



EFFECTS OF COVID-19 PANDEMIC ON CLINICAL EDUCATION: LOOKING THROUGH LENS OF INTERN NURSING STUDENTS

Handenur GÜNDOĞDU¹, Rümeyza DEMİR², Fatma TANRIKULU^{1*}, Mustafa DEMİR², Hürmüş KUZGUN³, Yurdanur DİKMEN¹

¹Sakarya University of Applied Sciences, Faculty of Health Sciences, Department of Nursing, 54050, Sakarya, Türkiye

²Sakarya University of Applied Sciences, Vocational School of Health Services, Sakarya, 54100, Sakarya, Türkiye


³Nevşehir Hacı Bektaş Veli University, Semra and Vefa Küçük Faculty of Health Sciences, 50300, Nevşehir, Türkiye


Abstract: The active participation of nursing students in clinical practice during the Covid-19 pandemic has played a critical role in maintaining patient care and the struggle against the pandemic. However, the limited clinical experience of the students caused them to have many problems in this process. In addressing the effects of the pandemic on clinical education, the opinions of the nursing students who experience the process in person is quite valuable. This study aims to investigate the perceptions and experiences of intern nursing students receiving clinical education during the COVID-19 pandemic. The research was carried out using the phenomenological research model from qualitative research methods. The research participants consisted of intern nursing students (n = 23). The research data were obtained using the semi-structured question form created by the researchers. The data were recorded in a computer environment, read in depth, analyzed through the content analysis method, and categorized into specific themes and sub-themes. The mean age of the students was 22.09±1.125 years. Female students constituted 91.3% of the sample. As a result of the focus group interviews, four main themes were identified: emotional effects, social effects, professional effects, and recommendations on clinical education. It was determined that nursing students receiving clinical education during the pandemic were determined to be affected in emotional, social, and professional aspects. In addition, the nursing students made certain recommendations to overcome the process more easily.


Keywords: COVID-19, Nursing, Student, Clinical education, Qualitative


*Corresponding author: Sakarya University of Applied Sciences, Faculty of Health Sciences, Department of Nursing, 54050, Sakarya, Türkiye


E mail: ftanrikulu@subu.edu.tr (F. TANRIKULU)


Handenur GÜNDOĞDU  <https://orcid.org/0000-0001-9058-6057>

Rümeyza DEMİR  <https://orcid.org/0000-0003-2296-1569>

Fatma TANRIKULU  <https://orcid.org/0000-0003-1203-5852>

Mustafa DEMİR  <https://orcid.org/0000-0002-7481-9479>

Hürmüş KUZGUN  <https://orcid.org/0000-0001-7728-8354>

Yurdanur DİKMEN  <https://orcid.org/0000-0002-4017-4916>

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1. Introduction

With the outbreak of the COVID-19 pandemic, even the health systems of developed countries came to the point of collapse, and health workers had to work at an intense pace and were negatively affected psychologically (Vatan et al., 2020; Yılmaz and Büyüköztürk, 2021). However, nurses, who constitute a large part of healthcare professionals, have taken care to fulfill their duties and responsibilities in tough conditions (Çalışkan et al., 2021). With the acceleration of the COVID-19 pandemic worldwide, institutions providing education in the field of health services have also been negatively affected (Şanlı et al., 2021).

Nursing education is a challenging period in which theoretical and applied education processes are carried out together. In Türkiye, nursing is a four-year undergraduate program. In this system, senior nursing students who have already acquired a certain degree of professional knowledge and skill actively participate in

the clinic as intern nurses. Thus, it is aimed to provide students with professional awareness and experience before graduation (Ateş et al., 2017). During the first months of the pandemic, there were serious concerns about how to maintain nursing education. In fact, an association related to nursing education in Türkiye warned against the graduation of nursing students without completing their clinical practice (Vatan et al., 2020). Accordingly, many institutions providing nursing education continued the distance education (Vatan et al., 2020; Şanlı et al., 2021).

