

Original Article

Anxiety and Coping Strategies among Nursing Students During the Covid-19 Pandemic: An Example From Turkey

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Abstract

Study Objective: The aim of this study is to examine the anxiety levels and coping strategies of nursing students during the covid-19 pandemic.

Materials and Methodology: The data were collected as online and The study was completed with 645 students who voluntarily and completely filled in the data collection forms.

Results: The average age of the participants was 21.45 ± 1.34 , and 79.7% of them were females. The most frequently used coping attitude included “turning to religion” (13.51 ± 2.75) indicating an increase in religious activities in case of difficulties; the least utilized coping attitude was found “use of alcohol-drug” (4.82 ± 2.15), indicating the use of substances effect to relieve the tension experienced. Of all the participating students, 55% reported mild, moderate, and severe anxiety levels.

Conclusions: Nursing students were found to have decreased generalized anxiety scores when they used problem-focused and emotion-focused coping methods, and they were found to have increased anxiety scores when they used dysfunctional coping methods.

Keywords: Anxiety, coping strategies, COVID-19, nursing student, pandemic

Introduction

History has witnessed several contagious diseases that caused large-scale deaths and hazards to human health (Aslan, 2021). In December 2019, a new coronavirus (COVID-19) that caused pneumonia emerged and spread very rapidly in Wuhan, China (Loveday, 2020)

The prevalence of the COVID-19 pandemic brought about a new stress factor by causing individuals to experience restrictions in physical movements and social activities, feel fear and anxiety for themselves and loved ones, and make sudden and radical changes in their lifestyle (Brooks et al., 2020). Nursing

students experienced biggest problems when they did their job training or practice in hospitals. Students received exams and courses they could not practice in clinics through distance education, which caused them to experience high levels of anxiety in this process (Aslan, 2021; Kurtuncu et al., 2021). Studies reported students' concerns regarding the intervention of interruption in education on their competence and future career success (Dewart et al., 2020; O'Flynn-Magee et al., 2020).

The COVID-19 pandemic has affected nursing students' mental health and sleep increased their risk of catching COVID-19 during the clinical practices, and decreased

their academic success (Tomietto et al., 2020; Abazie et al., 2021). Nursing schools have made various regulations to reduce these problems. Some institutions closed the university temporarily and postponed the clinical practices (Joob and Wiwanitkit, 2020; O'Flynn-Magee et al., 2020). According to a survey conducted by the International Council of Nurses (ICN), delays in clinical practices also caused a delay in nursing students' graduation by affecting their academic success (ICN, 2021). When clinical practices were started again, nurses needed to spend their energy and thoughts for dealing with COVID-19, which caused them to experience workload and prevented them from guiding student (Franzoi and Cauduro, 2020; ICN, 2021; Abazie et al., 2021). Although the same stress about COVID-19 was experienced by all nurses, evidence shows that the youngest nurses experienced more difficulties in coping with this situation (Sherman, 2021). Studies show that generation Z is experiencing difficulties during the COVID-19 pandemic (Sherman, 2021; Shorey, 2021). Young nurses reportedly had high levels of stress, anxiety, and depression during the COVID-19 pandemic and these were associated with a lack of experience with difficulties and a general reluctance about risks and negative events (Czeisler et al., 2020; Lee et al., 2021). Besides, Generation Z nurses were found to have less flexibility in comparison to other generations (Ang et al., 2021). A study that investigated nurses' and nursing students' coping strategies during the COVID-19 pandemic in China concluded that nurses chose negative coping strategies (Huang et al., 2020).

Determination of anxiety and coping strategies of nursing students, who are future health professionals, and providing solutions for these are of great importance in terms of maintaining a healthy work power and patient care quality in a potential pandemic process. In this regard, It is important that nursing students who will serve as health care providers, anxiety situations in the pandemic and how they cope with this anxiety. Hence, in this study, we aimed to determine the anxiety levels and coping methods of nursing students during the pandemic period.

Materials and Methodology

Type of the study: This study utilized a descriptive design.

