

Araştırma makalesi Research article

The Relationship between Nursing Students' Fear of COVID-19 and General Self-Efficacy and Clinical Stress Levels



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ABSTRACT

Aim: This study was conducted to determine the relationship between the fear of COVID-19 and self-efficacy of nursing students and their clinical stress levels.

Material and Methods: The study was conducted in a descriptive and cross-sectional type between July and August 2021 in first-year nursing students of a health sciences faculty of a university. The study was completed with 89 nursing students who agreed to participate without sample selection (91% of the population was reached). The research data was collected using the Student Introductory Information Form, the Fear of COVID-19 Scale, the General Self-Efficacy Scale, and the Clinical Stress Questionnaire.

Results: It was determined that the mean age of the students was 20.24±1.15 years, 59.6% were women, 43.8% had COVID-19, 60.7% had families with COVID-19, and 14.6% had lost due to COVID-19. The mean score of the students on the Fear of COVID-19 Scale was 24.83±5.87, and the total score of the General Self-Efficacy Scale was 63.91±11.18. The Clinical Stress Questionnaire total score was 31.19±7.8. While there was a positive and significant relationship between the total score of the Fear of COVID-19 Scale and the total score of the General Self-Efficacy Scale ($p<0.05$), no significant.

Conclusion: In this study, it was determined that first-year nursing students experienced high levels of fear of COVID-19, had high levels of general self-efficacy, and experienced low levels of stress in their first clinical practice experience.

Keywords: Clinical stress, fear of COVID-19, general self-efficacy, nursing students

ÖZ

Hemşirelik Öğrencilerinin COVID-19 Korkusu ve Özyeterlilikleri ile Klinik Stres Düzeyleri Arasındaki İlişki

Amaç: Araştırma, hemşirelik öğrencilerinin COVID-19 korkusu ve öz yeterlilikleri ile klinik stres düzeyleri arasındaki ilişkinin incelenmesi amacıyla yapıldı.

Gereç ve Yöntem: Araştırma, bir üniversitenin sağlık bilimleri fakültesinin hemşirelik birinci sınıf öğrencilerinde Temmuz ve Ağustos 2021 tarihleri arasında tanımlayıcı ve kesitsel tipte yapıldı. Araştırmada örneklem seçimi yapılmadan çalışmaya katılmayı kabul eden 89 hemşirelik öğrencisi ile tamamlandı (Evrenin %91'ine ulaşıldı). Araştırma verileri, Öğrenci Tanıtıcı Bilgi Formu, COVID-19 Korkusu Ölçeği, Genel Öz Yeterlilik Ölçeği, Klinik Stres Anketi kullanılarak toplandı.

Bulgular: Öğrencilerin yaş ortalamasının 20.24±1.15 olduğu, %59.6'sının kadın olduğu, %43,8'inin COVID-19 geçirdiği, % 60.7'sinin ailesinin COVID-19 geçirdiği ve % 14.6'sının COVID-19 nedeniyle kayıp yaşadıkları belirlendi. Öğrencilerin COVID-19 Korkusu Ölçeği puan ortalaması 24.83±5.87, Genel Öz Yeterlilik Ölçeği puan ortalaması 63.91±11.18 ve Klinik Stres Anketi puan ortalaması 31.19±7.8'dir. Öğrencilerin, COVID-19 Korkusu Ölçeği toplam puanı ile Genel Öz Yeterlilik Ölçeği toplam puanı arasında pozitif anlamlı bir ilişki bulunurken ($p<0.05$), diğer ölçek toplam puanları arasında anlamlı bir ilişki bulunmadı ($p>0.05$).

Sonuç: Bu çalışmada, hemşirelik birinci sınıf öğrencilerinin yüksek düzeyde COVID-19 korkusu yaşadıkları, genel öz yeterliliklerinin yüksek düzeyde olduğu ve ilk klinik uygulama deneyimlerinde düşük düzeyde stres yaşadıkları belirlendi.

