

## **FEAR OF COVID-19 AND COPING STRATEGIES OF NURSING STUDENTS DURING CLINICAL EDUCATION ABOUT SURGICAL NURSING**

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### **ABSTRACT**

**Background:** Nursing students have experienced psychological problems like fear, anxiety, and depression during the COVID-19 pandemic. However, nursing students' coping strategies and the effectiveness of these strategies during the pandemic are unclear.

**Methods:** The study has a descriptive and cross-sectional design. The sample included 150 surgical nursing students in Turkey in the spring term of the 2020-2021 academic year. Data were collected with a Sociodemographic Features Form, The Fear of COVID-19 Scale and The Coping with the Outbreak Scale. Correlation and regression analyses were performed to determine the factors having a relation with the fear of COVID-19.

**Results:** The mean score on the Fear of COVID-19 Scale was  $19.13 \pm 5.09$ . The fear of COVID-19 had a significant relation with death anxiety ( $p=0.003$ ) and the feeling of guilt ( $p=0.032$ ). The mean score on the Coping with the Outbreak Scale was  $46.56 \pm 12.03$  and the mean scores on cognitive coping, transcendental coping and behavioral coping were  $9.64 \pm 3.47$ ,  $9.36 \pm 3.50$  and  $12.18 \pm 4.75$  respectively. The mean score on coping with COVID-19 had a significant relation with the type of the high school the students graduated from ( $p=0.025$ ), anxiety about failure to find a job ( $p=0.0001$ ), death anxiety ( $p=0.014$ ) and anger ( $p=0.048$ ).

**Conclusions:** The students had a moderate level of fear of COVID-19 during the pandemic. They experienced the feelings of fear, guilt, anger, and burnout. They were also anxious about failure to find a job and dying. They had a moderate level of coping with the pandemic. In line with these results, it can be suggested that nursing students be informed about crisis management so that they can cope with similar processes.

**Key Words:** Coping, nursing, pandemic, surgical nursing student,

### **1. INTRODUCTION**

Nursing students too, have offered care to patients with COVID-19 throughout the pandemic (1). This has negative psychological effects on the students. It is stated in the literature that they experience intense worries, anxiety and fear (1-5). Experiencing negative feelings like worry, anxiety and fear may cause nursing students to dislike the nursing profession and experience many undesirable situations in their work life (6). There for, it is of vital importance to determine health-related worries of nursing students as the members of the future healthcare workforce and to provide appropriate solutions to them in order to ensure a healthy workforce and

high-quality patient care during a pandemic likely to appear in the future (7).

Also, decreasing of the fear in nursing students enhances the quality of clinical care (1). Therefore, it is emphasized in the literature that nursing students should be protected against negative effects of the pandemic (8).

To protect against negative effects of the pandemic, it is necessary to develop coping strategies among nursing students. It is reported in the literature that nursing students have a moderate or low level of coping with the pandemic (9-11). The coping strategies frequently used by the students include cognitive, transcendental and behavioral

strategies like searching for information, listening to music, meditating and doing sports. However, their effectiveness remains unclear. Therefore, nursing students' fear of COVID-19 and strategies to cope with it are worth attention. The present study aimed to determine the level of fear of COVID-19 and the level of coping in nursing students enrolled on the course of Surgical Diseases Nursing during the pandemic, which will contribute to the relevant literature.

## **2. MATERIALS AND METHODS**

### **Design**

This study is descriptive and cross-sectional.

### **Participants and procedure**

The study population comprised the students signing up for the course of Surgical Diseases Nursing in the nursing department of the health sciences faculty of a university in Turkey in the spring term of the 2020-2021 academic year ( $N=183$ ). No sampling method was used and all the students from the study population agreeing to participate in the study were included in the sample ( $n=150$ ; 81.2%). The tools used to gather data were sent to the students via online applications (Google Forms, WhatsApp and email).

