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EVALUATION OF CORONAVIRUS FEAR, COVID 19 ANXIETY, COVID 19 OBSESSION AND DEPRESSION STATE OF NURSING STUDENTS

HEMŞİRELİK ÖĞRENCİLERİNİN KORONAVİRÜS KORKUSU, COVİD 19 KAYGISI, COVİD 19 TAKINTISI VE DEPRESYON DURUMUNUN DEĞERLENDİRİLMESİ

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ABSTRACT

Aim: This study is aimed to evaluate the fear of coronavirus, coronavirus obsession and depression, and coronavirus anxiety state of nursing department students at the university.

Methods: It is a cross-sectional study. The sample consisted of 449 nursing students. Data were collected between 01-30 April 2022. The primary results of the research are fear of coronavirus, coronavirus obsession and depression, coronavirus anxiety.

Results: The mean coronavirus fear score of nursing students was found to be 17.2. Coronavirus was found to have caused anxiety in 6% of the students, obsession in 16.3%, and depression in 38.1%. A very significant correlation was found between fear and anxiety, fear and obsession, anxiety and obsession ($p<0.05$). A moderately positive and significant correlation was found between fear, anxiety and obsession and the mean depression score ($p<0.05$). In addition, it was determined that coronavirus-related anxiety increased depression 10.6 times (95% CI [3.61-31.36]) and coronavirus-related obsession increased depression 3.6 times (95% CI [2.17-6.21]) in students ($p<0.05$).

Conclusion: It was revealed that the mean scores of coronavirus-related fear, anxiety, obsession, and depression of nursing students for were high, indicating that students were severely impacted by the pandemic sciences.

Keywords: Nursing Student, Fear of Coronavirus, Coronavirus Anxiety, Coronavirus Obsession, Depression

ÖZET

Amaç: Bu çalışmada üniversitedeki hemşirelik bölümü öğrencilerinin koronavirüs korkusu, koronavirüs kaygısı, koronavirüs obsesyon ve depresyon durumlarının değerlendirilmesi amaçlanmıştır.

Gereç ve Yöntem: Bu çalışma kesitsel tipte bir çalışmadır. Örneklemini 449 hemşirelik öğrencisi oluşturmuştur. Veriler 01-30 Nisan 2022 tarihleri arasında toplanmıştır. Araştırmanın birincil sonuçları koronavirüs korkusu, koronavirüs kaygısı, koronavirüs takıntısı ve depresyondur.

Bulgular: Hemşirelik öğrencilerinin ortalama koronavirüs korku puanı 17.2 olarak bulundu. Koronavirüsün öğrencilerin %6'sında kaygıya, %16,3'ünde saplantıya ve %38,1'inde depresyona neden olduğu belirlendi. Korku-anksiyete, korku-takıntı, kaygı-takıntı arasında oldukça anlamlı bir ilişki bulundu ($p<0,05$). Korku, kaygı ve obsesyon ile depresyon puan ortalaması arasında orta düzeyde pozitif ve anlamlı bir ilişki bulundu ($p<0,05$). Ayrıca öğrencilerde koronavirüse bağlı kaygının depresyonu 10,6 kat (%95 GA [3,61-31,36]) ve koronavirüse bağlı takıntının depresyonu 3,6 kat (%95 GA [2,17-6,21]) artırdığı belirlendi ($p<0,05$).

Sonuç: Hemşirelik öğrencilerinin koronavirüs ile ilişkili korku, kaygı, takıntı ve depresyon puan ortalamalarının yüksek olması öğrencilerin pandemi bilimlerinden ciddi şekilde etkilendiğini göstermektedir.

Anahtar Kelimeler: Hemşirelik Öğrencisi, Koronavirüs Korkusu, Koronavirüs Kaygısı, Koronavirüs Takıntısı.

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INTRODUCTION

The rapid global spread of coronavirus (COVID-19) infection, its transformation into a pandemic, the absence of a treatment, and its fatality increase the impact of the disease (Arpaci et al., 2020; Ehrlich et al., 2020; Ramos, 2020). Although COVID-19 infection mostly affects elderly patients and individuals with chronic diseases, its high virulence and pathogenicity result in increased mortality rates (CDC COVIDView, 2020; Ramos, 2020).

Attempting to return to social life with the new normalcy has led to varying degrees of fear and anxiety associated to COVID-19 in society. The unpredictability of COVID-19, the high transmission rate, the large number of acute patients, and the isolation protocols have caused nurses and nursing students to experience stress (Maben and Bridges, 2020). Studies on the psychological effects of the disease in humans have revealed that COVID-19 causes problems such as stress, anxiety and depression (Maben ve Bridges, 2020; Serafini et al., 2020). Uncertainties in the form of fear of contagion during the pandemic process have been attributed to susceptibility to infection and disease. Studies have shown that people exposed to any risk of infection may develop a fear of infecting themselves, worrying about their own health, and infecting others (Oti-Boadi et al., 2021).

