Determining the problems experienced by students in their postgraduate course period in the pandemic process

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A- Conception and study design; **B -** Collection of data; **C -** Data analysis; **D -** Writing the paper; **E**- Review article; **F** - Approval of the final version of the article; **G** - Other (please specify)

ABSTRACT

Introduction: In the pandemic process caused by COVID-19, considering the working conditions of postgraduate nursing students who are in the profession of nursing, it is important to investigate the problems they experience regarding distance education. While there are many studies in the literature examining the views of undergraduate students on distance education, there has been no study investigating the problems experienced in relation to distance education by postgraduate students in the pandemic period in particular. T

Purpose: To investigate the problems experienced in relation to distance education by postgraduate nursing students at COVID-19 pandemic.

Materials and methods: This is a descriptive study which was conducted to determine the problems experienced in distance education by students who were in their postgraduate course period at the nursing department in the pandemic process. The form was delivered to students receiving postgraduate education at the department of nursing in Turkey via e-mail and WhatsApp. The study was carried out on a sample of 306 postgraduate nursing students.

Results: The mean level of stress experienced by the participants during the distance education process was determined as 5.69 ± 2.42. 65% of the participants stated that offering applied courses in distance education was not sufficient, while 57.8% said the media did not include the problems of postgraduate students enough.

Conclusions: It was determined that the students experienced moderate levels of stress, continuing their courses with the method of distance learning in the pandemic process increased the stress in the first-semester students, and as age increased, the stress levels increased.

Keywords: Nursing, education, distance learning, COVID-19

DOI: 10.5604/01.3001.0015.6392

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Received: 28.05.2021
Accepted: 29.07.2021
Progress in Health Sciences
Vol. 11(2) 2021 pp 7-14

INTRODUCTION

The novel coronavirus disease (COVID-19) that has rapidly taken hold of the entire world was declared as a pandemic by the World Health Organisation on 11 March 2020 [1,2]. All countries of the world have had to take some precautions to be able to fight against the coronavirus pandemic [3].

In the scope of the fight against COVID-19, precautions have been taken to cover areas like social life, educational life, cultural activities, utilisation of healthcare services and working conditions [4]. Enclosed spaces where people are found together in groups and need to stay together for long times have been defined as risky areas in terms of the spread of the disease [5]. As educational environments are some of these risky areas, the necessity of having a break in formal education and closing schools has emerged [2,6].

In the pandemic period, it is highly risky in terms of exposure to COVID-19 for undergraduate and postgraduate nursing students to attend clinical instruction [7].

Considering at the same time that students are in an interaction with patients and healthcare personnel at the clinic, it is possible to say that the risk of students or instructors to carry infection from the hospital to the university and each other is high [8,9]. For this reason, instead of holding the education activities of students in the hospital environment and in person, the method of distance education started to be preferred, and online virtual classrooms have been created. Moreover, students have been given projects in the scope of distance education, and the use of interactive course methods has been provided. This way, it has become possible to prevent contact among patients, students and instructors [10].

However, as many universities were not using distance education before the pandemic period, they did not have the suitable infrastructure, hardware and materials to teach courses this way. Furthermore, as students living in rural areas have underdeveloped networks and weak hardware, they have encountered the negative aspects of online courses [10,11].

While there are many studies in the literature examining the views of undergraduate students on distance education, there has been no study investigating the problems experienced in relation to distance education by postgraduate students in the pandemic period in particular [12,13,14].

The purpose of this study was to investigate the problems experienced in relation to distance education by postgraduate nursing students who continued their training with the method of distance education due to the break in face-to-face education in the COVID-19 pandemic process.

MATERIALS AND METHODS

This is a descriptive study which was conducted to determine the problems experienced in distance education by students who were in their postgraduate course period at the nursing department in the pandemic process.

Population and sample

The population of the study consisted of nursing students receiving postgraduate education in Turkey and in their course period. In determining the sample, to calculate a sample with a known population over 1500 postgraduate nursing students, the open epi program was used. According to the calculation, 306 students were reached within a 95% confidence interval.

Method and data collection instruments

The data of the study were collected by using a questionnaire form developed by the researchers in line with the literature [10,15,16] and included questions on the views of the participants on distance education and the Visual Analogue Scale (VAS) for Stress.

Questionnaire on Views of Students on Distance Education

The questionnaire form consisted of demographic factors including the students age, gender and postgraduate course semester, 21 Likert-type questions on the views of the students on distance education, and 2 open-ended questions on the priority questions and problems they experienced in the pandemic process. In the questionnaire form, the questionnaire created in the study by Kürtüncü and Kurt titled "Problems Experienced in Relation to Distance Education by Nursing Students in the COVID-19 Pandemic Period" was used by receiving the authors' permission. New questions were added to this questionnaire by the researchers of this study.