Population and sample of the study: The target population of the research is nursing students aged 18 and over who are enrolled in a Faculty of Nursing in eastern Turkey in the 2021-2022 academic year, who met the research criteria, and who agreed to participate in the study between April 2021 and May 2021. The sample of the study included 645 volunteer nurses who met the research criteria and were selected using a simple random probability sampling method (sample size was determined as 428 out of 1200 individuals using a 5% acceptable margin of error and 99% reliability level).

Data Collection: The data of study were collected by using online form which were study prepared in the GoogleDocs program. The online form was sent to the students via e-mail/whatsapp between 15th April and 1st May, 2021.

Data Collection Tools: Data were collected using the "Socio-demographic Form", the "Generalized Anxiety Disorder Scale", and the "Coping Strategies Scale".

The Socio-demographic Form: This form that includes the descriptive characteristics of the students was prepared by the researchers after searching related to literature

The Generalized Anxiety Disorder Scale (GADS): The Generalized Anxiety Disorder Scale was developed by Spitzer et al. (Spitzer et al., 2006) according to the DSM-IV-TR criteria. It is a self-report scale that is composed of seven questions rated on a 4-point Likert Scale. Turkish reliability and validity of the scale were performed by Konkan et al. (Konkan et al., 2013). The acceptable cut-off point was found 8 in the Turkish adaptation of the scale. The General Anxiety Disorder Scale is a test that is composed of 7 items and assesses an individual's experiences within the past 15 days. Individuals are asked to respond to the questions on a 4-point Likert Scale by choosing one of the options including "not at all", "several days", "more than half the days", and "nearly every day".

The Coping Strategies Scale: The Coping Strategies Scale was composed of 60 questions and 15 sub-scales.

Each of these sub-scales gives information about a different coping attitude. Hence, higher scores to be obtained from the sub-scales enable to interpret which coping strategies are utilized by the individual more. Five of these coping attitudes (active coping, planning, suppression of competing activities, restraint activities, using beneficial social support) are classified as problem-focused. The other five coping attitudes are classified as emotion-focused (seeking social support for an emotional reason, positive reinterpretation and growth, acceptance, humor, and turning to religion). Finally, the other five coping attitudes are classified as dysfunctional coping attitudes, which are considered to be the least beneficial (focus on and venting of emotions, behavioral disengagement, use of alcohol-drug, denial, and mental disengagement). The COPE was translated to Turkish and administered to a sample of 47 individuals in the study conducted by Agargun et al. (2005). Cronbach's alpha value was found 0.79, and the correlation of the sub-scale scores with the COPE total score was found to be positive and significant.

Administration of the Data Collection Forms:

Data were collected by the researchers between April 2021 and May 2021. After permission from the institution was obtained and the information technologies department of the related faculty was contacted, the data collection tools were put in the Google Docs data system, and the students were sent the questionnaire link as an SMS. Data security and recurrent answers were prevented by setting the submission of the data collection tool as once from the Google Docs setting section.

Data Analysis: Data analysis included the use of descriptive statistics such as percentages, standard deviation, frequencies, mean minimum and maximum values, and Skewness and Kurtosis (± 1) distribution test values to analyze normal distribution. Data were found to demonstrate normal distribution. Statistical calculations were done using t-test and ANOVA tests in independent groups.

Limitations of the Study: Collecting data from only one Faculty is the limitation of the study.

Ethical Considerations: The approval was obtained from a local ethics committee. Students who met the research criteria were informed about the study and their consent was received. They were told that their responses would be used only for study purposes and they could withdraw from the study any time they wanted so. The study followed the "Informed Consent", "Volunteer Participation" and "Confidentiality" principles.

Results

Data were collected from participants that formed 67.74% (n=780) of the target population. Data from 135 students who had incomplete or incorrect responses were not included in the analysis. The participation ratio of the target population was 55.79%.

The average age of the participants was 21.45 ± 1.34 , and 79.7% of them were females. Of all the students, 27.2% were enrolled in the first year, 19.4% were enrolled in the second year, 22.2% were enrolled in the third year, and 31.2% were enrolled in the fourth year. Besides, 94.1% of the students did not have a known chronic disease, 86.7% were not infected with COVID-19 during the pandemic, 60.8% did not have fears during the pandemic, 84.3% had sleep problems during the pandemic, and 70.5% had nutrition problems.