The support of senior nursing students, who have come very close to stepping into the nursing profession, has a critical role in combating the COVID-19 pandemic (Seah et al., 2021; Xu et al., 2021). However, students' exposure to the risk of infection, their fears of infecting their families with the virus, and the stressful circumstances they experience in the clinical environment negatively affect their clinical education processes (Banstola et al.,



2021; Gandhi et al., 2021). In the literature, there are studies conducted with nursing students during the COVID-19 pandemic which address the issues of distance education processes (Özkan et al., 2021; Younis et al., 2021), students' social isolation and anxiety status (Yanik and Yeşilçınar, 2021; Yılmaz and Büyüköztürk, 2021; Banstola et al., 2021), and the experiences of the students who served as a nurse in clinics (Gómez-Ibáñez et al., 2020; Seah et al., 2021). Unlike others, in this study, we investigated the experiences and perceptions of the senior nursing students on clinical education processes during the pandemic. Furthermore, the students made recommendations that might guide the institutions and educators providing nursing education. It is thought that revealing the clinical experiences and perceptions of nursing students who will play important roles in future healthcare practices will make an essential contribution to nursing education processes.

2. Materials and Methods

2.1. Design

This research was carried out using the phenomenological research model from the qualitative research methods (Quick and Hall, 2015). In phenomenological research, data sources consist of individuals or groups who experience and can articulate the phenomenon on which the research is focused. In addition, phenomenological research helps better make out and recognize the phenomenon aimed to be investigated (Tekindal and Uğuz Arsu, 2020).

2.2. Participants

The research was conducted with nursing students of a university located in a metropolitan city in the northwest region of Türkiye. The purposeful sampling method was used in determining the participants. The students included in the research consisted of senior nursing students who continued clinical education four days a week as intern nurses during the COVID-19 pandemic. In qualitative research, the inability to obtain new information and repetition of the data is considered the saturation point of the data (Quick and Hall, 2015). Therefore, the data collection process of this study was finished after the interview with the 23rd participant.

2.3. Instrument

The research data were obtained using the semi-structured "Data Collection Form on Clinical Experiences of Nursing Students During COVID-19 Pandemic" prepared by the researchers. This form consists of two sections. The first section includes questions on the students' descriptive characteristics. Second section includes open-ended questions on the students' clinical experiences during the pandemic. The relevant literature was reviewed to prepare the questionnaire. Then, the questions formed were evaluated by three academics who had a specialty in nursing education. After receiving the expert's opinions, the questions were finalized.

3.4. Data Collection

At the beginning of the research, the researchers informed the senior nursing students participating in the study by e-mail about the research. Written and verbal consents of the students who agreed to participate in the research were received. The data were obtained by conducting a focus group interview using the Google-meet video conference application. Three online interviews were conducted. The interviews lasted an average of 45-60 minutes and were recorded.

3.5. Statistical Analysis

The data analysis was performed using the hermeneutic phenomenological approach (Standing, 2009). First, the reporter recorded the participants' statements in writing during the interview. Then, the reporter's recordings and the interview data obtained from video recordings were converted into written documents in a computer environment. Next, the participants' statements were sent back to them in print. Thus, it was ensured that the participants reviewed and confirmed the accuracy of their statements. Then, the researchers with approximately ten years of experience in nursing education, who had conducted qualitative studies and were trained in that field, read the written documents in depth and independently of each other. Later, the students' important statements on their clinical education experiences during the COVID-19 pandemic were identified, and the important statements that emerged were formulated. Finally, the formulated contents were classified into themes and sub-themes and explained. To ensure the reliability of the research, the researchers discussed the implications of the themes. Nevertheless, the adequacy of the data and accuracy of the results were checked and evaluated by an external expert academic who was not involved in the analysis process.

3. Results

The mean age of the students included in the research was 22.09 ± 1.125 . Female students constituted 91.3% of the sample. Of the students, 26.2% continued their clinical education in surgical departments such as general surgery, orthopedics, and cardiovascular surgery. It was determined that most students (82.6%) chose the nursing profession willingly, 26.1% contracted COVID-19, and 34.8% had an infected family member (Table 1). In line with the data obtained through the focus group interviews, four main themes and 11 sub-themes were identified (Table 2). The students included in the research were coded as S1, S2, S3, ..., S23, and their opinions were presented under each sub-theme with these codes.