Anahtar kelimeler: COVID-19 korkusu, genel özyeterlilik, hemşirelik öğrencileri, klinik stres

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INTRODUCTION

Coronavirus (COVID-19) spread rapidly after its emergence in December 2019, eventually transforming into a pandemic that affected the whole world¹. Positive cases can vary from asymptomatic or mild to acute respiratory failure and death^{2,3}. In addition to physical effects, patients are also likely to be confronted by psychological issues. Uncertainties can lead to anxiety. For example, the inability to reach health services, not knowing how long the epidemic will last and how many people will die, and concern over being infected or infecting others cause individuals to experience fear⁴⁻⁶. In the fight against the pandemic, various measures have been taken, such as ensuring individual hygiene, using masks, maintaining social distancing, and applying social isolation in the home environment^{2,7,8}. Another result of the pandemic is a transition to education in online environments. However, it was stated that the process had negative repercussions on university students due to the change in students' working patterns, problems related to measurement and evaluation and technological infrastructure, and the inability to effectively take part in their practicum courses^{9,10}.

The indispensable components of nursing, a profession of both science and art, are theoretical education, laboratory applications, and clinical practices. The parallel between knowledge and clinical practice in developing skills in nursing provides integrity in the development of the student nurse¹¹⁻¹⁴. The clinical environments in which students' theoretical knowledge develops in practice are essential in transferring knowledge to skill. An excellent clinical learning process helps students build their self-efficacy^{9,10}. Self-efficacy is defined as an individual's judgments regarding his or her capacity to regulate and manage personal situations^{12,14}. According to Bandura, people's self-efficacy beliefs influence the determination of their behavior, their attitude towards difficulties, and the level and efficiency of their efforts^{15,16}. Self-efficacy is expressed as people's beliefs about how well they can do what needs to be done to cope with the situations they face. In other words, it measures how determined people are when encountering a problem that needs solving. Self-efficacy is represented by an individual's level of self-confidence. In essence, self-efficacy reflects the individual's ability to cope with stress, enabling the individual to evaluate his/her abilities and capacity more objectively and reducing the side effects of stress¹⁵⁻¹⁷. Clinical stress develops because of students' insufficient knowledge and abilities for practice, mistakes that are made, encountering negative reactions, and low self-efficacy^{15,18,19}. The first clinical experience is usually the most stressful phase of nursing education for students^{15,19,20}.

Stress is the price an organism must pay to adapt to its environment. Although stress is a phenomenon of psychological origin, it is possible to see physiological effects throughout time²¹. It is the most extensive and long-term reaction of the individual's physical structure to the negativities or pressures. This can help the individual survive different events and phenomena they will encounter in life,

but it also threatens emotional stability²². An internal experience that is fed by environmental, organizational, or personal factors, stress can certainly cause physical or psychological distress in the individual's inner world²¹.

The studies stated that online nursing education and canceled clinical practices due to the pandemic caused anxiety, fear, and uncertainty in nursing students²³⁻²⁵. In addition, it is estimated that social isolation increases the stress level of nursing students trying to adapt to distance education^{26,27}.

Nursing education is an education process that is based on clinical practice. Such training cannot be given effectively through distance learning, which may increase students' stress levels. If the self-efficacy perceptions of nursing students increase, the entrepreneurial behavior attitudes they need will become more abundant, and they will become more effective and efficient in diagnosis, care, and treatment methods in nursing²⁸. Studies conducted on nursing students have shown that stress and fear increase as the duration of social isolation increases, along with mental problems such as anxiety and depression^{29,30}.

Aim: This study was conducted to examine the relationship between the fear of COVID-19 and self-efficacy and clinical stress levels of nursing students who went into clinical practice for the first time during the pandemic.

MATERIAL AND METHODS

Study Design

This descriptive cross-sectional study was conducted in the nursing department of a university located in eastern Turkey between July and August 2021.