Visual Analogue Scale (VAS) for Stress

The Visual Analogue Scale (VAS) is used to convert some values that cannot be numerically measured into a numerical format. Two extreme descriptions of the parameter to be assessed are placed at the two ends of a 100-mm line, and individuals are asked to mark a point on this line that represents their situation best. In this study, VAS was used to measure the stress levels of the participants.

Data Collection

The questionnaire form was created on the Google Forms system. The form was delivered to students receiving postgraduate education at the department of nursing in Turkey via e-mail and WhatsApp. An informed consent page was presented on the first page of the form, and those who agreed to

participate could continue to the questionnaire. The data were collected at the dates of September-October 2020.

Data analysis

The analysis of the data obtained in this study was carried out by using the SPSS (Statistical Package for the Social Sciences) 21.0 package software. Chi-squared test and numerical and percentage distributions were used in the analyses.

Ethics Board Approval

For our study, approval was received from the Scientific Research and Publication Ethics Board of Cappadocia University (29533901-204.01.07-13586), and permission was received from the Platform for Scientific Research on COVID-19 of the Turkish Ministry of Health (2020-09-07T21_23_08).

RESULTS

Among the students included in the study, 52.9% (n=162) were at the ages of 26-30, 66.0% (n=202) were female, and 32% (n=98) were in their 2nd course semester.

The mean stress level of the students was found as 5.69±2.42 (min-max: 1-10). According to these results, the stress levels of the students in the range of 0-5 were considered as low, and those in the range of 6-10 were considered as high levels of stress.

It was determined that 88.2% (n=62) of the students at or over the age of 31, 54.0% (n=109) of the female students and 61.5% (n=32) of the 1st-semester students had high levels of stress.

Additionally, there was a significant relationship between stress levels and the variables of age and course semester ($p<0.05$) (Table 1).

Table 1. Comparison of the demographic characteristics and stress levels of the students (n=306)

Demographic Characteristics	**Total**		**Stress Levels**				**X^2**	**p**
			Low (0-5)		**High (6-10)**			
Age	**n**	**%**	**n**	**%**	**n**	**%**		
20-25	68	22.3	45	66.2	23	33.8	54.550*	**p=0.00**
26-30	162	52.9	93	57.4	69	42.6		
31 or older	76	24.8	9	11.8	67	**88.2****		
Gender	**n**	**%**	**n**	**%**	**n**	**%**	**X^2**	**p**
Female	202	66.0	93	46.0	109	54.0	0.952	p=0.337
Male	104	34.0	54	51.9	50	48.1		
Semester	**n**	**%**	**n**	**%**	**n**	**%**	**X^2**	**p**
1st semester	52	17.0	20	38.5	32	61.5	13.228*	**p=0.01**
2nd semester	98	32.0	39	39.8	59	60.2		
3rd semester	72	23.5	47	**65.3****	25	34.7		
4th semester	84	27.5	41	48.8	43	51.2		

X^2 =Chi-squared analysis, *p<0.05 **Groups creating the significant difference according to post hoc chi-squared analysis

As a result of the post hoc chi-squared analysis that was conducted, it was determined that the difference was caused by the students at or over the age of 31 and those in their 3rd course semester (X^2: 54.550 p=0.00, X^2: 13.228 p=0.01).

When the views of the students regarding distance education were examined, it was found that 65% (n=199) agreed with the statement "I believe it is not sufficient to offer applied courses through distance education", 57.8% (n=177) agreed with "I think the media does not include the problems of postgraduate students enough", and 47.1% (n=144) agreed with "I believe the hours of the courses given via distance education are adequate" (Table 2).

Regarding distance education, 65.7% (n=201) disagreed with the statement "I experience difficulty in following classes due to my limited opportunities in terms of the internet and computers", 63.1% (n=193) disagreed with "I am thinking of suspending my study as I experience difficulty in coping with distance education and the pandemic process", and 52% (n=159) disagreed with "I experience difficulty in following classes due to the distance education (online) system of the school."

