



How has the Pandemic Affected the Perceived Stress and Coping Behaviours of Nursing Students during their First Clinical Experience?

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Abstract

Introduction: The Covid 19 pandemic has increased the stress and fear of the society. Evaluating the reflections of the pandemic on nursing students' first clinical practices are important in terms of ensuring the adaptation to the practice. The aim of this study is to determine the stress levels and coping behaviours of nursing students during the COVID-19 pandemic.

Methods: This study used a descriptive cross-sectional design.

The data were from nursing students who were started first clinical practice.

This study was carried out in the nursing department of a public university, Turkey.

The purposive sampling method was used in this study.

The research was carried out with 203 volunteers. The Perceived Stress Scale for

Nursing Students (PSSNS), the Coping Behaviours of Stress Scale for Nursing Students (CBSSNS) were used to collect the data and started first experience of clinical practice.

Results: The mean age of the students was 20.79±2.29, 79.3% were afraid of having a negative experience. The mean score of PSSNS was 58.23±22.48. The maximum stress experienced by the students was observed in the subscale "stress from taking care of patients" (16.58±6.71). The most frequently used coping behaviour was "Avoidance" (13.39±4.33).

Conclusions: It was determined that the nursing students had moderate level of stress during their first clinical practice during the pandemic period, they experienced the most stress while caring for the patient, and they used the avoidance approach the most.

INTRODUCTION

Nursing education involves theoretical and practical education that enables nursing students to gain the necessary knowledge, skills and attitudes to provide nursing care [1]. Clinical experience has always been at the centre of nursing education [2]. Clinical practice in nursing is required to train students as professional nurses by applying academic knowledge into practice and assist them to close the theoretical-practical gap that new nurses generally encounter [3]. However, although clinical practice fields are an indispensable part for students' professional knowledge and skill development, they are also major sources of anxiety and stress for students [4]. The patient care, fear of making mistakes, interaction with clinical and teaching staff, and a lack of professional nursing knowledge and skills are all factors that cause stress to students in the clinic [5]. These stressors have a negative impact on students' psychosocial lives, drop their academic performance, and cause health problems [6]. The studies have

indicated that nursing students face stress levels ranging from moderate to severe as well as stress-related health problems as compared to other students [2, 5].

The COVID-19 infection, which emerged in late December 2019, turned into a pandemic in a short time. In order to prevent the spread of COVID-19 infection in society, many countries have decided to temporarily close up schools, universities, and other educational institutions. Following the announcement of the first COVID-19 case in Turkey, schools and educational institutions were temporarily closed. Although it was considered in March 2020 that theoretical classes would be held online, and practical courses would be completed in the summer months after the pandemic, the course of the pandemic precluded face-to-face practices from taking place [7]. Due to the breakout of the pandemic at our university, students were unable to attend clinical practices and lectures and practices had to be completed online. When clinical practice training

was progressively resumed, strict infection control measures were implemented such as personal protective equipment (PPE), temperature controls, and registration of patients and their contacts.

Stress levels of students may elevate as they may be exposed to additional stressors, such as the fear of being infected during epidemics [8]. In a previous study conducted with students during the SARS outbreak, nursing students perceived themselves as being at high risk for infection and experiencing high level of stress due to nurses' longer contact with patients [9].

The stress experienced by nursing students during their first clinical education and practice can lead to many negative consequences such as reduced academic performance, increased level of burnout, and diminished well-being. All of these jeopardize the educational goal of training competent nurses [10]. Therefore, it is vital for clinical trainers to be aware of the stressors that may increase the stress level of nursing students, as well as the adaptation techniques they employ to cope with them [10]. Therefore, determining the stress that affects the clinical skills and performance of the students in their first clinical practice by the instructors, developing arrangements and strategies to assist them to manage their stress, and guiding the students can all help to reduce their stress levels. Within this scope, the stress levels and coping behaviours of this group of students were evaluated in the first clinical practice experience, since clinical practice, which should begin as of the first-year spring term, can be accomplished only in the second and third years due to current conditions. This study is important for figuring out how much the students' clinical stress affects their clinical practice after a protracted quarantine period during the pandemic process in which they were unable to participate in school-based laboratory practices and were at risk of contracting COVID-19 in the clinic. The aim of this study is to determine the stress levels and coping behaviours of nursing student's first clinical practice experience during COVID-19 pandemic.

METHODS

Study Design

The design of this study is descriptive and cross-sectional.

Setting and Period of the Study

The study was conducted in the Nursing Department of Health Sciences Faculty in Turkey between October and December during fall semester of the 2021-2022 academic year.