Table 1. Descriptive characteristics of the students

Variables		n	%
Age (years)	22.09±1.125		
Sex	Female	21	91.3
	Male	2	8.7
The unit where the clinical education was received during the COVID-19 pandemic	Internal Unit	3	13.0
	Surgical Unit	6	26.2
	Intensive Care Unit	3	13.0
	Emergency Unit	4	17.4
The status of choosing the profession willingly	Operating Room	4	17.4
	Infant Observation Unit	3	13.0
	Yes	19	82.6
The status of contracting COVID-19	No	4	17.4
	Yes	6	26.1
The status of having a family member infected with COVID-19	No	17	73.9
	Yes	8	34.8
	No	15	65.2

Table 2. Themes and Sub-Themes Identified on Clinical Perceptions and Experiences of Nursing Students During COVID-19 Pandemic

Theme No.	Theme	Sub-Theme No.	Sub-Theme
1	Emotional Effects	1	Positive Emotions
		2	Negative Emotions
2	Social Effects	1	Social isolation
		2	Limitations in communication
		3	Adaptation
3	Professional Effects	1	Professional Development
		2	Nursing care
4	Recommendations for clinical education	1	Personal protective measures
		2	Psychological Support
		3	Communication
		4	Clinical Education Processes

3.1. Theme 1. Emotional Effects

The students were determined to be affected during the COVID-19 pandemic, especially in the emotional aspect. Many students (n=19) expressed negative feelings such as worthlessness, despair, and burnout. In contrast, a few (n=4) expressed positive emotions, stating that they got used to the process.

Sub-theme 1. Positive Emotions

The students stated they felt happiness and self-confidence, indicating that there were positive reflections of clinical education during the COVID-19 pandemic. A few of them (n=4) indicated that they were happy during the COVID-19 pandemic as they provided patient care and thought they were helpful. In addition, the students mentioned that working in coordination with other nurses in the clinic caused them to feel self-confident. The statements of the students are as follows:

S2: I think I was of service and helpful in clinical practice

during the COVID-19 pandemic. I feel happy to help patients and nurses.

S8: We have worked in cooperation with the nurses, and thus my worries have gradually reduced.

Sub-theme 2: Negative Emotions

Many students participating in the study (n=19) stated that they were negatively affected by the COVID-19 pandemic, indicating that they felt negative emotions, such as despair, worthlessness, anxiety, fear, burnout, and sadness. In particular, the students stated that the uncertain situations experienced during the COVID-19 pandemic and the risk of infecting others with the virus carried from the hospital were the leading causes of the negative emotions they felt during the said period. Sample statements about negative emotions experienced by the students are given as follows:

S3: The nurses working at the hospital are so worried, and this situation also affects us. Being a student during

the COVID-19 pandemic has affected us negatively in all aspects.

S1: Since we need to be fast when working in the emergency unit, we have to intervene with the patient even before we learn if the patient is COVID (+). This makes me feel anxious.

3.2. Theme 2. Social Effects

As the students stated that they were affected socially, this theme was addressed in three sub-themes: "Social isolation," "Limitations in communication," and "Adaptation."

Sub-theme 1. Social Isolation

The students stated that clinical education continuing during the COVID-19 pandemic had some negative consequences in the social aspect (n=4). The students stated that they isolated themselves socially, thinking that the clinics were risky areas. The statements of the students are given as follows:

S20: I stay away from both patients and my relatives socially during the pandemic.

S4: I feel socially restricted during this period.

Sub-theme 2. Limitations in Communication

Under this sub-theme, the students stated that their communication with clinical nurses and patients was more limited compared to the pre-pandemic period. In addition, some students reported that patients showed negative attitudes towards them due to their fear of getting infected, which led to communication limitations (n=7).

S5: Due to the pandemic, our communication with patients and their relatives decreased.

S7: Our communication with nurses and patients was good before the pandemic, but it is very limited now. There used to be no such problem.

S19: Our communication with patients has immensely reduced. I think that I cannot spare enough time for my patients. I hesitate to ask questions.

Sub-theme 3. Adaptation

Some students (n=5) said they adapted to the COVID-19 pandemic in the clinical field, were more conscious, and knew how to approach the issue.

S10: I've got used to this process. It has been great to experience this process before starting the profession. We had to fulfill the clinical practice under any circumstances whatsoever.

S17: I was afraid of being a carrier at first. We paid close attention to protective measures. We're more conscious now.

3.3. Theme 3. Professional Effects

The students indicated that working as an intern nurse during a period when case numbers were in rise contributed to their professional development. However, they also stated that care applications provided for patients changed in that period.