Study Sample

The "Fundamentals of Nursing" is a compulsory course that nursing department students take in the spring semester of their first year. In this course, they learn fundamental nursing skills. The course includes five hours of theory, two hours of laboratory, and 12 hours of practice per week. During the pandemic, however, students had to take this course online through alternate teaching techniques, including digital lectures, video preparation, case discussions, etc. At the end of the spring semester of the 2021 academic year, students who passed the course were required to partake in clinical practice for 180 hours in a real hospital environment. Students who are successful in their clinical practice can then move on to the next year of the program. The research population consisted of 97 nursing students who were successful in the "Fundamental of Nursing" theoretical course at the time of the study. No sample group was utilized for this study, as the goal was to reach the entire population. Eighty-nine nursing students agreed to participate in the study (91% participation rate).

Data Collection Tools

The data was collected between July and August 2021 through face-to-face meetings, all while paying close attention to the cleaning rules, masks, distance, and hygiene. The Student Introductory Information Form was applied, which incorporated the Fear of COVID-19 Scale, the General Self-Efficacy Scale (GSES), and the Clinical Stress Questionnaire (CSQ).

Student Introductory Information Form: This form was prepared in line with the literature¹⁰⁻¹⁴. It includes students' socio-demographic features (age, gender, income status, family type, and place of residence) and COVID-19 infection status (whether a positive diagnosis of COVID-19 has been issued for the student and their family, which also includes severity level). It consists of 10 questions, including personal loss due to the coronavirus¹⁰⁻¹⁴.

The Fear of COVID-19 Scale: The scale was developed by Ahorsu et al. in 2020 to measure the fear levels of individuals due to COVID-19³¹. The Turkish validity and reliability study was conducted by Satici et al. in 2021⁶. The scale is in a five-point Likert type (1= I strongly disagree; 5= I strongly agree) and consists of seven items. The total score that can be obtained from the scale varies between 7-35. A high score indicates a high fear, and a low score indicates a low level of concern about COVID-19. The Cronbach Alpha internal consistency coefficient was found to be 0.84 by Satici et al⁶. In our study, the Cronbach Alpha coefficient of internal consistency was found to be 0.92.

General Self-Efficacy Scale (GSES): The Turkish validity and reliability of the scale, which was developed by Sherer et al. in 1982 to determine the self-efficacy beliefs of individuals, was performed by Yıldırım and İlhan in 2010^{32,33}. The scale is in a five-point Likert type and consists of seventeen items. There are also three subscales. 1. Initiative: Items 2, 4, 5, 6, 7, 10, 11, 12, and 17 are included. 2. Persistence: Items 13, 14, 15, and 16 are included. 3. Effort: Items 1, 8 and 9 are included. Items 2, 4, 5, 6, 7, 10, 11, 12, 14, 16, and 17 in the scale are reverse scored. The scale's total score varies between 17-85, and an increase in the score indicates an increase in self-efficacy belief. According to the Turkish validity and reliability study conducted by Yıldırım and İlhan, the scale's Cronbach alpha internal consistency coefficient was found to be 0.80³³. In this study, the Cronbach Alpha internal consistency coefficient was 0.85.

Clinical Stress Questionnaire (CSQ): The Turkish validity and reliability of the scale developed by Pagana in 1989 to determine the initial value of the stress experienced by student nurses during their first clinical practice experience was conducted by Şendir and Acaroğlu in 2006^{34,35}. The questionnaire consists of four subscales: threat, challenge, harm, and benefit emotions. In the Clinical Stress Questionnaire, the threat subscale includes six items (worried, anxious, overwhelmed, apprehensive, intimidated, and fearful), the challenge subscale contains seven items (stimulated, exhilarated, hopeful, pleased, eager, excited, and happy), the harm subscale includes five items (angry, sad, guilty, disgusted, and disappointed), and the benefit subscale comprises two items (relieved and confident). Each item is evaluated as five grades. It is required to mark one of the options: 0-“not at all”, 1-“a little”, 2-“moderately”, 3-“quite a bit”, or 4-“a great deal”. The scale's total score ranges from 0 to 80, and an increase in the score indicates a high stress level. The Cronbach Alpha internal consistency coefficient, in which all statements of the clinical stress questionnaire were included, was found to be 0.70³⁵. In our study, the Cronbach Alpha internal consistency coefficient was 0.78.