### **Measures**

Data about sociodemographic and pandemic-related features, fear of COVID-19 and strategies for coping with the pandemic were collected.

A Sociodemographic and Pandemic-Related Features Form was utilized to obtain data about sociodemographic and COVID-19. This form includes sociodemographic variable such as age, gender and type of high school. Also, Pandemic-Related Features are commitment to nursing, place of living and persons staying with the participants during the pandemic, diagnosis of the participants or their relatives with COVID-19, offering care to patients with COVID-19 and experiencing anxiety during lockdown.

The Fear of COVID-19 Scale was developed by Ahorsu et al. in 2020 to determine the level of fear of COVID-19. The validity and reliability of the scale for

the Turkish population were tested by Ladikli et al. (2020). It has a one-factor structure and five-point Likert scale: one corresponding to completely disagree and five corresponding to completely agree. None of the items in the scale are inversely scored. Cronbach's alpha for internal consistency and the test-retest reliability coefficient for the scale were reported to be 0.82 and 0.72 respectively. Higher scores indicate a higher level of fear of COVID-19 (12).

The Coping with the Outbreak Scale was created by Hatun et al. to reveal how people cope with difficulties they experienced during the COVID-19 pandemic (2020). The scale has 14 items and four subscales: cognitive coping (items 1, 2 and 3), transcendental coping (items 4, 5, 6 and 7), behavioral coping (items 8, 9 and 10) and relational coping (items 11, 12, 13 and 14). It is a five-point Likert scale: zero corresponds to "never have done" and five corresponds to "have very frequently done". None of the items are scored in the reverse order. The reliability of the scale was tested with Cronbach's alpha and split half test. Cronbach's alpha was reported to be 0.84 for the scale and 0.77 for cognitive coping, 0.70 for transcendental coping, 0.76 for behavioral coping and 0.79 for relational coping. Higher scores show more effective coping with the pandemic (13).

### **Data collection and ethical consideration.**

Data collection was performed between June and July in 2021. Data collection tools were sent to the participants online via Google Forms, WhatsApp and email.

Permission of the researchers who created the Fear of COVID-19 Scale and the Coping with the Outbreak Scales was obtained via email. Ethical approval was obtained from the ethical board of non-interventional research at the university where the study was conducted (09.06.2021-E.60759) and permission of the school administration was also taken before initiation of the study.

### **Data analysis**

Obtained data were analyzed with the Statistical

Package Program for Social Sciences for Windows, Version 25.0 (IBM Corp., Armonk, NY, ABD). Descriptive data were expressed in numbers and percentages. Mean and standard deviation were used to analyze data about the level of fear of COVID-19 and the level of coping. Normality of data about dependent and independent variables was tested with Skewness and Kurtosis and the values ranging from +1.5 to -1.5 showed a normal distribution. ANOVA and t-test were used to evaluate the level of fear of COVID-19 and the level of coping with the pandemic in terms of sociodemographic and pandemic-related features. The degree of the significant relations was analyzed with linear regression analysis. Whether the level of fear of COVID-19 had a correlation with coping with

stress was determined with correlation analysis. The significance level was set at  $p < 0.05$  for all the tests.

### 3. RESULT

#### Descriptive characteristics of the students

The mean age of the students was  $20.61 \pm 1.57$  years, 88.0% of the students were female and 69.3% of the students were graduates of Anatolian high school (a state school where the medium of instruction is English in Turkey). Also, 87.3% of the students had a elementary family and parents of 36.0% of the students were workers. Regarding the place of clinical education about surgical diseases nursing, 14% attended a general surgery clinic, 17.3% a cardiovascular surgery clinic, 10.7% an orthopedics and traumatology clinic, 14% a urology clinic and 6.7% a cardiology clinic (Table 1).

