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Factors Affecting the Clinical Learning Environment of Nursing Students Using a Different Clinical Practice Model During the COVID-19 Pandemic

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ABSTRACT

Aim: This study aimed to determine the factors that affected the clinical learning environment of third-year nursing students during the COVID-19 period when a different clinical practice model ('make-up practices') had to be followed.

Design: This study adopted a qualitative research design.

Methods: Due to the pandemic, the clinical practices of the second-year applied courses were not performed in the nursing school where the study was conducted. Instead, only the theoretical courses were taught. The clinical practices of the third-year applied courses were thus not performed during the usual term. For this reason, the second- and third-year clinical practices that the students had to complete were carried out as 'make-up practices' at the end of the third year during the summer term. The sample of this study consisted of the 12 students who were enrolled into both the second- and third-year applied nursing courses as 'make-up practices'. In-depth semi-structured interviews were conducted. The data were analysed using content analysis.

Results: The factors that affected the clinical learning environments of nursing students during the COVID-19 pandemic process were identified under three main themes: the effect of distance education and make-up practice, fear of infection, and supportive approaches.

Conclusion: It was observed that the clinical practices conducted as make-up practices were very beneficial for students' learning, notwithstanding the many difficulties caused.

Patient or Public Contribution: Students included in this study were participants during the data collection process. No patient or public contribution was involved.

1 | Introduction

In March 2020, the World Health Organisation declared the SARS-CoV-2 (COVID-19) a pandemic. During this pandemic, in order to halt the spread of the virus, there was a sudden and rapid transition to 'emergency remote teaching' in nursing education, both at the national (CHE 2020) and the international (Hodges et al. 2020) levels. Nursing education consists of two basic processes, theoretical and clinical practice, which complement each other. Clinical practice, which enables the students to practice their theoretical knowledge in real life, is an important part of all nursing education (Salah et al. 2018). During the pandemic and, in particular, as a result of the interruption to the clinical practice, there were major disruptions in the students' education, which constituted a threat to the competencies that the students needed to gain during their education (İlaslan

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and Demiray 2021). Different strategies were implemented to address this matter in most countries. In order to break the infection chain of the virus, institutions providing education in nursing at both the national (CHE 2020) and international levels decided based on the results of various scientific studies to transition the face-to-face formal education normally received to distance education (Gewin 2020). The restrictions caused by the COVID-19 pandemic also led to the idea of replacing the usual clinical practice hours with alternative methods, such as simulation, which created a great deal of pressure on educational institutions (O'Flynn-Magee et al. 2021). As a result of this, most international-level nursing education programs ceased offering clinical practices or only provided clinical practices if students volunteered to take part in them (Ulenaers et al. 2021). To replace clinical practices, virtual simulation, in particular, was employed (Konrad et al. 2021; Rourke 2020).

2 | Background

After the detection of COVID-19 cases in Türkiye in March 2020, face-to-face education stopped at universities and distance education began as of March 16 2020. Universities were unprepared for this situation, which expanded suddenly and quickly across the country. In the middle of the spring semester of the 2019–2020 academic year, which was also the beginning of the pandemic, all theoretical and practical courses were offered using distant education. According to the web pages for 140 nursing undergraduate programs in Türkiye, only two nursing programs conducted clinical practices with third-year students (Mucuk et al. 2021).

Nursing students were prevented from taking part in clinical education in several regions of the world at the beginning of the pandemic. During this process, simulation training played an important role in nursing education. In one nursing school where the applied courses were offered using simulation, the nursing students stated that this form of training had limitations in terms of gaining clinical skills and accessing the patient, and that not being in the clinical environment was concerning with regard to gaining clinical skills (Michel et al. 2021). Simulation training cannot fully replace the clinical experience in nursing education and, at present, requires further development. However, it plays an important role as a support for clinical education and needs to be developed in this context. Continuing education in the clinical environment in nursing education is important in gaining nursing competencies and ensuring public health (American Association of Colleges of Nursing—AACN 2020a, 2020b). Even when nursing students were able to continue their clinical practice during the pandemic, their hours were reduced and they experienced the same difficulties as healthcare systems in general, including a lack of personal protective equipment, the inability to control the spread process of the virus, the high pathogen load and the presence of at-risk populations in hospitals (Barton et al. 2020; Lazenby et al. 2020).