Data Collection

The data was collected between July-August 2021 through face-to-face meetings, all while paying close attention to cleaning rules, masks, distance, and hygiene. Data were collected on the day of their first clinical practice before students started clinical practice in the class. Before clinical practice, students were given eight hours of training on COVID-19 prevention (related to COVID-19 vaccine and protective equipment).

Data Analysis

The research data were analyzed in the Statistical Package for the Social Sciences (SPSS) 20 package program (IBM SPSS Statistics, Chicago, IL, USA). Percentage distribution, standard deviation, and mean were used to analyze the descriptive characteristics of students in statistical tests. Pearson correlation analysis was performed to determine the relationship between fear of COVID-19, self-efficacy, and clinical stress. $p < 0.05$ was taken as the significance value.

Ethical Considerations

For the research, permission was obtained from the ethics committee of a university in the south of Turkey (No:2021/78). Before collecting the study data, the purpose of the study was explained to the students. It has been reported that participation in the study is voluntary. Written permission was obtained from the Health School Directorate. Written and verbal consent was obtained from all students. This study was conducted in compliance with the Declaration of Helsinki.

Limitations

The limitation of this study is that it covers first-year students of the faculty of health sciences nursing department of a university in eastern Turkey, and the results can only be generalized to this group. Another limitation of this study is the collection of preclinical stress questionnaire data on the first day of clinical practice.

RESULTS

It was determined that the mean age of the participants was 20.24 ± 1.15 , 59.6% were female, 65.2% were Anatolian high school graduates, 80.9% had income equal to expenditure, 75.3% had a nuclear family structure, and 77.5% lived with family (Table 1).

Table 1. Socio-Demographical Characteristics of the Students

Characteristics	Number (n)	Percentage (%)
Gender		
Female	53	59.6
Male	36	40.4
Graduated high school		
Science high school	16	18.0
Anatolian high school	58	65.2
Basic high school	15	16.9
Income level		
Income more than expenditure	10	11.2
Income equal to expenditure	72	80.9
Income less than expenditure	7	7.9

Table 1. Socio-Demographical Characteristics of the Students (Cont.)

Family type		
Nuclear family	67	75.3
Extended family	22	24.7
Residence place		
With family	69	77.5
With relatives	4	4.5
Student house	3	3.4
Dormitory	13	14.6
Age		Min-Max
	Mean± SD	18-31
	20.24±1.15	

SD= Standart sapma, Min= Minimum, Max= Maximum

It was determined that 43.8% of the participants had COVID-19, 41.0% of the participants had no symptoms of COVID-19, 60.7% of the participants of their families had COVID-19, 61.1 of their families had no symptoms of COVID-19, and 14.6% lost at least one of their family members due to COVID-19 (Table 2).

Table 2. Distribution of COVID-19 Infection Data

	Number (n)	Percentage (%)
COVID-19 status		
Yes	39	43.8
No	50	56.2
Severity of disease (n=39)		
Asymptomatic	16	41.0
Mild	8	20.5
Moderate	7	18.0
Severe	8	20.5
Having COVID-19 in the family		
Yes	54	60.7
No	35	39.3
Severity of disease (n=54)		
Asymptomatic	33	61.1
Mild	7	13.0
Moderate	5	9.2
Severe	9	16.7
Relatives who died due to COVID-19		
Yes	13	14.6
No	76	85.4

The mean score of the Fear of COVID-19 Scale was 24.83±5.87, and the mean score of the GSES total was 63.91±11.18. The mean score was 35.38±7.58 for the initiative subscale, 18.22±4.09 for the persistence subscale, and 10.30±2.44 for the effort subscale. The mean score of the CSQ was found to be 31.19±7.8. The mean score was 14.67±3.05 for the challenge subscale, 7.56±3.69 for the threat subscale, 5.75±3.29 for the harm subscale, and 3.20±1.88 for the benefit subscale (Table 3).