Sub-theme 1. Professional Development

A large part of the students (n=11) stated that continuing clinical education during the pandemic benefited them and contributed to their professional development before

graduation. Furthermore, the students stated that they also gained experience against pandemics likely to occur in the future. The following is the common statement of several students regarding this sub-theme:

S9: It has been excellent that I've confronted the pandemic while still a student. Because we can ask questions more easily when we are a student. Thanks to the internship, we have gained experience for the pandemics that we may face in the future.

S10: It has been great to experience this process before starting the profession. It has been positive for us that we have carried out professional applications in the clinic before graduation.

Sub-theme 2. Nursing Care

A care-oriented approach lies at the foundation of the nursing profession. However, the nursing students stated that there were inadequacies in maintaining holistic patient care during the COVID-19 pandemic. In particular, the students reported deficiencies in the data collection, planning, and implementation components of the nursing process (n=8). The students' statements about the sub-theme of nursing care are as follows:

S5: I experience difficulties getting information about the patient compared to pre-pandemic times, so deficiencies occur at the data collection stage.

S22: We approach the patients with fear now. Nursing interventions have decreased further.

3.4. Theme 4. Recommendations for Clinical Education

This theme contains the students' recommendations that may solve the issues they have experienced in the clinical environment during the pandemic. The theme is divided into five sub-themes, and the information about these sub-themes are given below.

Sub-theme 1. Personal Protective Measures

During the COVID-19 pandemic, using personal protective equipment has become even more critical for healthcare professionals. However, the issue of taking protective measures on the part of the students working in hospitals has not come up that much. Under this sub-theme, the students made some recommendations on the use of personal protective equipment by student nurses during the pandemic. In particular, they recommended increasing the students' awareness about using protective equipment and providing them with more protective equipment (n=3). The statements of the students are as follows:

S3: Protective equipment numbers should be increased. I would like to wear more protective masks, like the ones worn by the nurses.

S12: It is necessary to increase protective equipment numbers and organize awareness training to reduce contagiousness.

Sub-theme 2. Psychological Support

During the COVID-19 pandemic, especially healthcare professionals have been quite affected both in the physical and psychological aspects. However, nursing students have also been negatively affected by the

pandemic, as they are healthcare team members. Under this sub-theme, the students stated that nursing students receiving clinical education should be given more psychological support (n=10). The following are the statements of the students about the sub-theme of psychological support:

S3: The students could have been given psychological support to prepare them before going to the hospital.

S8: Psychological support could have been provided.

Sub-theme 3. Communication

The nursing students communicated with their friends, lecturers, clinical nurses, and other healthcare team members throughout their clinical education. Therefore, they recommended using communication skills in this clinical education process (n=6). These recommendations are mentioned below:

S3: Communication is crucial in this process, so it is necessary to increase communication among students, lecturers, and nurses.

S23: All hospital personnel should be trained in relationships with interns and behaviors towards them.

Sub-theme 4. Clinical Education Processes

The nursing students offered alternative solutions for the difficulties encountered in the clinical education process. Statements on this sub-theme are as follows:

S4: Students should be given the right to choose their clinical practice units during the COVID-19 pandemic.

S8: Students should be encouraged to apply the skills they were taught on the patients, and rotation between different clinical units should be planned.

S13: It will be a more efficient internship process if there is a mentor for each student and they act in cooperation with the student.

4. Discussion

In this study, which was conducted to determine the experiences and perceptions of senior nursing students on clinical education processes during the COVID-19 pandemic, four main themes were identified; emotional, social, and professional effects, as well as recommendations of the students for clinical education. From time immemorial, pandemics have affected societies in various aspects. The leading field affected by the last pandemic, which is of zoonotic origin, has been education and nursing education in particular. The fact that institutions that provide nursing education have difficulties in maintaining clinical education has also led to positive/negative effects on students. Most students participating in our study stated that they experienced despair, worthlessness, anxiety, fear, burnout, and sadness due to the COVID-19 pandemic. In contrast, some indicated they were happy as they provided care for the patients and thought they were of service. Most studies on the issue have reported that nursing students were negatively affected by the COVID-19 pandemic and experienced anxiety. Students experience anxiety for reasons such as the risk of getting contracting

coronavirus, becoming a contact or carrier, and interruption of their education due to the need to be quarantined in case of getting infected or becoming a contact (Yılmaz and Büyüköztürk, 2021; Türkleş et al., 2021; Gómez-Ibáñez et al., 2020; Seah et al., 2021). In the study by Öner and Sarıkaya Karabudak (2021), students were reported to experience positive emotions such as happiness, empathy, optimism, and conscience when they feel involved in clinical applications, see the outcomes of patient care, and receive positive feedback from patients. The findings of our study are parallel to the literature in this regard.