The most frequently used coping attitude included "turning to religion", indicating an increase in religious activities in case of difficulties; the least utilized coping attitude was found "use of alcohol-drug", indicating the use of substances effect to relieve the tension experienced.

Scores to be obtained from the GADS -7 scale range between 0 and 21. Of all the participating students, 55% reported mild, moderate, and severe anxiety levels.

When nursing students' Generalized Anxiety Disorder Scale and Coping Strategies Scale scores were analyzed according to their socio-demographic characteristics, female students' anxiety levels were found to be higher than male students' anxiety levels, and the difference between them was statistically significant. Generalized anxiety disorder scores were found to be higher in those who

were enrolled in the first year, who did not choose the nursing profession willingly, who had a psychiatric disease, who had been infected with COVID-19 during the pandemic, who were afraid of being in quarantine, and who reportedly had nutrition and sleep problems every day, and the difference was statistically significant ($p < 0.05$). Comparisons between the socio-demographic characteristics and the Coping Strategies Scale scores indicated no statistically significant differences ($p > 0.05$) (Table 4).

When the correlation analysis between the

coping sub-scales and GADS total scores were analyzed, while a negative relationship was found with the generalized anxiety total score of students who used problem-focused and emotion-focused coping attitudes, a positive and statistically significant relationship was found with the dysfunctional coping attitudes ($p < 0.001$) (Table 5). Nursing students were found to have decreased generalized anxiety scores when they used problem-focused and emotion-focused coping methods, and they were found to have increased anxiety scores when they used dysfunctional coping methods.

Table 1. The students' sociodemographic characteristics

Characteristics	n	(%)
Level		
First	176	27.2
Second	125	19.4
Third	143	22.2
Fourth	201	31.2
Gender		
Female	514	79.7
Male	131	20.3
Have a chronic disease		
Yes	38	5.9
No	607	94.1
Have you or someone you know infected with covid 19?		
Yes	86	13.3
No	559	86.7
Have you had any fears during the pandemic period?		
Yes	392	60.8
No	253	39.2
Have you had sleep problems during the pandemic		
Everyday	85	13.2
Sometimes	284	44.0
Rarely	175	27.1
Never	101	15.7
Have you had nutritional problems during the pandemic		
Everyday	54	8.3
Sometimes	176	27.3
Rarely	225	34.9
Never	190	29.5
Age (Mean±SD)	21.45±1.34	

Subscales	Mean± SD	Min.	Max.
Positive reinterpretation and growth	12.91±2.12	4.00	16.00
Mental disengagement	9.89±2.36	4.00	16.00
Focus on and venting of emotions	10.85±2.55	4.00	16.00
Seeking social support for instrumental reasons	11.15±3.17	4.00	16.00
Active coping	11.61±2.29	4.00	16.00
Denial	6.34±2.33	4.00	16.00
Turning to religion	13.51±2.75	4.00	16.00
Humor	7.88±3.24	4.00	16.00
Behavioral disengagement	6.21±2.51	4.00	16.00
Restraint coping	9.05±2.09	4.00	16.00
Seeking social support for emotional reasons	10.68±2.91	4.00	16.00
Substance use	4.82±2.15	4.00	16.00
Acceptance	9.67±2.39	4.00	16.00
Suppression of competing activities	10.11±2.27	4.00	16.00
Planning	12.34±2.45	4.00	16.00

Table 3. GAD-7 Test Results of the Students

General Anxiety Disorder-7		n	%
	Normal	289	44.8
	Light	236	36.6
	Middle	82	12.7
	Severe	38	5.9
	Total	645	100

		General Anxiety Disorder-7 Scale	Coping Strategies Scale
		X±SD	X± SD
Gender	Female	6.00±4.76	147.29±17.14
	Male	4.80±3.93	146.23±21.15
	Test	t=2.671	t=0.61