**Table 1. Descriptive characteristics of the students**

<b>Descriptive Characteristics</b>		<b>X± SD</b>	
Age		$20.61 \pm 1.57$	
Gender	Female	n	%
	Male	132	88.0
	Total	18	12.0
Type of high school the students graduated from	Anatolian high school	150	100.0
	Vocational health school	104	69.3
	Science high school	24	16.0
Type of family	Other	15	10.0
	Total	7	4.7
	Elementary family	150	100.0
Parents' occupation	Extended family	131	88.3
	Separated/divorced parents	16	10.7
	Total	3	2.0
The place of clinical education about surgical diseases nursing	Worker	150	100.0
	Having one's own business	54	36.0
	Government official	53	35.3
	Unemployed	29	19.3
	Total	14	9.3
	Intensive care units	150	100.0
	General surgery clinic	21	14.0
	Cardiovascular surgery clinic	26	17.3
	Orthopedics and traumatology clinic	16	10.7
	Urology clinic	20	13.8
	Cardiology clinic	21	14.0
	Oncology clinic	10	6.7
	Total	13	8.7
		150	100.0

### Pandemic-related features of the students

Of all the students included in the sample, 64.0% were living in the Aegean region, 54.0% in a city and 92.7% with their families. Besides, 83.3% of the students were not working during the pandemic, 13.3% of the students received a course about the pandemic and 11.3% of the students offered care to patients with COVID-19 during their clinical

education about surgical diseases nursing. Regarding the feeling of anxiety, 56.7% of the students experienced anxiety about lagging behind clinical education, 58.0% anxiety about the future and 22.0% anxiety about failure to find a job. Of all the students, 66% experienced fear, 66.7% confusion, 32% anger and 64.7% burnout (Table 2).

**Table 2. Pandemic-Related Features of the Students**

Pandemic-Related Features		n	%
Region where the participants lived during the pandemic	Aegean region	96	64.0
	Mediterranean region	20	13.3
	Marmara region	10	6.7
	Middle Anatolia	10	6.7
	East Anatolia	7	4.7
	Southeast Anatolia	4	2.7
	Black Sea Region	3	2.0
Place of living during the pandemic	City	81	54.0
	Village	39	26.0
	Town	35	16.7
People staying with the participants during the pandemic	Small town	5	3.3
	Family	139	92.7
	Friends	7	4.7
	Alone	4	2.7
	Total	150	100.0
Being diagnosed as COVID-19	Yes	98	65.3
	No	52	34.7
The presence of people at risk of COVID-19 around the participants	Yes	79	52.7
	No	71	47.3
	Yes	25	16.7
Working during the pandemic	No	125	83.3
	Total	150	100.0
Receiving a course/seminar about the pandemic	Yes	20	13.3
	No	130	86.7
	Internet	105	70.0
Source of information about the pandemic	TV	37	24.7
	Peers	6	1.3
Offering care to patients with COVID-19 during clinical education about Surgical Diseases Nursing	Yes	25	17.2
	No	120	82.8
Contracting COVID-19 during clinical education	Yes	30	20.7
	No	115	79.3
	Inadequate	101	67.3
Opinions about measures against COVID-19	Adequate	39	26.0
	Exaggerated	10	6.7
	Fear of transmission of COVID-19 to family members	103	68.7
Anxiety/fear experienced during the pandemic	Fear about lagging behind clinical education	85	56.7
	Anxiety about the future	87	58.0
	Death anxiety	53	35.3
	Anxiety about failure to find a job	33	22.0
	Total	150	100.0
	Confusion	100	66.7
	Fear	99	66.0
	Burnout	97	64.7
Feelings experienced during the pandemic	Lethargy	57	38.0
	Anger	48	32.0
	Grief	21	14.0
	Feeling of guilt	12	8.0
	Anxiety-related sleep disorder	58	38.7
	Total	150	100.0

**Table 3. The Distribution of the Mean Scores on Fear of COVID-19 and Coping with the Outbreak**

Subscales	Mean Scores	
	X± SD	Min – Max
Fear of COVID-19	19.13±5.09	7-35
Cognitive Coping	9.64±3.47	0-15
Transcendental Coping	9.36±3.50	0-15
Behavioral Coping	12.18±4.75	1-20
Coping with the Outbreak	46.56±12.03	8-70

**Fear of COVID-19 and Coping with the Pandemic**

The mean score on the Fear of Covid-19 Scale was 19.13±5.09 (Table 3). The level of fear of COVID-19

had a significant relation with death anxiety ( $p=0.003$ ) and the feeling of guilt ( $p=0.032$ ) (Table 4).