Table 3. Distribution of mean scores of the Fear of COVID-19 Scale, the General Self-Efficacy Scale, and the Clinical Stress Scale

Scales and subscales	Min-Max	Mean±SD
Fear of COVID-19 Scale	14.00-35.00	24.83±5.87
GSES: Initiative	09.00-51.00	35.38±7.58
GSES: Persistence	10.00-25.00	18.22±4.09
GSES: Effort	3.00-15.00	10.30±2.44
GSES: Total Score	41.00-87.00	63.91±11.18
CSQ: Challenge	10.000-22.00	14.67±3.05
CSQ: Threat	00.00-15.00	7.56±3.69
CSQ: Harm	00.00-13.00	5.75±3.29
CSQ: Benefit	00.00-8.00	3.20±1.88
CSQ: Total Score	12.00-48.00	31.19±7.84

GSES= General Self-Efficacy Scale, CSQ = Clinical Stress Questionnaire
 SD= Standart sapma, Min= Minimum, Max= Maximum

A positive correlation was determined between the students' fear of COVID-19 Scale score and the total GSES and its effort subscale ($r=0.215$ $p<0.05$, $r=0.308$, $p<0.001$). A positive correlation was determined between the persistence subscale of the GSES and the benefit subscale of the CSQ ($r=0.256$, $p<0.05$). A negative correlation was determined between the initiative subscale of the GSES and the threat subscale of the CSQ ($r=-0.275$, $p<0.001$). No significant difference was determined between the variables other than the specified variables ($p>0.05$) (Table 4).

DISCUSSION

This study determined that first-year nursing students experienced an excessive fear of COVID-19, had a high level of general self-efficacy, and had minimal stress in their first clinical practice experience. There was a significant relationship between the fear of COVID-19 and the perception of self-efficacy in nursing students, but there was no significant relationship between these two and clinical stress levels.

A Comparison of the Fear of COVID-19 and the General Self-Efficacy of Students

In this study, the COVID-19 fear score of the first-year nursing students was found to be high. A qualitative study conducted by Yanik and Yesilcinar (2021) in our country reported that nursing students experienced fear⁹. The reason for the fear experienced by students may be since the students have relatives who died due to COVID-19. Many health workers succumbed to COVID-19 during the height of the pandemic, and some were likely close to the students.

In this study, students' self-efficacy levels were determined to be high, and an increased score indicates a stronger belief in one's self-efficacy. In the studies conducted, it was determined that the self-efficacy score averages of nursing students were above the medium level^{14,36-38}. These results support the findings of our study. As it can be understood from Bandura's definition of "an individual's performance in events that will affect his life by believing in his own capacity", nursing students motivate themselves through clinical experience that will affect their professional lives. A self-efficacy belief affects how people feel, think, motivate themselves, and behave. The study results show that nursing students motivate themselves to participate in clinical practice despite their fears. Self-efficacy may develop over time and differ depending on experience^{16,39}. In this study, a positive correlation was determined between the students' fear of COVID-19 score, the total GSES, and its effort subscale. In other words, students' efforts to maintain their behavior are moderately affected by their fear of COVID-19. No significant relationship was found between fear of COVID-19 and any other variable, and no similar study was found in the literature. The results demonstrate that despite fearing COVID-19, students understood the importance of practicing professionally with actual patients in a clinical setting. In addition, it seems as if they were committed to preparing themselves for clinical practice by amassing theoretical knowledge while