Population and Sample

The population of the study consisted of students (N=226) who studied at the Faculty of Health Sciences, Nursing Department and were going into first clinical practice. In this study, purposive sampling method was

used. The sample of the research consisted of 203 nursing students who were registered between October and December 2021 and volunteered to participate in the research (response rate 90%).

Inclusion Criteria;

studying in the nursing department

having no previous clinical experience

Exclusion criteria;

not volunteering to participate in the study

to be on leave at the time of the research

Data Collection Tools

The "Student Information Form", the "Perceived Stress Scale for Nursing Students (PSSNS)" and the "Coping Behaviours of Stress Scale for Nursing Students (CBSSNS)" were all used to collect the data.

Student Information Form: This form prepared by the researcher includes questions about the socio-demographic characteristics of the students, such as student's age, gender, class, status of choosing the nursing profession willingly, status of satisfying with studying in the department, status of thinking that the profession is suitable for them, status of feeling ready to practice, as well as the existence of feared interventions in practice and what they are.

Perceived Stress Scale for Nursing Students (PSSNS): The scale was developed Sheu et al., [11] in Chinese and consisted of 29 items. A five-point Likert-type scale is used to rate the items: "4- *It is very stressful for me*, 3, 2, 1, 0- *It is not stressful at all*.". The scale consists of six subscales.

The total score of the scale ranges from 0 to 116. A high score indicates a high level of stress. Karaca et al., [12] conducted the validity and reliability of the scale. The Cronbach's alpha coefficient of the scale was calculated as 0.93 and two-week test-retest reliability was 0.96. The Cronbach's alpha reliability coefficient of the scale was reported to be 0.94 in this study.

Coping Behaviours of Stress Scale for Nursing Students (SCBNS): The scale was developed by Sheu et al., [11]: It is a five-point Likert-type scale with 4 subscales and 19 items. Items are rated as "4- *always*, 3, 2, 1, 0- *never*" (0-4 points). Karaca et al., [12] conducted the validity and reliability of the scale in Turkey.

Whichever subscale gets a higher score indicates that the student uses that coping strategy most frequently. The Cronbach's alpha coefficient of the scale was found to be 0.69, and the two-week test-retest reliability value was found to be 0.52. The Cronbach's alpha reliability coefficient of the scale was reported to be 0.71 in this study.

The volunteer participants were given survey questions and asked to answer them. The research data were collected during students' first clinical practice. Data collection took about 10 minutes.

The Statistical Package for Social Science (SPSS) 22.0 program was used to analyse the data. The data were

assessed using percentage, mean, ANOVA, and the student t-test.

Ethical Considerations

The study was conducted according to the ethical guidelines stated in the Declaration of Helsinki. The aim of the study were informed in advance to the participants and data privacy considered. Verbal consent was obtained from the students who participated in the study. A written approval was obtained from the related institution and the Scientific Research and Publication Ethics Committee (No: 2021/7).

RESULTS

Table 1 shows the distribution of the students based on their socio-demographic characteristics. It was determined that the participants had a mean age of 20.79 ± 2.29 (min=18, max=33), 72.4 % were female. When the students' opinions about the nursing profession were examined, 62.6% found their theoretical knowledge insufficient for clinical practice, and 79.3% stated that they were afraid of having a negative experience (Table 1).

It was determined that the students had mostly excitement (46.8%) and conflicting emotions (36.5%) about clinical practice, and they were most afraid of inserting a catheter (52.7%), suturing (35.5%), and doing enemas (35.5%). Students indicated that the negative experiences they fear the most were making a malpractice (77.3 %) and witnessing patient death (46.8 %) (Table 2).

The total score of the PSSNS was 58.23 ± 22.48 . The most stressful conditions for the students were determined to be "stress from taking care of patients", "stress from assignments and workload", and "stress from lack of professional knowledge and skills". When the subscales of the SCBSNS were examined, it was determined that the students most frequently used "avoidance" as coping behaviour with a mean score of 13.39 ± 4.33 (Table 3).

It was determined that there was a statistically significant difference between the total mean score of PSSNS and age, status of finding the theoretical knowledge sufficient for clinical practice, status of being afraid of dealing with patients one-on-one, the presence of feared clinical practice, and fear of having a negative experience ($P < 0.05$) (Table 4).