		p=.003	p=.548
Level	First Second Third Fourth Test	6.78±4.51 6.57±4.79 6.07±4.62 5.17±4.53 F=4.769 p=.003	147.56±17.53 145.48±18.76 147.85±17.47 146.86±19.78 F=0.491 p=.688
Enfected with Covid-19	Yes No Test	6.56±4.88 5.70±4.61 t=1.118 p=.002	143.05±18.53 147.34±17.97 t=-1.44 p=.150
Choosing the Nursing Profession Willingly	Yes No Test	5.39±4.50 6.76±4.81 t=-3.37 p=.001	147.75±17.61 145.25±19.00 t=1.56 p=.117
Satisfaction with the Nursing Department	Yes No Test	5.54±4.53 7.25±4.98 t=-3.13 p=.002	147.32±17.61 145.41±21.20 t=0.888 p=.375
Have a History of Psychiatric Disease	Yes No Test	12.10±4.62 5.66±4.56 t=-4.428 p=.000	148.20±17.55 147.06±18.03 t=0.198 p=.843
Afraid of Quarantine	Yes No Test	6.22±4.50 5.04±4.72 t=3.187 p=.002	147.40±17.85 146.28±18.28 t=0.558 p=.577
Have Sleep problem	Everyday Sometimes Rarely Never Test	8.65±5.27 6.42±4.58 4.54±3.64 3.56±3.99 F=26.694 p=.000	144.20±16.07 147.28±15.88 147.16±19.44 148.78±21.94 F=1.038 p=.375
Have nutrition problem	Everyday Sometimes Rarely Never Test	9.11±5.53 7.20±4.36 5.13±4.18 4.21±4.24 F=26.366 p=.000	149.27±16.61 145.84±18.30 147.44±17.34 147.17±18.94 F=0.577 p=.631

Table 5. Correlation Values of the Relationship Between the Pervasive Anxiety Scale and the Coping Strategies Scale Scores

		Positive reinterpretation and growth	Mental disengagement	Focus on and venting of emotions	Seeking social support for instrumental reasons	Active coping	Denial	Turning to religion	Humor	Behavioral disengagement	Restraint coping	Seeking social support for emotional reasons	Substance use	Acceptance	Suppression of competing activities	Planning	GAD-7
Positive reinterpretation and growth	r p	1															
Mental disengagement	r p	.071 .073	1														
Focus on and venting of emotions	r p	.060 .126	.231** .000	1													
Seeking social support for instrumental reasons	r p	.439** .000	-.035 .373	.240** .000	1												
Active coping	r p	.588** .000	.043 .280	.084* .033	.360** .000	1											
Denial	r p	-.071 .073	-.389** .000	.092* .019	-.044 .267	.035 .377	1										
Turning to religion	r p	.342** .000	.116** .003	.139** .000	.234** .000	.240** .000	.028 .482	1									
Humor	r p	.084* .033	.307** .000	.058 .139	-.015 .714	.146** .000	.427** .000	-.051 .193	1								
Behavioral disengagement	r p	-.398** .000	.309** .000	.237** .000	-.146** .000	-.278** .000	.534** .000	-.167** .000	.279** .000	1							
Restraint coping	r p	.063 .112	.250** .000	.226 .000	.105** .007	.145** .000	.324** .000	.056 .158	.265** .000	.434** .000	1						
Seeking social support for emotional reasons	r p	.302** .000	.097* .013	.425** .000	.705** .000	.294** .000	.061 .122	.265** .000	.042 .291	.015 .700	.210** .000	1					
Substance use	r p	-.185** .000	.128** .001	.94* .017	-.012 .768	-.026 .486	.480** .000	-.252** .000	.291** .000	.510** .000	.246** .000	.034 .392	1				
Acceptance	r p	.117** .003	.227** .000	.248** .000	.144** .000	.166** .000	.214** .000	.120** .002	.240** .000	.306** .000	.340** .000	.160** .000	.149** .000	1			
Suppression of competing activities	r p	.335** .000	.103** .009	.211** .000	.259** .000	.396** .000	.175** .000	.136** .001	.138** .000	.048 .221	.336** .000	.235** .000	.131** .001	.248** .000	1		
Planning	r p	.663** .000	-.024 .538	.087* .028	.440** .000	.642** .000	-.112** .004	.284** .000	.036 .365	-.358** .000	.126** .001	.300** .000	-.162** .000	.166** .000	.453** .000	1	
GAD-7	r p	-.254** .000	.172** .000	.205** .000	-.161** .000	-.195** .000	.132** .001	-.129** .001	.060 .126	.314** .000	.111** .004	-.079** .045	.135** .001	.156** .001	.023 .560	-.212** .000	1

Discussion

The COVID-19 disease is a community health issue that has psychological, physical, emotional and economic effects on many people worldwide (WHO, 2020; Caykus and Caykus, 2020; Bao et al., 2020). The pandemic (COVID-19) has many psychological effects that can be described as anxiety, fear, and worries on university students (Cao et al., 2020; Savitsky et al., 2020; Huang et al., 2020). Determining anxiety of nursing students, who are future health professionals, and providing solutions for it are of great importance in terms of maintaining a healthy work power and patient care quality in the process of a potential pandemic process.