Table 2. Views of the Students on Distance Education (n=306)

Views of the Students on Distant Education	**Agree**		**Somehow Agree**		**Disagree**	
	n	**%**	**n**	**%**	**n**	**%**
I believe it is not sufficient to offer applied courses through distance education.	199	65.0	42	13.7	65	21.2
I think the media does not include the problems of postgraduate students enough.	177	57.8	83	27.1	46	15.0
I experience difficulty in following classes due to my limited opportunities in terms of the internet and computers.	66	21.6	39	12.7	201	65.7
I experience difficulty in following classes due to the distance education (online) system of the school.	64	20.9	83	27.1	159	52.0
I am concerned with the productivity of classes with the distance education system.	108	35.3	103	33.7	95	31.0
I believe it is adequate to offer theoretical courses through distance education.	91	29.7	125	40.8	90	29.4
I am concerned with how examinations will be with distance education.	119	38.9	107	35.0	80	26.1
I am thinking of suspending my study as I experience difficulty in coping with distance education and the pandemic process.	89	29.1	24	7.8	193	63.1
I think my study will be extended due to distance education and the pandemic process.	82	26.8	76	24.8	148	48.4
I feel lonely when I am far from the school.	70	22.8	107	35.0	129	42.2
I miss school.	116	37.9	117	36.6	78	25.5
I am concerned about the time we can go back to the school.	136	44.4	124	40.5	46	15.0
I believe the hours of the courses given via distance education are adequate.	144	47.1	89	29.0	73	23.9
I think online classes need to be compensated for with face-to-face classes after the COVID-19 period.	99	32.4	105	34.3	102	33.3
My motivation towards classes decreased in the distance education process.	118	38.6	103	33.7	85	27.8
I experienced in terms of delivery of course materials on time on every occasion.	61	19.9	85	27.8	160	52.3
I experience difficulty in reaching administrative and academic personnel for online classes.	76	24.8	75	24.8	155	50.4
I think my communication with other online students decreased.	111	36.3	114	37.3	81	26.4
I cannot receive a response and feedback on time from the instructor.	76	24.8	76	24.8	114	50.4
No information was provided about the usage of the distance education system.	73	23.9	116	37.9	117	38.2
I experience difficulty in examinations due to reasons caused by the distance education system.	87	28.4	64	20.9	155	50.7

Problems experienced in relation to postgraduate education in the pandemic period

Postgraduate nursing training consists of a comprehensive program that covers courses where both theoretical and applied education is provided and is founded on the method of face-to-face education.

If we categorise the problems experienced by the participants in the pandemic process, it may be seen that they mostly revolved around internet connection and infrastructure, lack of opportunities and the online conduct of classes.

Problems and statements regarding internet connection and infrastructure

- 'Classes are constantly interrupted, and I am distracted as the quality of the internet is inadequate, and there are drops in the connection,'
- 'I cannot follow the materials shared inside the class due to the presence of connection problems,'
- 'The instructors' voices are broken up or echoed and not understandable due to the insufficiency of the internet connection during a class.'

Problems and statements regarding lack of opportunities

- 'The interaction in the online classroom environment is highly insufficient, the sense of a real classroom environment is missing,'
- 'The education materials are shaped according to face-to-face education, and therefore, they are not suitable for online education, and the attractiveness of the classes is reduced,'
- 'The home environment is not always suitable to follow the classes, and it becomes difficult to follow the classes and focus due to power outages, noise or other problems.'

Problems and statement regarding the online conduct of classes

- 'With the transition to online education, unplanned conduct and sudden changes about classes are experienced, this situation affects all my plans during the day negatively,'
- 'Staying in front of the computer for a long time leads to low motivation,'
- 'I experienced interruptions in communi-cation with the instructors in the online education process.'

Solution recommendations for problems experienced in relation to postgraduate education in the pandemic period

The solution recommendations of the participants regarding the problems they experienced in postgraduate education in the pandemic period are presented below under the titles of internet connection and infrastructure, lack of opportunities and the online conduct of classes.

Problems and statements regarding internet connection and infrastructure

- 'Improving the infrastructure of the online system, the live class system is very slow, elimination of the slowness,'
- 'Elimination of connection problems-drops during the class,'
- 'Sharing materials to be used in the classes with the students before the class.'

Problems and statements regarding lack of opportunities

- 'Holding the classes not just live, keeping some classes recorded, flexible participation in the classes,'
- 'Usage of education materials suitable for online education,'
- 'Not prolonging class hours, in contrast, the class hours need to be shortened due to problems of distraction and not being in the physical classroom environment.'

Problems and statements regarding the online conduct of classes

- 'As the courses were online, we could not find the opportunity to talk to our professors face-to-face, and as the classes are planned, supervising hours may also be planned and offered online,'
- 'Professors responsible for the classes may be more sensitive about feedback,'
- 'Distance education needs to be an adult instruction method that needs to be "integrated" always and not just in pandemic periods. …especially for those needing to come from different cities. There should be an option to offer theoretical courses with asynchronous, interactive contents and references and hold applied trainings and examinations in person. However, this is only valid for the postgraduate level.'

DISCUSSION

While the COVID-19 pandemic has affected all aspects of our living spaces, it has also created serious effects on students by interrupting education and instruction. Students and educators in the entire world have been forced into a set of changes regarding the form of education [17,18]. These changes, with students in their postgraduate course period compulsorily transitioning to distance education, have led these students to not only experience stress but also encounter problems related to online education [19].

