



EXAMINING COVID-19 RELATED ANXIETY AND OBSESSION LEVELS OF NURSING STUDENTS

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ABSTRACT

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Objective: This study aims to examine the COVID-19-related anxiety and obsession levels of third and fourth-grade nursing students.

Method: The population of this study consisted of third and fourth grade students of the nursing department of a school of health. The study data were collected after 197 students who volunteered to participate in the study gave their written consent. The participants were asked to complete the demographic information form developed by the researchers, the Coronavirus Anxiety Scale (CAS) and the Obsession with COVID-19 Scale (OCS). Descriptive statistical methods and non-parametric tests were used to analyse the research data.

Results: The mean CAS total score of all students participated in the study was 3.61±4.83. Results showed that only 15.7% of the students experienced anxiety related to coronavirus and their CAS total score average was 13.03±3.46. The mean OCS total score of all students was 5.80±4.45. Data analyses showed that only 37.6% of the participants were obsessed with COVID-19 and their OCS total score average was 10.56±3.13. When the relationship between CAS and OCS scales was examined, it was found that there was a good and positive significant relationship between them ($r=0.720$; $p=0.000$). A significant relationship was found between the students' CAS and OCS mean scores and their place of residence and income ($p<0.05$).

Conclusion: The rates of anxiety and obsession were not found to be very high in nursing students; however, it was observed that the mean score of the students who experienced anxiety and obsessions was relatively high.

Key Words: Anxiety, coronavirus, health, obsession, nurse

1. INTRODUCTION

Coronaviruses (CoV) form a large family of viruses that can cause infections from mild, self-limiting ones that are common in the public such as the common cold, to more serious others such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). There are subtypes of coronaviruses found in humans that are easily transmitted from person to person. These subtypes cause most common colds in humans. However, there are many coronavirus subspecies in animals (especially civets and dromedary camels), and these can be transmitted from animals to humans and cause severe illness (1). COVID-19 is a coronavirus disease that emerged in the city of Wuhan, Hubei Province of China, spread all over the world in a short time and caused severe pneumonia among people (2, 3).

COVID-19 disease emerged on December 31, 2019, with the reporting of pneumonia cases of unknown etiology. Due to its contagious feature, the number of COVID-19 patients increased rapidly after its emergence and the disease has spread all around the world. It was declared a pandemic by the World Health Organization (WHO) as of March 11, 2020, as it was seen in a total of 118 thousand people in 114 countries and caused 4 thousand 291 people to die by then. The first case of COVID-19 in Turkey was detected on March 11, 2020 (1, 4).

COVID-19, spreading rapidly around the world, has seriously affected health delivery systems in all countries (5). Therefore, all healthcare professionals have undertaken important responsibilities in the management of this crisis, which created a great burden for hospitals in Turkey as well as in other countries (6-8). The importance of the healthcare

workers has been recognized once again during the COVID-19 pandemic (9).

While intensive studies are carried out to investigate the pathophysiology, clinical outcomes, and treatment of COVID-19; the psychological effects of the pandemic on nurses should not be ignored. Therefore, this study aimed to determine the COVID-19 anxiety and obsession levels of nursing students. It is possible to experience an increase psychological health problems during the pandemic but it is not a desirable situation. Pathophysiology of COVID-19, clinical

intensive research to investigate the consequences and treatment while studies are being carried out, it is important to realise that this pandemic professional candidate and central role in health the psychological effects on nurses are ignored should not be possible. We are particularly interested in the potential future solutions for students to protect themselves from epidemics in terms of the source of information in terms of COVID-19, as well as the future of nursing students who are nurse candidates. In this regard, the goal of our study is to evaluate how nursing students' COVID-19 levels of anxiety and obsessions relate to how the study has an impact on their behavior.

2. MATERIALS AND METHODS

This study was planned as quantitative research in which data were collected by using a survey and two scales in a health school.

Study Sample and Data Collection

The study data were collected after 197 students who volunteered to participate in the study gave their written consent. Demographic information form (a six-question form developed by researchers in line with the relevant literature), Coronavirus Anxiety Scale (CAS) and Obsession with COVID-19 Scale (OCS) were conducted to the participants to collect data.