**Table 4. The Factors affecting the Fear of COVID-19 and Coping with the Outbreak**

	Fear of COVID-19	Cognitive Coping	Transcendental Coping	Relational Coping	Coping with the Outbreak
Gender	t=1.306 p=0.194	t=-0.539 p=0.591	t=0.180 p=0.857	t=-0.515 p=0.607	t=-0.498 p=0.619
Type of High School	F=0.331 p=0.803	F=2.607 p=0.054	F=0.266 p=0.849	F=3.312 p=0.012	F=3.752 p=0.025
Region where the participants lived during the pandemic	F=1.314 p=0.254	F=1.026 p=0.411	F=1.596 p=0.152	F=1.268 p=0.276	F=1.892 p=0.086
Place of living during the pandemic	F=1.382 p=0.251	F=2.273 p=0.083	F=0.473 p=0.701	F=0.271 p=0.846	F=1.211 p=0.308
Persons staying with the participants during the pandemic	F=0.709 p=0.494	F=5.195 p=0.007	F=0.668 p=0.514	F=0.239 p=0.78	F=1.561 p=0.213
Parents' occupations	F=0.964 p=0.411	F=2.300 p=0.080	F=0.217 p=0.884	F=3.523 p=0.017	F=2.277 p=0.082
Receiving a course about COVID-19	t=0.864 p=0.389	t=2.619 p=0.010	t=0.947 p=0.345	t=0.981 p=0.328	t=1.683 p=0.095
Experiencing anxiety about COVID-19	t=0.693 p=0.486	t=1.270 p=0.206	t=-1.998 p=0.048	t=0.483 p=0.630	t=1.341 p=0.182
Being diagnosed as COVID-19	t= -0.241 p=0.810	t=1.725 p=0.087	t=0.914 p=0.362	t= -0.008 p=0.994	t=0.948 p=0.345
Working during the pandemic	t=0.157 p=0.875	t=0.251 p=0.802	t=1.128 p=0.261	t=0.852 p=0.395	t=0.782 p=0.436
<b>Anxiety and fear experienced during the pandemic</b>					
Anxiety about the future	t=0.542 p=0.589	t=0.516 p=0.607	t= -0.861 p=0.391	t= -0.357 p=0.721	t= -0.019 p=0.985
Anxiety about failure to find a job	t= -0.107 p=0.915	t= -3.054 p=0.003	t= -2.977 p=0.003	t= -2.441 p=0.016	t= -3.715 p=0.001
Fear of transmitting COVID-19 to elderly family members	t=0.814 p=0.417	t= -0.857 p=0.393	t= -1.303 p=0.195	t=0.357 p=0.722	t= -0.252 p=0.801
Death anxiety	t=3.027 p=0.003	t= -1.775 p=0.078	t= -2.602 p=0.010	t= -2.222 p=0.028	t= -2.487 p=0.014
Confusion	t=1.050 p=0.296	t=0.490 p=0.625	t= -0.116 p=0.908	t= -2.141 p=0.034	t= -0.931 p=0.353
Anger	t=1.643 p=0.103	t=0.796 p=0.361	t= -1.270 p=0.206	t= -1.413 p=0.160	t= -1.997 p=0.048
Feeling of guilt	t=2.171 p=0.032	t=1.417 p=0.159	t=0.973 p=0.591	t=0.589 p=0.912	t=0.799 p=0.575
Grief	t=1.151 p=0.252	t=1.465 p=0.145	t= -0.240 p=0.810	t=0.102 p=0.919	t=0.105 p=0.917
Lethargy	t= -0.932 p=0.353	t=1.041 p=0.300	t= -1.017 p=0.311	t= -0.488 p=0.627	t= -0.336 p=0.737
Burnout	t=1.130 p=0.261	t=0.069 p=0.945	t= -1.919 p=0.057	t= -0.751 p=0.454	t= -1.461 p=0.146