This study found that the students used various strategies to cope with their condition in the pandemic process (Table 2). The most frequently used coping attitude included "turning to religion", indicating an increase in religious activities in case of difficulties; the least utilized coping attitude was found "use of alcohol-drug", indicating the use of substances effect to relieve the tension experienced. These results indicate that the Islamic religion in Turkey is an important part of individuals' life. Religion could provide meaning and feelings of consolation to individuals in case of problems. Sabry and Vohra reported that religion provided individuals with meaning and feelings of consolation when problems are encountered (Sabry and Vohra, 2013). Religion also helps individuals to decrease problems and improve coping behaviors and thus maintain their presence during a crisis. Studies also conclude that a strong religious belief is associated with coping with stress and mental health functioning (Cruz et al., 2017). As the use of alcohol-drug is forbidden in Islam religion, we could think that this coping method is not utilized much due to the religion factor. A study conducted in the USA found that individuals who were anxious about the COVID-19 pandemic used substances as a coping strategy (alcohol, cigarette, e-cigarette, marijuana) (Rogers et al., 2020). Besides, the use substances were reported to increase among Russian, Belarussian, and Israeli University students during the pandemic (Gritsenko et al., 2020; Yehudai et

al., 2020). Different study results are considered to be associated with cultural and religious values.

COVID-19 pandemic causes many uncertainties in individuals' life, and when these uncertain conditions are perceived as threatening, they may cause negative reactions and anxiety in individuals. The results of this study showed that 55,2% of nursing students had mild, moderate and severe anxiety during the coronavirus pandemic. Around 24.9% of students were reported to experience anxiety due to the COVID-19 pandemic (Huang et al., 2020). Previous research indicates that students experience anxiety even in normal conditions. The literature documented that nursing students had positive and negative views and emotions and experienced anxiety about the conditions they experience (Sevinc and Ozdemir, 2017; Lun et al., 2018; Bartolo et al., 2017; Quek et al., 2019). Anxiety among nursing students has been associated with various factors such as changes in living conditions during the COVID-19 pandemic, economic difficulties, social isolation, risk of infection, risk of developing COVID-19 infection in the immediate environment.

This study also found that higher levels of anxiety during the coronavirus pandemic were reported more by students who perceived the nursing profession as a high-risk profession (Bahcecioglu et al., 2021). Other research results also reported that students experienced anxiety and anxiety during the COVID-19 outbreak. (Savitsky, 2020; Masha'al et al., 2022). Students in the nursing department reported that they experienced severe levels of anxiety due to the reasons such as lack of personal equipment, uncertainties in the country's economy, worries about the health of parents and siblings, fear of catching COVID-19, and distance education. Previous research indicates that the anxiety level is generally lower among male students in comparison to female students (Mirón et al., 2019 ; Quek et al., 2019; Sanad, 2019). This study similarly found that male students' anxiety levels were lower in comparison to female students.

Given that the majority of the study population was composed of nursing students, a higher prevalence of anxiety is somewhat

expected. This anxiety experienced during the COVID-19 pandemic is thought to be explained by its unusual conditions. Understanding students' anxiety, providing them with help, and encouraging them to continue the nursing profession are of great importance because nurses will always be needed in critical periods (Al Harthi et al., 2020; Bahcecioglu et al., 2021).