Stress is among the top reactions given to negativities, diseases or changes that people are exposed to throughout their lives. The emergence of stress involves several environmental factors, and it is a situation that is hard to avoid [20]. It was reported that students experienced stress in the method of distance education that has been preferred so that education would not be interrupted in the pandemic period [14,21,22]. Kapasia et al. (2020) reported that 42% of students receiving postgraduate

education in the pandemic period experienced stress. In our study, in a way to support the literature, it was determined that the postgraduate nursing students experienced mode-rate levels of stress (5.69 ± 2.42) [21]. Gaur et al. (2020) determined that the motivation levels of 20.8% of undergraduate nursing students were low in online classes in the pandemic period [23]. In our study, 38.6% (n=118) of the students stated that their motivation for classes decreased. Furthermore, it is possible to state that the uncertainty brought about by the pandemic period also triggers the stress of students. It was determined that, among the postgraduate nursing students in the first year of their course period, 61.5% (n=32) experienced high levels of stress. There was a significant difference in the stress levels of the students based on their course semesters ($p<0.05$), and it was found that this difference originated from the students in their 3rd course semester who had low stress levels. This result suggested that, as the students in their first semester were working actively at the clinic, they experienced uncertainties about continuing postgraduate education and the future, and this increased their stress levels.

Among the students at or over the age of 31, 88.2% (n=62) experienced high levels of stress, while there was a significant relationship between the stress levels of the participants and their age ($p=0.00$). This result may have been related to the effects of academic delays that could be experienced due to the pandemic process and the participants' possibility of graduating later than expected on their stress levels as their age increased.

Students have a tendency to reinforce the knowledge they gain by doing and using, but they cannot obtain this opportunity in the distance education process [24]. It is seen that web-based distance education may achieve success in the information gathering and comprehension steps of the Bloom Taxonomy, but it would not be sufficient in the information implementation, synthesis, analysis and assessment steps. A study conducted with undergraduate students observed that web-based distance learning contributed more to students' theoretical knowledge levels than their application skills [25].

The results of our study were in parallel with this result. In our study, 65.0% (n=199) of the students stated that they believed it was not sufficient to offer applied courses via distance education, while 32.4% (n=99) said they thought online classes should be compensated for with face-to-face classes after the COVID-19 pandemic period. This result suggests that students need face-to-face education more, especially in applied units. In person implementation by students after listening to the course content may provide more contribution to their occupational implementation skills.

Considering studies on problems experienced by students in the pandemic period, these problems have been mostly centred around the internet, connection quality and education content [9,21,26,27].

Studies on university students in China and undergraduate and postgraduate nursing students in India reported that students experienced anxiety due to living in rural areas and having internet and computer access problems [21,28].

Similarly, in our study, 21.6% (n=66) of the students stated that they experienced difficulty in following classes due to their limited internet- and computer-related opportunities. Looking at other studies, too, it may be stated that the distance education system that was suddenly transitioned to in the pandemic period has led students to be affected by similar problems in the entire world. We believe students who have problems in accessing distance education and those that do not have internet access should be supported by universities for them to be able to effectively receive education.

In the literature, it is possible to encounter studies on the views of undergraduate students on distance education and the problems they experience by the transition to distance education, but it gains attention that there are not many studies regarding students receiving postgraduate education [13, 23,29]. In our study, 57.8% (n=177) of the participants thought the media did not sufficiently include the problems of postgraduate students. We think that not determining the problems experienced by postgraduate students in the pandemic period may disrupt the postgraduate education process and increase the stress levels of students.

In order to eliminate these problems arising in relation to distance education, it may be recommended for educators to plan conversations where they could increase their interactions with students and have meetings about situations that could lead students to experience stress. By achieving improvement in programs where distance education is carried out and strengthening of the internet infrastructure, the quality of the education process may be increased. The distance education method may be enriched to eliminate the concerns of students regarding the productivity of classes.

Limitations of the study. In our study, the number of women was higher than that of men. A homogeneous distribution is needed.

CONCLUSIONS

As a result of our study, it was determined that providing courses in postgraduate nursing training with the method of distance education in the pandemic period led the students to experience moderate levels of stress. The highest levels of stress

were observed in the first-semester students, and it was found that the stress levels increased as age increased. The problems experienced by the students in the distance education process were mostly centred on internet connection and infrastructure problems, lack of opportunities to access the distance education system and the online conduct of classes. Moreover, the students had concerns about the productivity of the classes presented by distance education, and they thought these classes should be compensated for with face-to-face classes.

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Acknowledgments

We thank all participants for their collaborations.

Conflıcts of interest

The authors have declared no conflict of interest.

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