Table 1. Distribution of Students by Descriptive Characteristics (n=203)

Descriptive Characteristics	N	%
Gender		
Female	147	72.4
Male	56	27.6
Age		
20 years and under	121	59.6
21 years and older	82	40.4
Grade		
Year 2	106	52.2
Year 3	97	47.8
Did you voluntarily choose nursing?		
Yes	158	77.8
No	45	22.2
Are you satisfied with studying in the department?		
Yes	167	82.3
No	36	17.7
Do you think that your department is suitable for you?		
Yes	161	79.3
No	42	20.7
How do you evaluate your academic success?		
Low	12	5.9
Medium	171	84.2
High	20	9.9
Do you find your theoretical knowledge sufficient for clinical practice?		
Yes	76	37.4
No	127	62.6
Are you afraid of dealing with patients one-on-one?		
Yes	72	35.5
No	131	64.5
Is there any practice you are afraid of doing?		
Yes	125	61.6
No	78	38.4
Are you afraid of having a negative experience?		
Yes	161	79.3
No	42	20.7

Table 2. Distribution of Student's Emotions Regarding Clinical Practice

	Yes N (%)	No N (%)
Feeling		
Fear	28 (13.8)	175 (86.2)
Excitement	95 (46.8)	108 (53.2)
Anxiety	43 (21.2)	160 (78.8)
Comfort	27 (13.3)	176 (86.7)
Conflicting emotions	74 (36.5)	129 (63.5)
Other	6 (3.0)	197 (97.0)
Practice that students fear to do in the clinic		
Inserting intrakat, catheter insertion, blood collection	64 (31.5)	139 (68.5)
Injection	32 (15.8)	171 (84.2)
Inserting a urinary catheter	107 (52.7)	96 (47.3)
Wound care, dressing	14 (6.9)	189 (93.1)
Suturing	72 (35.5)	131 (64.5)
Perineum care	33 (16.3)	170 (83.7)
Saline application	11 (5.4)	192 (94.6)
Enema application	72 (35.5)	131 (64.5)
Remove drain	49 (24.1)	154 (75.9)
Other	6 (3.0)	197 (97.0)
Negative experiences that students feared to have in the clinic		
Make a mistake	157 (77.3)	46 (22.7)
Inability to provide the necessary care and services	40 (19.7)	163 (80.3)
Hurt the patient	83 (40.9)	120 (59.1)
Patient's death	95 (46.8)	108 (53.2)
Other	1 (0.5)	202 (99.5)

Table 3. Sub-Dimension Scores of the Perceived Stress Scale for Nursing Students and the Stress Coping Behaviors Scale for Nursing Students (n=203)

Sub-Dimensions of the Perceived Stress Scale for Nursing Students	Score Range (Min-Max)	Mean ± SD
Stress from lack of professional knowledge and skills	0-12	6.09±2.61
Stress from taking care of patients	0-30	16.58±6.71
Stress from assignments and workload	0-20	10.56±4.45
Stress from teachers and nursing staff	0-24	11.38±5.47
Stress from the environment	0-12	5.99±2.61
Stress from peers and daily life	0-16	7.60±3.73
Total Mean Score	0-116	58.23±22.48
Sub-Dimensions of the Stress Coping Behaviors Scale for Nursing Students		
Optimistic	0-16	6.82±3.13
Transference	0-12	6.77±2.19
Problem-solving	0-24	10.28±3.58
Avoidance	0-24	13.39±4.33

*Significance level P<0.05

DISCUSSION

Clinical practice is an important component of nursing education and is particularly significant for learning and developing nursing interventions [13]. Nursing clinical education has been disrupted as a result of changes in the healthcare system caused by the pandemic [14]. A great majority of students believed that their theoretical knowledge was insufficient for clinical practice (62.6%), and they were afraid of having a negative experience (79.3%). In their study, Bayar et al., reported that even though the majority of the students felt ready for clinical practice, around half of them believed that their theoretical knowledge was insufficient for clinical practice. More than half of students stated their fear of having a negative experience during clinical practice (68.3%) [15]. Students in this study may have felt more insufficient and frightened due to the teaching method changing under the uncertainty of the pandemic, the inability to undertake face-to-face laboratory practices

that should be done before clinical practice, and the late starting of clinical practice. Therefore, higher rates in this study than in the previous study could be caused by the effect of the pandemic period.

While the practices the students were most afraid of were inserting a catheter, suturing, and doing enemas, the most feared negative experiences for them were making the malpractice and the patient's death. A study that examined the events causing the most stress in nurses and trainee nurses at work environment revealed that invasive intervention (vascular access, venipuncture, serum attachment/removal) and false treatment/practice were the most stressful for students [16]. These fears of the students concerning clinical practice may be associated with factors, such as their belief that their theoretical knowledge of clinical practice is insufficient, their concern about not being able to sufficiently and accurately exhibit their practising skills to the patient, and the obscurities that students may face during clinical practice [15].