Data Collection Tool

Demographic information form, Coronavirus Anxiety Scale and Obsession with COVID-19 Scale were redesigned as a Google form file to collect data from students. Consent was obtained from the participants before starting the questionnaire.

Coronavirus Anxiety Scale (CAS)

The coronavirus anxiety scale is a self-reported mental health screening tool for dysfunctional anxiety associated with the coronavirus crisis. As a significant number of people experience clinically

significant fear and anxiety during an epidemic of infectious disease, the CAS was developed to help clinicians and researchers effectively identify individuals with impaired functioning due to coronavirus-related anxiety.

Psychometric properties: Independent studies in adults residing in the United States suggest that the CAS is a reliable measure with its robust factorial (single-factor; invariance among sociodemographic) and structural (correlated with anxiety, depression, suicidal ideation, and coping with substance/alcohol) validity (>.90). The diagnostic properties of CAS (90% sensitivity and 85% specificity) are comparable to related screening tools such as General Anxiety Disorder-7.

Scoring and interpretation: Each item of the CAS is rated on a 5-point scale from 0 (never) to 4 (almost every day) based on experience in the past two weeks. This scaling pattern is consistent with the DSM-5 cross-symptom scale. A CAS total score of ≥ 9 indicates coronavirus-related dysfunctional anxiety. High scores on a particular item or high overall scale score (≥ 9) may indicate an individual's problematic symptoms that may require further evaluation and/or treatment. Clinical judgment should guide the interpretation of CAS results (10, 11).

Obsession with COVID-19 Scale (OCS)

The Obsession with COVID-19 Scale (OCS) is a self-report mental health screening tool for persistent and disturbing thinking about COVID-19. Permission was obtained from the scale owner. As the COVID-19 crisis impacts nearly every aspect of a person's life, the OCS was developed to assist clinicians and researchers effectively in recognizing individuals with dysfunctional thought patterns related to COVID-19.

Psychometric properties: OCS was developed on two large samples of adults (n=775; n=398) living in the United States. The OCS is a reliable (>.83) tool with robust factorial (single factor) and structural (associated with coronavirus anxiety, religious crisis, coping with alcohol/drugs, extreme hopelessness, and suicidal ideation) validity. The diagnostic characteristics of the OCS (81%-93% sensitivity and 73%-76% specificity) are comparable to related screening tools such as the General Health Questionnaire (GHQ).

Scoring and interpretation: Each item of the OCS was rated on a 5-point scale from 0 (never) to 4 (almost every day) based on experience in the past two weeks. This scaling pattern is consistent with

Table 1. Distribution of Students by Demographic Information

Demographic Information		n	%
Age (years)	Min-Max (Median)	19-32 (22.0)	
	Age±sd	21.88±1.84	
Age group	18-22	152	77.2
	23-27	41	20.8
	28-32	4	2.0
Gender	Female	140	71.1
	Male	57	28.9
Place of residence	Village-town	50	25.4
	District	74	37.6
	Urban	73	37.1
Income status	Income is less than expenses	33	16.8
	Income is equal to expenses	129	65.5
	Income is more than expenses	35	17.8
Year enrolled	Third year	115	58.4
	Fourth year	82	41.6
Employment at a healthcare facility	Yes	4	2.0
	No	193	98.0
TOTAL		197	100.0

the DSM-5 cross-symptom scale. An OCS total score of ≥ 7 indicates coronavirus-related dysfunctional thinking. High scores on a particular item or high overall scale score (≥ 7) may indicate an individual's problematic symptoms that may require further evaluation and/or treatment. Clinical judgment should guide the interpretation of OCS results (10, 12).

Evaluation of the Data

Data were analyzed using the Statistical Program for Social Sciences (SPSS) software. Descriptive statistical methods (Mean, Standard Deviation, Median, Frequency, Ratio, Minimum, Maximum) were used while analyzing the data.

The suitability of the quantitative data to the normal distribution was tested with the Kolmogorov-Smirnov test and graphical examinations. The Mann-Whitney U Test was used to compare two groups of quantitative variables that did not show normal distribution. The Kruskal Wallis test was used in the comparison of groups of three or more that did not show normal distribution. The significance level was set at $p < 0.05$.