**Table 5. Effects of the Independent Variables on the Fear of COVID-19 and Coping with the Outbreak Scale**

Independent Variables	Fear of COVID-19 Scale		Coping with the Outbreak Scale	
	B	P	β	P
Feeling of guilt	-0.648	0.001	-	-
Death anxiety	-0.283	0.244	-0.978	0.579
Anxiety about failure to find a job	-	-	1.389	0.440
Anger	-	-	0.223	0.706
R	0.401		0.117	
R <sup>2</sup>	0.161		0.014	
F	14.078		0.677	
P	0.001		0.567	
DW	2.007		1.909	

Death anxiety and the feeling of guilt accounted for 16% of the level of fear of COVID-19 ( $R=0.401$ ,  $R^2=0.016$ ,  $F=14.078$ ,  $p=0.001$ ,  $DW=2.007$ ) (Table 5).

The mean score on the Coping with the Outbreak Scale was  $46.56\pm12.03$  and the mean scores on the subscales of cognitive coping, transcendental coping and relational coping were  $9.64\pm3.47$ ,  $9.36\pm3.50$  and  $12.18\pm4.75$  respectively (Table 3). The level of coping with the pandemic had a significant correlation with type of high school ( $p=0.025$ ), anxiety about failure to find a job ( $p=0.0001$ ), death anxiety ( $p=0.014$ ) and anger ( $p=0.048$ ) (Table 4). When these variables (death anxiety, anxiety about failure to find a job and anger) were analyzed together, they were found to be ineffective in the mean score on the Coping with the Outbreak Scale ( $R=0.117$ ,  $R^2=0.014$ ,  $F=0.567$ ,  $p=0.567$ ,  $DW=1.909$ ) (Table 5). The mean score on the Fear of COVID-19 Scale did not have a significant relation with the mean score on the Coping with the Outbreak Scale ( $r=0.000$ ,  $p=0.999$ ) and the mean scores on its subscales cognitive coping ( $r=0.069$ ,  $p=0.399$ ) transcendental coping ( $r=-0.144$ ,  $p=0.078$ ) behavioral coping ( $r=0.083$ ,  $p=0.312$ ).

#### 4. DISCUSSION

Nursing students have been affected physically and psychologically due to the COVID-19 pandemic and resultant uncertainty. The present study showed

that the students receiving clinical education during the pandemic experienced anxiety about their future, death anxiety, confusion, fear, the feeling of guilt and anger. The mean score of the students on the Fear of COVID-19 Scale showed that they had a moderate level of fear of the pandemic. Consistent with this finding, it is stated in the literature that nursing students experience fear and anxiety (2,4). Other studies using the Fear of COVID-19 Scale revealed that students have a moderate level of fear (1,3,5). It is inevitable for nursing students to experience the feelings of fear and anxiety. However, inability to cope with these feelings results in many psychological problems such as depression, sleeplessness and posttraumatic stress disorder (5,11, 14). Wang et al. (2019) reported that university students had moderate-to-severe depression and anxiety during the pandemic (11). In a systematic review on psychological problems in nursing students during the pandemic, the most frequent psychological problem of the students was depression (15).

It is important to understand the reasons why nursing students experience fears during their clinical education in terms of provision of appropriate solutions to these fears (1,3,5,16). According to the results of a study by Huan et al. (2020), the reasons for nursing students' fear are

close contact with patients with COVID-19, lack of information and anxiety about transmitting the disease to their relatives (4). De Los Santos et al. (2021) also revealed that nursing students were afraid of contracting COVID-19. In the present study, most of the students offered care to patients with COVID-19 and experienced fear of transmitting COVID-19 to their family members (3). Besides, the students' death anxiety and feeling of guilt significantly increased the level of their fear.