Table 4. Distribution of Participants' Perceived Stress and Stress Coping Behaviors on Sociodemographic Characteristics (n=203)

Descriptive Characteristics	Perceived Stress Scale	Test Value	Stress Coping Behaviors Scale	Test Value*
	Mean ± SD		Mean ± SD	
Gender		t= 1,727, p= 0,086		t= 0,323, p= 0,747
Female	59,98±23,48		37,41±9,32	
Male	53,87±19,12		36,94±8,98	
Age		t= 2.914 p= 0.004		t= -0,024 p= 0,981
20 years and under	62,06±21,44		37,27±8,93	
21 years and older	52,84±23,00		37,30±9,66	
Did you voluntarily choose nursing?		t= -0,446 p= 0,656		t= 0,016 p= 0,988
Yes	57,94±22,64		37,29±8,39	
No	59,64±22,18		37,26±11,74	
Are you satisfied with studying in the department?		t= -0,730 p= 0,466		t= 1,143 p= 0,254
Yes	57,78±22,49		37,62±8,12	
No	60,80±22,68		35,69±13,16	
Do you think that your department is suitable for you?		t= -1,456 p= 0,147		t= -0,357 p= 0,722
Yes	57,14±22,54		37,16±8,29	
No	62,80±21,99		37,73±12,22	
How do you evaluate your academic success?		F=2,459 p= 0,088		F= 2,554 p= 0,080
Low	64,50±22,68		41,00±12,43	
Medium	59,03±21,68		37,44±8,38	
High	48,55±27,28		33,70±12,72	
Do you find your theoretical knowledge sufficient for clinical practice?		t= -5,064 p= 0,001		t= -0,987 p= 0,325
Yes	48,57±22,96		36,46±9,69	
No	64,19±20,12		37,77±8,91	
Are you afraid of dealing with patients one-on-one?		t= 5,530 p= 0,001		t= -0,661 p= 0,509
Yes	69,30±19,40		36,70±9,44	
No	52,23±21,83		37,60±9,10	
Is there any practice you are afraid of doing?		t=6,433 p=0,001		t=-0,966 p=0,335
Yes	65,61±20,80		36,79±9,36	
No	46,48±20,07		38,07±8,96	
Are you afraid of having a negative experience?		t= 4,893 p= 0,001		t= 0,582 p= 0,561
Yes	62,02±21,26		37,47±8,83	
No	43,78±21,50		36,54±10,62	

*Significance level P<0.05

In a similar study, it was determined that the majority of the students were afraid of harming the patient as a result of malpractice during clinical practice. It is glad that students have the fear of "doing a malpractice" that one of the professional ethical principles, is internalised by students from the first step of their professional training. However, the fact that this condition causes stress demonstrates the need for students to be supported and guided during the practice [17].

Due to the strong pathogenicity and infectivity of the COVID-19 agent, SARS-CoV-2, the risk of infection in healthcare workers is unavoidable and is perceived as a serious threat to nursing students [18]. Students who have perceived their health as at risk have increased stress, which has an adverse effect on their clinical performance [19]. Stress among nursing students has also been reported in previous outbreaks of infectious diseases, such as the Middle East respiratory syndrome [20] and the Ebola virus [21]. It was determined in this study that the students had moderate level of stress during their first clinical experience during the pandemic period. This result was supported by other studies conducted with nursing students during the pandemic period by finding a moderate stress level [22-

24]. On the other hand, there are different results showing that undergraduate nursing students experience high levels of stress during the pandemic period [25, 26]. The difference in the results may be due to the different populations of the study. In addition, the stress levels may not have been high since the study was not carried out in the early stages of the pandemic, the students were vaccinated and they could obtain protective equipment.

Throughout their education, nursing students face two significant stressors: academic and clinical. Academic stressors include difficult assignments, exams, and workloads. Clinical stressors include lack of professional nursing skills and feeling unfamiliar with the diagnosis, medical history, or treatment of patients [27]. It was determined that the students had the maximum stress from taking care of patients and assignments and workload. The study by Chan et al., [28] reported that the most stressful circumstance for undergraduate nursing students was the lack of professional knowledge and skills, followed by stress from assignments and workload, while the study by Sheu et al., [11] stated that the most common stressor was lack of professional knowledge and skills, followed by taking care of patients. These stressful circumstances are associated with

students' lack of experience and skills in nursing care and diagnosis, unfamiliarity with patient history and medical terminology, and concerns about low marks [29]. A study examining the stress levels and coping strategies of nursing students in clinical practice before and during the COVID-19 pandemic reflected the increased level of stress among nursing students during the COVID-19 pandemic compared to pre-pandemic period. Generally, there was a significant increase in all subscales of stress. These stressors have been associated with many factors, such as a lack of preparedness to care for COVID-19 patients, an increase in clinic safety protocols, lack of personal protective equipment, and additional assignments to enable skill development [30]. In this study, the fear of being infected with and infecting others with viruses in the clinic during the COVID-19 pandemic may have caused the students to suffer from high levels of stress while taking care of patients. Due to their first clinical practice experience, the intensive work tempo during the patient's diagnosis, treatment, and care process may cause increased workload stress in students.