Overall, nursing students' experiences of clinical practice differed during the pandemic. Some students continued to find it enriching and some were more eager than usual to be in clinical practice, whereas others described it as being a busy, insecure, hectic, difficult, hellish, hard and stressful environment. In addition, students stated that they did not have enough opportunities to acquire technical nursing skills, that they received inadequate mentoring from their preceptors, that their clinical shifts negatively affected their learning and that their communication with nurses was negatively affected (Ulenaers et al. 2021). Students also stated that, although they were aware of the importance of clinical education, they were afraid of being in the clinical field (Lovric et al. 2020).

Although the pace of the pandemic has now greatly slowed down, what course the COVID-19 pandemic will follow on a global scale is still not clear. In addition, current trends such as increasing population, globalisation, urbanisation and the climate change are expected to increase the number and severity of new global pandemics in the future (Whiting 2020). The latest World Nursing Report (2020) reveals a global nursing shortage of 5.9 million nursing professionals. Nurses have always been at the forefront of the global fight against pandemics that threaten health (WHO 2020). The fact that each institution had different practice models and offered different practice hours during the COVID-19 period jeopardised the clinical learning processes of students. Given that students graduating today will start their professional lives during what is still a pandemic, this is an important issue in terms of their ability to work in a highly risky and intense environment at a time when there is a worldwide shortage of nurses. Nursing schools are important institutions that need to continue to provide nursing education in highly risky clinical environments during pandemics such as COVID-19, and in which new graduates need to be trained to be 'health warriors' who can engage in the fight against these diseases. In addition, nursing education is currently struggling with problems such as an increasing number of students, an insufficient number of educators and issues in the clinical practice environment (American American Association of Colleges of Nursing—AACN 2020a, 2020b; Kocaman and Yürümezoğlu 2015). In the institution where this research was conducted, the theoretical knowledge required was taught to the students entirely through distance education and their clinical practices were postponed. The clinical practices of the students were implemented in the clinics consecutively and in blocks as 'make-up practices' following the theoretical courses when the spread of the pandemic began to slow in the summer of 2021. This study thus aimed to determine the factors that affected the clinical learning environment of these third-year nursing students during the COVID-19 period.

3 | Methods

3.1 | Study Design

This study adopted a qualitative research design.

3.2 | Participants

The study was conducted in the Nursing Department of a Faculty of Health Sciences in western Türkiye. Purposive sampling was used. Participants who met the following criteria were eligible for the study: (a) being third-year bachelor's degree nursing student, (b) having completed the make-up practices, (c)

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volunteering to take part in the study, (d) being aged 18 years or more and (e) being able to speak and understand Turkish. A total of 312 nursing students attending met the inclusion criteria. Out of 312 students, 12 volunteered to join the study.

3.3 | Clinical Education Model and Make-Up Practices

In Türkiye, nursing education comprises theoretical and clinical education of at least 4 years or 4600 h. The theoretical education must form at least one-third of the total time, whereas clinical education must be at least half of it (CHE 2008). In the nursing school where the present study was carried out, education is conducted within the scope of the national criteria. The theoretical and clinical applied courses in the nursing school are fundamental nursing, surgical nursing and medical nursing in the second year, and obstetric and gynaecologic nursing, paediatric nursing, psychiatric nursing and public health nursing in the third year.

When the pandemic started, the nursing education model switched to the emergent distance education model in the institution where this study was conducted. Those nursing students who were in the second year when the pandemic started received all their theoretical courses and only the theoretical part of their practical courses using distance education. The students continued to take their third-year nursing courses through distance education the following year. The second-year and third-year clinical practices were carried out as make-up practices at the end of the third year during the summer term. The practices associated with these applied nursing courses were held consecutively and in blocks in the summer of 2021, when the rate of growth of the pandemic had decreased. Students took part a 10-day, 8-h clinical practice during each clinical rotation. A total of eight clinical practice rotations were performed, and these included the fields of fundamental nursing, surgical nursing, medical nursing, obstetric and gynaecologic nursing, paediatric nursing, psychiatric nursing and public health nursing.

3.4 | Data Collection

The study data were collected from 12 nursing students between April and May 2022. In-depth semi-structured interviews were conducted, audio recorded and transcribed verbatim. The researcher also took notes related to body language and the information was provided verbally. The interviews lasted 25–35 min, with a mean duration of 30 min. All the interviews were conducted by the first author of the study. The interview included open-ended questions about the nursing students' experience of their clinical learning environment and factors affecting their clinical practice during the pandemic.