Students should be able to bring their pandemic-related fear under control and overcome crises so that they can offer high-quality care during their work life (1). In the current study, the students had a moderate level of coping with the pandemic. Yu et al. (2020) reported a low level of coping. Individuals develop different strategies to cope with the fear they experience. These strategies include behavioral and psychological responses to have control over a stressful situation and to minimize stress (10).

Coping strategies can be divided into active coping and passive coping. They are also classified into cognitive coping, transcendental coping and behavioral coping (9, 17, 18). Cognitive coping is related to learning about the factor causing fear, considering it as temporary and autosuggestion (13). In the present study, the students were found to have moderate coping. Wang et al. reported that the students utilized technological tools and learned about the pandemic to cope with it (11). In the present study, the students receiving a course/seminar about COVID-19 had a higher level of coping. However, few students attended a course/seminar and most of the student's collected information about the pandemic from the Internet, social media and television. The reason why the students did not have a desired level of cognitive coping can be attributed to their non-scientific sources of information. It can be suggested that seminars/courses about the issue should be increased, and web-based learning methods should be actively used to improve cognitive coping of the

students.

Transcendental coping is associated with various outcomes like optimism, acceptance, patience, and hope (13). In the present study, the students had a moderate level of transcendental coping. The students experiencing anxiety had a lower level of transcendental coping. Besides, the number of the students who reported experiencing anger, confusion and burnout was high. Yu et al. (2020) showed that individuals feeling guilty, disappointed, and bored had lower levels of coping and mostly used passive coping (10). Consistent with their finding, the present study also demonstrated that the students had lower scores on transcendental coping. This can be ascribed with their inability to accept pandemic-related changes. The level of transcendental coping affects perspectives of the students about the phenomenon concerned. Positive thinking and high levels of hopefulness, optimism and acceptance can increase the level of transcendental coping. It can be recommended that students should meditate, read and do breathing exercises to improve their transcendental coping. This way, students' burnout and hopelessness levels can be reduced and transcendental coping levels can be increased (11).

Behavioral coping involves several strategies such as developing personal abilities and skills, listening to music and acting cautiously (13). Besides, occupational therapies like doing sports and gardening can be considered as part of behavioral coping (11). In the current study, the students had a moderate level of behavioral coping. The high school they graduated from, parental occupation, anxiety about failure to find a job and death anxiety had a negative impact on their behavioral coping. Consistent with the literature (10, 19). The level of behavioral coping was found to be affected by external factors in the present study. It can be suggested that encouraging the students to cooperate with health professionals and their classmates and provision of stronger social and financial support for them can increase the level of

their behavioral coping.

## Limitations

One limitation of this study is that it was conducted in a single center. Besides, data were collected online.

## 5. CONCLUSION

The students had a moderate level of fear of COVID-19 and a moderate level of coping with the outbreak. During the pandemic, they most frequently experienced the feelings of fear, guilt, anger and burnout. Also, they experienced anxiety about the failure to find a job, death anxiety, fear of contracting COVID-19 and fear of transmitting the infection to their family members. The students most frequently adopted behavioral coping. Teaching cognitive and transcendental coping strategies to nursing students and raising their awareness about these strategies could enhance the level of their coping with the outbreak. According to the results of the research, it can be suggested that nurses be informed about crisis management so that they can cope with similar processes. In addition, it can be recommended to carry out case studies on crisis management in the lessons to improve the coping skills of the students.

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**Conflicts of Interest:** The authors declared that there is no conflict of interest.

**Ethical Statement:** Ethical approval was obtained from the ethical board of non-interventional research at the university where the study was conducted (09.06.2021-E.60759)

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