The alpha coefficient was interpreted according to the following criteria: $0.0 < 0.40$ (the scale is unreliable), $0.40 < 0.60$ (the scale has low reliability), $0.60 < 0.80$ (the scale is quite reliable), $0.80 < 1.00$ (the scale is highly reliable) (13). Spearman's Correlation Analysis was used to examine the relations between variables that did not show normal distribution. The

correlation coefficient (r) was interpreted according to the following criteria: $0-0.25$ (Very Poor), $0.26-0.49$ (Poor), $0.50-0.69$ (Moderate), $0.70-0.89$ (Good), $0.90-1.00$ (Very Good) (14).

Ethical Dimension of the Study

The study was approved by Burdur Mehmet Akif Ersoy University Non-Invasive Clinical Research Ethics Committee (dated 06.01.2021, numbered GO 2021/28) and the institution, Bucak Health School, where the study was conducted with written informed consent obtained from each participant.

3. RESULTS

The mean age of the participants was 21.88 ± 1.84 . 77.3-2% ($n=152$) of the participants were between the ages of 18-22. 71.1% ($n=140$) of the participants were female and 28.9% ($n=57$) were male. 37.6% ($n=74$) of the students live in a district, 37.1% ($n=73$) live in a city center and 25.4% ($n=50$) live in a village or town. Income status of 65.5% ($n=129$) of the participants were equal to their expense status, 17.8% ($n=35$) of the participants' income status were more than expense status and 16.8% ($n=33$) of the participants' income status were less than expense status. 58.4% ($n=115$) of the students were in the third year of the nursing department, and 41.6% ($n=82$) were in the fourth year. In addition, only 2% ($n=4$) of the students participating in the research worked at a health institution while studying at the university; two participants worked in the auxiliary staff and the other two worked in the nurse staff (Table 1).

Table 2. Distribution of Students by Mean Scores of CAS and OCS Scales

	Number of Questions	Min-Max (Median)	X±SD	Cronbach's Alpha
CAS	5	0-20 (1.0)	3.61±4.83	0.926
OCS	4	0-16 (5.0)	5.80±4.45	0.877

The Coronavirus Anxiety Scale (CAS) scores of all students participating in the study ranged from 0 to 20, and the total average score was found to be 3.61±4.83. It was determined that only 15.7% (n=31) of the students had anxiety related to coronavirus and their CAS scores ranged between 9 and 20, and the total score average was 13.03±3.46. The CAS Cronbach's Alpha coefficient is also 0.926, and it can be interpreted that the scale is highly reliable. The Obsession with COVID-19 Scale (OCS) scores of all students ranged from 0 to 16, and the total mean score was found to be 5.80±4.45. It was determined that only 37.6% (n=74) of the participants was obsessed with COVID-19 and their OCS scores ranged between 7 and 16, and the total score average was 10.56±3.13. The OCS Cronbach's Alpha coefficient is also 0.877, and it can be interpreted that the scale is highly reliable (Table 2). The

relationship between the CAS and OCS scales was good and significantly positive ($r=0.720$; $p=0.000$).

While there was no significant relationship between the CAS and OCS average scores of the students and their age groups, gender, grade and working status in a health institution ($p>0.05$), a significant relationship was found between their place of residence and income ($p<0.05$) (Table 3).

4. DISCUSSION AND CONCLUSION

University students, being in the young adulthood period, adapt to many changes that increase the level of anxiety experienced. Depending on the global effects of the COVID-19 pandemic in the world, the level of stress perceived by students may also increase. Nurses are a professional group with a high level of anxiety, working in conditions such as heavy workload and insomnia, especially during the

Table 3. The Relationship Between Students' Demographic Characteristics and CAS and OCS Scores