3.5 | Data Analysis

The audio-recorded interviews were transcribed verbatim and destroyed following transcription. The qualitative interviews were analysed using content analysis (Sandelowski 2000). The data were analysed manually. To ensure the credibility of the findings and interpretations, the initial coding was collaborative: the first author and the second author coded the transcripts and met at regular intervals to discuss the emerging categories. In the first stage, each transcript was read several times by the first and second authors in order to obtain an overall understanding. In the second stage, significant statements that pertained to the participants' experiences of the transition to clinical practice were extracted from all the transcripts. In the third stage, the significant statements extracted were condensed into abstract statements. In the fourth stage, these abstract statements were sorted into themes and sub-themes. Finally, the findings were compared and reviewed by the two researchers independently to determine themes and sub-themes of the study.

3.6 | Rigour

The criteria for transparency and systematicity were met according to the guidelines for high-quality qualitative research (Meyrick 2006). Multiple techniques were employed to ensure rigour, including repeated in-depth review of the protocol by experienced qualitative researchers, iterative questioning and investigator triangulation (Başkale 2016). The authors, who have considerable experience as nursing educators, established the credibility of the research. To address potential bias, open-ended questions were used and the researchers tried to maintain objective attitudes throughout the interviews and analysis. The first author took notes on the participants' responses during interviews. The two authors then analysed the data independently, identified the main themes and finally compared their analyses.

3.7 | Ethical Considerations

Written consent was obtained from all participants prior to data collection. The Non-Invasive Clinical Research Ethical Committee at the authors' institution approved the study protocol. Approval was granted by the Bursa Uludag University Non-Invasive Research Ethical Committee (2022/03).

4 | Results

The factors that affected the clinical learning environments of nursing students during the COVID-19 pandemic were identified under three main themes: (1) the effect of distance education and the make-up practice, (2) fear of infection and (3) supportive approaches.

4.1 | The Effect of Distance Education and the Make-Up Practice

The students generally stated that the distance education process negatively affected their learning and that face-to-face education was more effective. The students stated that, despite the very good information sharing, detailed lectures and the support of the teachers during the distance education process, these were insufficient in terms of them acquiring the theoretical knowledge and motor skills that they could have gained through clinical practice. They stated that when their clinical

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practice started, they felt inefficient and anxious, and that their self-confidence was therefore low. All the students stated that the make-up practice, through which they had the opportunity to apply their theoretical knowledge and which had a very positive effect on their learning, was very useful for them. The students stated that performing clinical practices in different clinics consecutively affected their learning and that the clinics were different from each other, which was enriching in terms of experiencing different places but also stressful in that they had to adapt to these differences.

> I didn't have solid knowledge and manual skills due to the online courses... I had insufficient theoretical knowledge. All kinds of resources were shared and our teachers were very encouraging during the process; however, as it was online, it was not very efficient. There is nothing like face-to-face education. There was a disconnect from the courses and our education process was negatively affected.
>
> (1st student, female)

> At first—in the first days of the clinical practice—I was very anxious as I didn't know anything so I didn't have the courage and self-confidence. There were only a few of us in the clinics so we all had the chance to experience each practice. I gained all my current knowledge, my approaches, my ability to empathize with patients and my communication skills through the "compensatory internship."
>
> (12th student, female)

4.2 | Fear of Infection

The most important theme in this study, which was also the one most emphasised by the students, was the fear of infection. The students stated that their interactions and communication with their peers and patients were inadequate due to the fear of infection, and that being physically removed from their peers due to the distance education process negatively affected their interaction and learning. They also mentioned that both the fear of COVID-19 infection and the impossibility of developing friendships at the beginning had a negative effect on their learning during the make-up practices. They stated that they were not able to spend much time in the patients' rooms due to the fear of infection and that the patients were also worried about this. It was observed that this situation negatively affected the practice of many nursing skills, including establishing and maintaining communication with the patient, which is one of the basic skills of nursing, as well as determining what topics the patients needed to learn about and providing training on these topics.

> I couldn't develop friendships during the online education due to COVID-19. Then, we still couldn't get to know each other during the practices, both because of the fear of COVID-19 and because everyone remained distant from each other because we did not have close relationships. So, I was always trying to learn by myself and I couldn't get any support from anyone.
>
> (11th student, female)

> We couldn't get very close to the patients; we couldn't communicate with them very well. The patients mostly stayed in their rooms and we couldn't spend much time in the rooms. Thus, we couldn't have much contact with the patients.
>
> (6th student, male)

The students stated that they were really afraid of getting infected with COVID-19 during the practices. They mentioned that this fear of infection caused anxiety and negatively affected their learning.

