves indelible traces on the palate. Freshness is among the first three factors in the current study. The findings obtained from the research are similar to the results of Alev [3]. Meats are perishable products. Any chemical change that will occur in these products affects the freshness. Products that lose their freshness, food poisoning, etc. lead to adverse events. The fact that consumers have faced such negativities in the past increases the importance they attach to freshness. According to the data obtained from the research findings, advertisements were the least important factor. Advertisements aim to create a particular effect on the consumer audience and inform the consumer about the product. It also directs the purchasing tendencies of consumers. Advertisements being insignificant for the participants can be associated with the level of education. Almost half of the consumers in Bursa were university graduates. Participants with a high level of education are less affected by advertisements in their product preferences. Those people rely on their own choices and have more heightened product awareness.

Red meat purchase points

The increase in population in cities resulted in increased variety and number of meat purchase outlets. Consequently, farmers' markets, discount markets, supermarkets, local shops, and organic bazaars started selling red meat and meat products besides butchers. Consumers choose to buy their red meat depending on their income and product preferences. Besides numerous factors, consumers consider the hygiene environment when selecting their purchasing places. The ease of access is another critical factor in choosing the purchase point. More than half of the consumers bought red meat from butchers (58.2%) in the current study. This was followed by discount markets (10.6%) and local markets (9.5%) (Table 5). Similarly, 51.9% of consumers in Mersin purchased meat from butchers [29] and 11.7% from markets [29] in Mersin. It is noteworthy that discount markets ranked second for meat purchases. Red meat is primarily purchased from butchers because butchers are local and traditional outlets. The fact that the butcher is a local tradesman, that the consumers know it, that the butchers know their customers' tastes and that they offer products in line with their preferences are influential in selecting these places. Further, butchers sell on credit to their acquainted customers.

The study's findings confirmed that discount markets were preferred in the second, and local markets were preferred in the third. It is a valuable finding that supermarkets did not stand out in meat preference.

Consumers who are price-sensitive about meat prefer discount markets, while consumers who want the ease of transportation prefer local markets.

Compared to the butchers, consumers who value a broader range of selection and easy payment (by using a credit card in the absence of cash) prefer markets.

Campaigns and promotions in the markets were another reason for selecting purchase points.

CONCLUSIONS

Healthy and balanced nutrition is a must for individuals to survive. The human body must take in the fat, carbohydrates and protein it needs regularly and adequately. Almost half of the daily protein amount should be of animal origin. Red meat is an essential source of nutrients in providing proteins of animal origin. This study investigated the red meat consumption status of consumers living in Bursa. The research was carried out to reveal the frequency of red meat purchase and consumption patterns of consumers, examine the factors affecting red meat purchase and determine common meat purchase places. The study has shown that the most critical factor in the purchase was taste. Butchers were the first choice to buy red meat. The participants mainly bought red meat a few times a month (26.4%) and consumed it several times a week (44.7%). It is vital to raise society's awareness of increasing the frequency of red meat purchases and participants' consumption. Publication and training studies should be carried out to provide people with healthy, high quality and balanced nutrition habits. The nutritional content of red meat and its importance in human life should be explained in all channels and media.

Vaccines and drugs used in the treatment of animals, veterinary services, and energy spent for heating the barns and animal feed are some of the inputs used in livestock. Input prices have been increasing rapidly in recent years. Rising input prices are reflected in retail meat prices. Consequently, consumers cater for meat more expensively. For this reason, policymakers should increase the amount of support given to increasing input prices.

There is constant instability in the feed market. Animals should be grazed on pastures in their natural habitats. Pastures should be protected, and sanctions should be applied for the misuse of these areas. Policymakers should review the rights of producers on rangelands. The relevant ministry and agricultural engineers should carry out activities that guide the correct use of pastures. Animal welfare aims to increase animal productivity by exhibiting appropriate behaviours in better conditions. Some consumers think that animals are mistreated during feeding and slaughter. For this reason, consumers give up eating meat and tend to become vegetarian. Animal shelters should be built and operated following the regulations to break this perception. The relevant officers should inspect housing and slaughtering areas at regular intervals. More emphasis should be given to health and behavioural issues before and after slaughter, and producers should be aware of good livestock practices. Consumers should also be encouraged to seek these practices.

Anthrax, one of the oldest known diseases, is a disease transmitted to humans from grass-fed animals such as cattle, sheep and goats. This disease is considered a threat to consumers. The news about anthrax directly affects the meat consumption of consumers. To prevent anthrax-containing meat in the market, veterinarians should identify animals with anthrax, and health checks of animals should be done frequently. In addition, to discourage the producer from production, the compensation support given to animals who lost their lives due to anthrax should be increased. Butchers and markets are the places where red meat is purchased the most. The opening of butcher aisles in the markets causes the butchers, who are local tradesmen, to be less preferred. For this reason, municipalities should promote the butchers in their regions, support the local artisans, and promote the use of local butchers through advertising activities. People pay attention not only to the price but also to hygiene issues in the consumption of red meat. Especially with the covid-19 epidemic, people started to pay more attention to hygiene. During the Covid-19 pandemic, the media warned that the epidemic could be transmitted through food. This scare has led to decreased meat consumption. Hygiene issues should be given extra priority in meat purchasing places to increase meat consumption. More attention should be paid to the packaging of meat products, and the relevant authorities should inspect whether the products are produced following food safety legislation.

This study has several limitations. First of all, the research was carried out only in Bursa. Expanding the analysis to include other provinces of the Marmara Region will help confirm the current research findings. The study examined household preferences and the factors affecting household preferences. Considering that consumers live more on their own in metropolitan cities, the analysis can be repeated, concentrating on individual preferences. Additionally, processed red meat consumption (salami, sausage, sausage, etc.) and carcass preferences (minced meat, cubed, tenderloin steak) were not included. We recommend addressing these issues in future studies.

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