The present study determined that working in the clinical field as a student nurse during the COVID-19 pandemic had some effects on the participants in the social aspect. Many students described these effects as the need to isolate oneself from society and limit communication with patients. In contrast, some students stated that they adapted to this process and were able to communicate easily. Relevant studies have revealed that the increased risk of contracting coronavirus increases the individuals' anxiety levels and affects them more in the social aspect (Arcadi et al., 2021; Gómez-Ibáñez et al., 2020; Öner and Sarıkaya Karabudak, 2021). Therefore, our study suggests that senior nursing students may be positively or negatively affected by the pandemic in the social aspect, as they spend most of their time in the clinic. The results of our study are similar to the results of other studies.

Most of the students participating in our study stated that it was beneficial for them to continue clinical practice during the pandemic, noting that this process made them feel more ready for the nursing profession and contributed to their professional development. In a qualitative study by Velarde-García et al. (2021), nursing students were determined to have difficulty in applying their knowledge and skills since they lack a defined role and competence. A similar study conducted in Türkiye reported that nursing students could not implement the knowledge they learned in the lectures, therefore could not acquire and even lost professional skills, which resulted in a lack of self-confidence and a sense of incompetency (Kaya and Isık, 2021). In the qualitative research investigating the experiences and perceptions of nursing students during the COVID-19 pandemic, nursing students have been found to feel responsible towards their society, wish to take responsibility with their knowledge and skills in nursing roles supporting the holistic approach, and have better understood the importance of the nursing profession, its responsibilities and the risk that it brings about (Lovric, et al., 2020; Alawati, 2021). Therefore, it can be seen that the results obtained in the previous studies on the issue are supportive of the findings obtained in our research.

5. Conclusion

Our study determined that the COVID-19 pandemic has affected nursing students, who are future health professionals, in various aspects, including emotional, social, and professional. In line with these effects, the students made some recommendations for clinical education.

In addressing the repercussions of the COVID-19 pandemic on clinical education, the opinions of nursing students who experience the process in person are quite valuable. As for the recommendations for the clinical education made by the students in our study, it was stated that averting the problems experienced in the protective equipment supply may reduce the anxiety of the students and ensure that they feel more secure. Moreover, the students indicated that, to avoid the psychological issues experienced during the pandemic, providing psychological support for the nursing students who continue their clinical education during the pandemic and offering them online therapies would reduce the pandemic's psychological impacts. Moreover, the students recommended that intra-team communication be increased during the pandemic. They reported that conducting online interviews with students every day after the clinical practice would allow faster reporting and solution of the problems they experienced and that receiving training might increase their self-confidence in learning.

In addition to determining the opinions and perceptions of the students on the changes caused by the pandemic in clinical education, making improvements both for the educational process and for the individual, social and physiological needs of students may contribute to the process. In conclusion, working on the improvements recommended by the students in the present study and eliminating the problems caused by the pandemic in clinical education may increase the readiness of institutions providing nursing education in similar processes likely to occur in the future. It is also essential to determine whether the effects caused by the pandemic on students persist or not. Therefore, it is recommended that studies with similar sample groups be planned to contribute to the literature.

Author Contributions

Percentages of the author(s) contributions is present below. All authors reviewed and approved final version of the manuscript.

%	H.G.	R.D.	F.T.	M.D.	H.K.	Y.D.
C	20	20	20	20	10	10
D	40	30	30			
S						100
DCP		50	50			
DAI	50		50			
L	20	20	20	20	10	10
W	20	20	20	20	20	
CR	20	20	20	20	20	
SR	20	20	20	20	10	10
PM	30	20	20	20	10	

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management.

Conflict of Interest

The authors declared that there is no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval/Informed Consent

The permission was received from the Non-Interventional Clinical Research Ethics Committee to conduct the research (approval date: March 08, 2021, protocol code: E-10840098-772.02-9932). The research was carried out in accordance with the principles of the Helsinki Declaration. In addition, before the interviews were conducted, the research was explained to the students constituting the study sample, and they were asked to read the informed consent form. Their written and verbal consents were obtained on a voluntary basis.

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