> During the practices, I was very worried about the possibility of carrying the infection home. My hands got sore from washing all the time. I was avoiding contact with patients due to the fear of infection.
>
> (8th student, female)

The students stated that nurses and the other healthcare team members (especially the doctors) experienced fear of harming their loved ones due to the risk of becoming infected with COVID-19 and subsequently infecting friends and family members. Thus, the students sometimes felt that the nurses and the doctors were not proper role models because they were also stressed during the clinical practice and had a negative approach to the students as a result of this stress.

> The great amount of panic that the nurses and the doctors had when they were approaching a pregnant COVID-19 positive patient scared us too. We also risked carrying the infection back to our families, so it was a bit of a difficult process in terms of learning. We couldn't work out what we should do from their approach.
>
> (3rd student, female)

> The nurses were very stressed about the risk of harming their loved ones. When we were observing the practice on site, we were violating social distancing when there were a lot of us. When that happened, the nurses were angry with us and unfortunately we couldn't observe or do very much.
>
> (1st student, female)

The patients had negative reactions to the students practicing on them as they were afraid of the risk of COVID-19 infection. They were especially worried when there were large student groups. Some patients did not want the students to be there. However, despite their fear, some patients also tried to be supportive towards the students. The students mentioned that they were also worried about the risk of catching COVID-19 from the patients.

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> The patients didn't want us because we were all crowded in. They were worried and we were also afraid of the infection. There were patients with COVID who were hospitalized in the clinics with various other diagnoses.
>
> (9th student, female)

4.3 | Supportive Approaches

The students stated that despite the challenges of the pandemic, their teachers, nurses and peers also had positive approaches and supported their learning. In particular, the students indicated that their teachers and nurses allocated time and showed consideration to help them complete the missing parts of their theoretical knowledge and ensure their clinical learning. The students stated that some nurses were able to cope with the fear of infection much better and allocated time for their clinical learning by including them in patient care.

> Our teachers encouraged us to do research and always supported us. I was also in the operating room during the make-up practice. I had a lot of experiences. They included us in all their practices, which had a very positive effect on me.
>
> (12th student, female)

> In the make-up internships, we practiced one-on-one with nurses. They always created opportunities and were instructive. Even though they were worried about infection, they supported us. They also discussed their anxiety with each other. However, they still tried to help us as much as they could.
>
> (9th student, female)

The students stated that performing their clinical practice during a challenging time improved their relation with their peers and helped them support each other's learning. They indicated that the make-up practices reduced the lack of communication with their peers that had been caused by the distance education and improved their peer relations. The students stated that during clinical education, they supported each other in improving areas where their current level of skill was inadequate.

> There was a lot of miscommunication, distancing, and misunderstanding at first, but during the practice our communication improved and we always helped and supported each other. The mutual support was very good during this process.
>
> (10th student, female)

5 | Discussion

This study found that the lack of clinical practice in the first phase of distance education during the pandemic negatively affected the nursing students' education and, especially, their acquisition of clinical skills. The make-up clinical practices performed in the summer of 2021, when the pandemic had begun to slow down a little, were very beneficial for students' learning, although they still experienced many problems. There were disruptions in clinical practice in nursing education worldwide during the pandemic; however, developing countries were more affected by these disruptions due to their lack of a technological infrastructure; the limited number of educational methods, which could be activated in the absence of the clinical practices, such as online simulation, and the inequality of opportunity between urban and rural areas (Agu et al. 2021). In the present study, the clinical practice that students could not perform was combined into clinical practice blocks within different clinical settings to try to make up what they had missed.

The students stated that, although the distance education allowed for very good and useful information sharing and instructor support, it could not replace face-to-face education and was not effective. They also mentioned that when they started clinical practice, they felt inefficient and anxious, and that their self-confidence was therefore low. In a study conducted in Belgium, students stated that their schools and instructors supported them during the distance education process, but that they were anxious and felt inadequate (Ulenaers et al. 2021). As clinical practice is an integral and very important part of nursing education, any lack of practice, especially in an actual clinical environment, affects the development of students.