Variable	n	$p^{a,b}$		
		CAS	OCS	
Gender	Female	140	0.178 ^a	0.116 ^a
	Male	57		
Year enrolled	Third year	115	0.942 ^a	0.613 ^a
	Fourth year	82		
Employment at a healthcare facility	Yes	4	0.425 ^a	0.398 ^a
	No	193		
Age group	18-22	152	0.341 ^b	0.373 ^b
	23-27	41		
	28-32	4		
Place of residence	Village-town	50	0.004 ^b	0.005 ^b
	District	74	0.06	0.008
	Urban	73		
Income Status	Income is less than expenses	33	0.007 ^b	0.001 ^b
	Income is equal to expenses	129	0.001	0.000
	Income is more than expenses	35		

^aMann Whitney U Test, ^bKruskal Wallis Test, ^{*} $p<0.05$

epidemic processes, and these factors can negatively affect the students who are future profession candidates against the nursing profession. Especially during the epidemic, the close attention of nurses to COVID-19 positive patients suggests that this process may negatively affect the anxiety levels of nursing students. Therefore, this study was conducted to determine the COVID-19 anxiety and obsession levels of nursing students. In many countries, research has been conducted and continues to be conducted to understand the psychological impact of the COVID-19 pandemic and related factors in university students (15-17).

According to a study by Huang et al. (2020), it was found that approximately 24.9% of students experienced anxiety due to the COVID-19 outbreak. In addition, nursing department students experienced less psychological stress than nurses during the epidemic, and this was due to working as a nurse under epidemic conditions of hospital environments (18). In the study of Wang et al. (2020), it was observed that university students felt the psychological effects of the COVID-19 pandemic more than other individuals in the society, and that university students had higher levels of stress, anxiety, and depression (19). In another study by Cao et al. (2020), it was determined that 24.9% of university students felt anxiety symptoms during the COVID-19 pandemic, and a study confirmed that anxiety is associated with economic problems due to the pandemic, affecting daily life, and academic delays (20). In the study of Li et al. (2021), clinically significant psychological distress was found in 26.6% of the students studying in the health field during the COVID-19 pandemic, and acute stress reaction symptoms were found in 11.1% (21). In the study of Yakar et al. (2020), it was determined that state and trait anxiety was moderate in medical school students during the COVID-19 pandemic (22). In the study conducted by Savitsky et al. (2020), it was found that 42.8% of the student nurses had moderate anxiety and 18.1% had severe anxiety during the COVID-19 pandemic (23). Two online studies (one conducted in a population sample and the other with Swiss university students) identified female gender as risk factors for anxiety at the time of COVID-19. In the second study, the incidence of anxiety was also found to be high in university students whose daily lives were greatly affected by COVID-19 (24, 25). Mertens et al. (2020) reported that health anxiety is among the predictors of increased fear of COVID-19 (26).

In this study, a total score of nine or less on the COVID-19 Anxiety Scale indicated dysfunctional

anxiety associated with coronavirus, and the mean CAS total score of nursing students was 3.61 ± 4.83 . In addition, a total score of seven or more on the Obsession with COVID-19 Scale indicated dysfunctional thinking related to coronavirus, and the mean OCS total score of the participants in this study was 5.80 ± 4.45 . Unlike other studies conducted in the field, the mean scores of this scale showed that the anxiety and obsession levels related to COVID-19 of the nursing students participating in the study were low. However, it was observed that 15.7% (n=31) of the nursing students in the sample of the study had anxiety related to coronavirus and 37.6% (n=74) was obsessed with COVID-19. Moreover, this study showed a significant relationship between the mean scores of the Coronavirus Anxiety Scale and the COVID-19 and Obsession Scale, and their place of residence and income ($p < 0.05$).

As a result, the COVID-19 pandemic has caused significant changes that deeply affect social life around the world. Studies have revealed that university students experience psychological problems due to the COVID-19 pandemic. Negative emotions such as anxiety, concern, and fear experienced during the epidemic may cause students to move away from the profession and encounter undesirable situations. For this reason, it is thought that it is important to provide psychological support to students in this process. Contrary to other studies, in this study, the rate of anxiety and obsession was not found to be very high in students studying in the nursing department, but it was observed that the average score of the students who experienced anxiety and obsessions was high. It is considered that the determination of the psychological effects of the COVID-19 pandemic on students and the planning of initiatives for this will contribute to the younger part of the society and the literature, as further studies in this area include a sample of university students from all health departments throughout the country.

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