The relationship between socio-demographic characteristics and anxiety levels in this study showed that anxiety levels were significantly higher in students who did not choose the profession willingly and who were enrolled in the first year. This result is in line with the literature (Bahcecioglu et al., 2021). Students' finding the profession risky and feeling high anxiety could be caused by their lack of knowledge about the measures of taking risks. Education processes of universities were affected during the COVID-19 pandemic; first-year students might therefore feel anxious due to the responsibilities of the profession they chose. Considering that individuals who are reluctant in choosing a profession may lack the will to cope with the difficulties encountered, experience low job satisfaction, and perceive the work environment negatively (Keskin, 2017; Ozdelikara et al., 2016) these nursing students' high anxiety levels during the COVID-19 pandemic is expected.

Several studies have reported that individuals' anxiety levels increased during pandemics (Salari et al., 2020; Tee et al., 2020; Zhang et al., 2020; Wang et al., 2020). This study found that anxiety levels were higher in students who were not satisfied with being in the nursing department during the pandemic.

Studies show that students had negative views about the nursing profession and wanted to change their profession during the pandemic (Bahcecioglu et al., 2021). Students who have negative attitudes towards the profession and who are not satisfied with the profession may also have other negative emotions. Negative emotions could trigger other negative views, which might have led to an increase in students' anxiety levels.

Negative emotions during the COVID-19 pandemic affect individuals' sleep quality as well as coping strategies (Celebi, 2020;

Marelli et al., 2020; Citak and Pekdemir, 2020; Simsek et al., 2020).

The results of this study indicate that students experienced sleep problems during the pandemic. Studies also show that around one-fourth (27%) of students experienced sleep disorders during the COVID-19 pandemic (Mulyadi et al., 2021; Alimoradi et al., 2021). The study conducted by Citak and Pekdemir reported that the participants experienced changes in their sleep durations during the COVID-19 pandemic, and more than half of the participants reportedly slept little or a lot (Citak and Pekdemir, 2020). Besides, the participants who had changes in their sleep patterns also had high anxiety levels. The results of another study also showed that sleep disorders were associated with mental health problems such as anxiety and depression (Xiao et al., 2020).

A positive relationship between nursing student's anxiety levels and the use of dysfunctional coping strategies was found in this study. When students used problem-focused and emotion-focused coping methods, their generalized anxiety scores were found to decrease, and when they used dysfunctional coping methods, their generalized anxiety scores were found to increase. Parallel to these results, Savitsky et al. reported that coping strategies for mental disengagement (namely excessive eating, use of alcohol and use of sedatives) were associated with moderate to severe anxiety levels during the COVID-19 pandemic among nursing students. (Savitsky et al., 2020).

Besides, Gritsenko et al., 2020) reported an increase in university students' substance use (tobacco, alcohol, marijuana, Ritalin, pain killers, and sedatives) due to the COVID-19 pandemic (Gritsenko et al., 2020). Another study reported that when university students encountered emergency cases related to public health, they used negative rather than positive coping strategies (Qan et al., 2003). As a result of a study majority of the participants, in line with expert recommendations, used problem-focused coping strategies during the COVID-19 pandemic (Gerhold et al., 2020).

Savitsky et al. (2020) reported that nursing students used coping strategies such as

“resilience, humor, receiving information and consultation, mental disengagement, and unscientific and psychological support sources” during the COVID-19 pandemic.

Conclusion and Suggestions: This study found that students utilized various strategies to cope with their current condition during the pandemic. The most frequently used coping attitude included "turning to religion", indicating an increase in religious activities in case of difficulties; the least utilized coping attitude was found "use of alcohol-drug", indicating the use of substances effect to relieve the tension experienced. The results of this study showed that more than half of the nursing students experienced anxiety during the COVID-19 pandemic. In line with these results, future studies are recommended to be conducted with larger sample groups and nursing students in different regions to compare the results. It is recommended to plan and implement empowerment programs that provide nursing students with consultancy services to decrease their anxiety levels, conduct education activities, recognize coping strategies, and use them effectively.

The COVID-19 disease is a community health issue that has physical, psychological, emotional and economic effects on many people worldwide. The COVID-19 pandemic has many psychological effects that can be described as anxiety, fear, and worries on university students. Determination of anxiety and coping strategies of nursing students, who are future health professionals, and providing solutions for these are of great importance in terms of maintaining a healthy work power and patient care quality in a potential pandemic process. In this regard this research is important in terms of determining the anxiety and coping strategies of nursing students about the pandemic. It is recommended that this study be repeated in a relatively larger universe.

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