It was determined that age had an effect on students' perceived stress levels and those under the age of 20 had a higher perceived stress level. No significant difference was found between age and perceived stress in a study conducted with nursing students before the pandemic [31]. The pandemic has significantly increased the stress levels of students under the age of 20. It has been stated that young students' stress coping skills are not properly developed and insufficient knowledge on infectious diseases acquired at university may have elevated their stress levels [24]. In the present study, the students who found their knowledge insufficient were much more stressed. In the study by Suarez-Garcia et al., nursing students stated lack of required competence as one of the greatest stressors [32].

COVID-19, a highly contagious and lethal virus, has elevated stress levels in nursing students and staff and has impacted their coping strategies [33]. While the problem-solving approach is the most commonly used coping strategy among nursing students to adapt to stressors, the avoidance approach is the least used coping behaviour by them [27]. According to this study, nursing students' most common stress-coping strategy under pandemic conditions is avoidance. In a study that examined the stress experienced by nursing students in the clinical setting and their coping levels, it was determined that when their perceived stress level increased, they used avoidance as a coping strategy [34]. When students are confident that they can overcome difficult circumstances, they use the problem-solving approach. However, if they are inexperienced in making a clinical decision, they may avoid the problem or expect their supervisor to resolve it for them [28]. In the study conducted by Baluwa et al., [35] during the pandemic, they indicated that students used the avoidance strategy

in clinical practice due to their fear of being infected with the coronavirus. However, this is an ineffective coping method. The use of inefficient coping strategies demonstrated that nursing students were more fearful and anxious about the pandemic. Huang et al., [33] determined that nursing students lacked the necessary coping strategies when confronted with the stressors of the COVID-19 crisis. The students' self-concept, learning abilities, and competency can be negatively affected by ineffective coping [36]. Therefore, academic authorities should collaborate with students to reduce the use of ineffective coping strategies. There is a need to provide regular trainings on effective coping strategies to students, especially during pandemics such as COVID-19. Furthermore, lecturers and clinical staff must keep students up to date on the available scientific evidence for the COVID 19 pandemic. Informing and supporting students will diminish their fears and use of ineffective coping strategies [35].

CONCLUSIONS

The COVID-19 pandemic has affected nursing students in different ways, as it has affected the whole world. This study is important in terms of revealing the extent to which the stress and coping methods of students in their clinical practices are affected by the pandemic. Studying the impact of the pandemic on the educational environment in different populations, both geographically and individually, will contribute to the issue of measures to be taken. This study revealed that nursing students experienced moderate level of stress and used ineffective coping methods during the pandemic. The students, who were under the age of 20, found their theoretical knowledge insufficient for clinical practice, were afraid of dealing with patients one-on-one, had a feared intervention in the clinic, and were afraid of having a negative experience, had higher stress levels.

In order to receive healthy nursing education during the pandemic process, it is recommended that students be included in the process, their suggestions should be taken into account, and they should receive psychological support in their preparation for clinical practice. Students should be given case discussions before clinical practice, information and counseling about COVID 19 should be given. In this way, students will see themselves more competent, and their professional knowledge will increase and contribute to their gaining professional competence. Students who feel self-sufficient will be less worried about patient care. Developing students' problem-solving skills will enable them to develop effective coping behaviors in both pandemic and other crisis situations.

RESEARCH LIMITATIONS

Since this study was limited only to students who were studying at the nursing department of a faculty, the

results of the study cannot be generalized to nursing students who are going into their clinical practice for the first time. Therefore, it is recommended to repeat the study with different sample groups.

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ETHICAL CONSIDERATIONS

Scientific Research and Publication Ethics Committee of university (ethics committee approval dated 09.11.2021 and numbered 2021/7)

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CONFLICT OF INTERESTS

The author declares that there is no conflict of interest to report.

AUTHOR CONTRIBUTIONS

FG:Conception, design, literature review and interpretation, data collection, data processing, writing, critical review.

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