Table 4. Correlations between the subscales and the total scores

Scales and subscales		1.	2.	3.	4.	5.	6.	7.	8.	9.
1	Fear of COVID-19 Scale									
2	GSES: Initiative	0.166								
3	GSES: Persistence	0.094	0.504*							
4	GSES: Effort	0.308*	0.150	0.398*						
5	GSES: Total Score	0.215*	0.895*	0.795*	0.466*					
6	CSQ: Challenge	0.108	0.124	0.062	0.036	0.115				
7	CSQ: Threat	-0.053	-0.275*	-0.154	0.010	-0.241	0.091			
8	CSQ: Harm	0.241	-0.106	0.107	0.132	-0.004	0.115	0.583*		
9	CSQ: Benefit	0.008	0.022	0.256*	0.216	0.156	0.321*	0.036	0.112	
10	CSQ: Total Score	0.120	-0.120	0.058	0.126	-0.033	0.558*	0.759*	0.766*	0.429*

GSES = General Self-Efficacy Scale, CSQ = Clinical Stress Questionnaire

*Pearson's correlation: $p < 0.05$, (Two-tailed test)

developing their skills to serve better the patients for whom they will take on full responsibility in the future. Ahmadi et al. (2020)⁴⁰ and Williams et al. (2017)³⁹ determined in their studies that high self-efficacy perception has positive effects on academic motivation^{39,40}, in a meta-analysis evaluating 50 different factors affecting students' academic performance, it was concluded that self-efficacy and self-confidence were the strongest⁴¹. In addition, it has been stated that health workers' psychological state, self-confidence, and self-efficacy are important factors in professional practice^{42,43}. Self-efficacy is about trusting one's own resources rather than being talented, and high self-efficacy can be associated with high professional self-efficacy³³.

Comparison of Students' Fear of COVID-19 and Clinical Stress Situations

In this study, no statistically significant relationship was found between the fear of COVID-19 and clinical stress levels of first-year nursing students. The lack of an association between clinical stress and COVID-19 was unexpected. However, clinical practice, an important part of professional learning, could not be performed at the beginning of the pandemic^{9,10}. In the fight against the pandemic, nurses on the front lines have one-on-one contact with patients. In the earliest stages, an effective drug or vaccine could not be developed, and doubts were presented regarding the treatments applied. To this date, no one can say when and how the pandemic will end^{4,5}. All these reasons may have caused students to reconsider graduating without complete professional practice and working in an unfamiliar environment. It is very possible that these fears suppressed their fear of COVID-19. In addition, most of the mild COVID-19. This result may be the cause that there is no relationship between COVID-19 and clinical stress.

Results indicated that the clinical stress levels of the students were low. Although there are studies with similar results to the findings of our study^{35,44,45}, there are also studies that indicate that students' mean CSQ score is at a moderate level, unlike our study findings^{20,46,47}. The differences between the studies may be due to differing expectations of the students from clinical learning or the time difference between the studies. The low stress level in the clinical learning environment, the best practice

for learning the professions that nursing students will do throughout their lives, may result from suitable coping mechanisms.

Comparison of Students' GSES and CSQ Scores

This study shows that as students' self-efficacy levels increase, their exposure to practical stress-creating threats decreases. This finding can be interpreted as the students' understanding of the importance of seeing skills training in a real environment, despite the existing threats, before the first clinical practice¹⁵.

A positive correlation was determined between the persistence subscale of the GSES and the benefit subscale of the CSQ. Zengin (2007) reported a significant difference between the behavior completion sub-dimension and the total scores when clinical stress and self-efficacy levels were compared³⁸. It is seen that students experience stress due to situations such as disappointment from performing incomplete or wrong operations, harming the patient, fear of the patient's reaction, and feeling guilty⁴⁸⁻⁵⁰. In this regard, it is expected that even when an experienced instructor is present, students will feel anxious about their first clinical practice. For the students participating in this study, not knowing when the pandemic process will end, moving to a higher level without adequate practice in the clinical environment, or thinking about the possibility of graduating may have reduced their stress.

CONCLUSION

In this study, it was determined that there was a significant relationship between the fear of COVID-19 and the perception of self-efficacy of nursing students, though there is no significant relationship between these two and clinical stress. Since the applied courses were conducted online, the initial clinical stress levels of the students were lower than normal. The decision to perform compensatory practices in a clinical setting can reduce this stress for students.

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Author contributions

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