Previous studies have also reported that the majority of the nursing students experienced fear of infection, as in the present study (Ulenaers et al. 2021; Casafont et al. 2021; Bongiorno et al. 2023). In the present study, the fear of infection was experienced not only by the students but also by the healthcare teams and the patients in the clinical setting, and this negatively affected the clinical learning of the students. The sense of panic among the health care teams, who are students' role models in the clinic, with regard to caring for the patients with COVID-19, negatively affected the students in terms of learning how to care for patients and the competencies they need to develop before they graduate. The attitudes of the teams, especially the nurses, towards the nursing students, who were coming into their clinics from elsewhere, derived from the fear of contamination, and these attitudes affected communication and the knowledge and skills that the students were able to learn from the health teams. One study reported that nurses in clinics felt more anxiety, sadness, fear and anger than nursing students during the COVID-19 pandemic, and the nurses were observed to have more emotional reactions; however, their problem-solving-oriented approaches were better than those of the nursing students (Huang et al. 2020). In the present study, the students stated that the nurses were highly anxious and that this affected them negatively. Nursing students find their clinical practice quite stressful under normal conditions (Suarez-Garcia et al. 2018). Additionally, the COVID-19 pandemic is known to have negatively affected the mental health of nursing students (Shaw 2020). Communication in the healthcare team enables the development of empathy and solidarity among the team members and the development of a special bond (Casafont et al. 2021). In a study exploring the experiences of senior students who worked in the healthcare system during the pandemic, the students stated that the healthcare team supported them

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and they developed a bond with them (Casafont et al. 2021). In the present study, the negative reactions of the healthcare team during the crisis arising from the pandemic negatively affected the students; however, the students perceived their positive attitudes as providing important support, which positively affected their learning.

The students' fear of being infected by the patients and the patients' fear of being infected by the students led to deficiencies in terms of holistic care, the students' communication with patients, empathy, identifying health education needs and providing appropriate education. In one previous study, students were found to be less confident in managing the psychological impact of isolation on the patients (Ulenaers et al. 2021). Senior students who were present in a clinical environment during the pandemic also reported that their patient communication was limited (Casafont et al. 2021). The patient–nurse relationship plays an active role in allowing the best care to be provided. Empathy, compassion, closeness, sensitivity and care ethics are some of the most important skills that nurses must be able to demonstrate (Watson 2012). One of the important reasons for the students' fear of infection and the resulting deterioration in patient interaction may be their lack of knowledge about preventive measures regarding COVID-19. One study has emphasised that students should be supported with online health information regarding COVID-19 (Kim et al. 2023).

The sample of this study consisted of 'Generation Z' students. Generation Z has experienced many negative situations from a very young age, so they have lost their fear of uncertainty, have the ability to adapt to new situations more quickly, are realistic, are libertarian and are always able to use the opportunities provided to them (Andrea et al. 2016). In the present study, the students evaluated distance education as being beneficial in terms of the learning resources, instructor support and learning clinical practices, despite the educational crisis that was being experienced, the fact that clinical practices were delayed and the general sense of crisis within the clinical environment. It was observed that the students focused on how the support systems available positively affected their learning despite all the difficulties. A study conducted in Türkiye revealed that nursing students were quite good at coping with the crisis and that nearly half of the students found their individual resilience, their ability to solve problems and their ability to develop appropriate coping skills against the negative effects to be sufficient (Sümen and Adıbelli 2021).

6 | Conclusion

This study explored the factors that affected the clinical learning environment of nursing students in the summer of 2021, when they were engaged in collective and consecutive make-up practices. The study found that distance education and the absence of clinical practices during the COVID-19 pandemic had affected students' education. It was observed that the clinical practices conducted as make-up practices were very beneficial for students' learning, notwithstanding the many difficulties caused. Despite all these problems, the students focused on the support systems that positively affected their learning. They were obviously most affected by the fear of infection, which negatively affected team communication, clinical learning and the acquisition of important skills for patient care. Nursing schools need to have alternative plans and crisis management scenarios using alternative education methods that can be implemented when pandemics such as COVID-19 or other global crises occur. As developing countries have a greater shortage of nurses, studies should be carried out to investigate alternative education methods in these countries in particular, especially with regard to clinical practice, in order to train nurses who can graduate and join in the fight against events such as pandemics.

Author Contributions

Yaprak Sarıgöl Ordin, **Burcu Arkan:** conceptualization. **Burcu Arkan**, **Yaprak Sarıgöl Ordin:** data curation. **Yaprak Sarıgöl Ordin**, **Burcu Arkan:** formal analysis. **Yaprak Sarıgöl Ordin**, **Burcu Arkan:** investigation. **Yaprak Sarıgöl Ordin**, **Burcu Arkan:** resources. **Yaprak Sarıgöl Ordin**, **Burcu Arkan:** writing – original draft and writing – review and editing.

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Ethics Statement

Ethical approval was given by the Bursa Uludag University Non-Invasive Research Ethical Committee (2022/03) prior to the study.

Consent

Informed consent was obtained from all individual participants included in the study.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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