The fear of COVID-19 has also affected healthcare professionals, as they have been most likely to encounter individuals exposed to coronavirus infection. Fear of COVID-19 as it turns out is mostly investigated in healthcare workers in the literature (Durmuş, 2022; Mora-Magaña et al., 2022; Bagcchi, 2020; Greenberg et al., 2020; Lai et al., 2020; Lu et al., 2020; Zhang et al., 2020). Situations such as the difficulty of maintaining social distance in close and continuous Contact with patients infected with COVID-19, the high workload and the severe clinical conditions of the patients they are in contact with have increased the fear and anxiety of being infected with COVID-19 in healthcare workers (Ehrlich et al., 2020). The fears of stigmatization as a result of witnessing many people getting sick and dying during the efforts of healthcare professionals to reduce and prevent the disease, being adversely affected physically and psychologically, working by risking death, and being seen as a risky source that can spread the virus by the society also caused them to experience more fear and anxiety during the COVID-19 pandemic process (Greenberg et al., 2020; Bagchi, 2020). Studies have reported that there is a relationship between fear of COVID-19 and anxiety and depression, and that insufficient sleep is directly related to conditions such as depression and post-traumatic stress. and generalized anxiety disorder are also common in healthcare workers (Mora-Magaña, 2022; Lai et al., 2020; Lee et al., 2021; Liu et al., 2020; Zhang et al., 2020; Rossi et al., 2019).

The pandemic also affected university students, causing high levels of stress and psychological disorders. By affecting (limiting or intensifying) all their relationships in the private sphere outside the academy, it has caused students to experience significant changes in their conventional lives (Zurlo, 2022; Alsolais et al., 2021; Aristovnik, 2020). The COVID19 pandemic, which started in March 2020 and resulted in the closure of face-to-face activities in universities, evacuation of campuses and accommodation and rescheduling of activities, and then entered into a re-normalization process with the decrease of its effects, has deeply affected the academic process. The pandemic has caused lessons to be transferred to partially face-to-face and partially online (hybrid) platforms (Zurlo, 2022; United Nations Educational, Scientific and Cultural Organization, 2020). The efforts of university students to adapt to distance education, isolation and social distance have also caused a change in interpersonal relations. Some studies have reported moderate to high levels of fear of COVID-19 among university students during the pandemic (Modena et al., 2022; Campos et al., 2021). This situation paved the way for an increase in the stress load of students and their long-term psychological strain (Modena et al., 2022; Alsolais et al., 2021). The reason for the fear of COVID-19, anxiety and depression in relation to the pandemic in students is explained by the fear of infection and the risk of developing serious diseases and complications (Campos ve ark., 2021). The COVID-19 pandemic impacted nursing students who participated in vocational education and training, as well as healthcare professionals who worked in the field or clinic. Due to the global occurrence and rapid spread of COVID-19 pandemic variants, investigations to decrease or prevent the disease's occurrence are underway. Although the process of post-pandemic normalization is being progressively loosened, it is expected that the permanent consequences of COVID-19 on mental health will be examined.

There is a need for research in the literature that presents the psychosocial effects of the epidemic on nursing students who have seen the difficult process experienced by healthcare

professionals who are actively working on the front lines during the pandemic period. vaccination, and who have chosen or will choose the nursing profession.

Aims

This research aimed to determine coronavirus-related fear, coronavirus-related anxiety, coronavirus-related obsession and depression in nursing students.

MATERIAL AND METHODS

Research Type: It is a cross-sectional and descriptive study.

Research Questions

- What are the mean scores of nursing students for fear of coronavirus, coronavirus anxiety, and COVID-19-related obsessions and depression?
- Is there a significant difference between their mean scores of the scale according to sociodemographic characteristics?
- Is there a significant relationship between the scale mean scores of the students?
- What are the obsessive feelings and thoughts of the students about COVID-19 disease and vaccination?

Research Variables

Dependant variable: The mean scores of the Coronavirus (COVID-19) Fear Scale, the Coronavirus Anxiety Scale, Obsession with COVID-19 Scale, and the Beck Depression Inventory

Independant variable: Sociodemographic characteristics

Place and time of research: This research was carried out at the Nursing Departments of Faculty of Health Sciences at Mus Alparslan University and Batman University between 1-30 April 2022.

Universe and sample of research: In the 2021-2022 spring semester, 841 students studying at Muş Alparslan University and Batman University Faculty of Health Sciences Nursing Department formed the universe of the research. The sample of the research consisted of 449 students studying in the nursing department of these universities and participating in the research voluntarily. In the study conducted on nursing students by Gezgin Yazıcı and Ökten (2022), on which the sample size calculation of the study was based, the average of the fear of COVID-19 score was found to be 20.0±7.71 standard deviations. According to the sample calculation method with an unknown universe, 95% power, and d=0.05 sampling error, it was decided that a minimum of 92 individuals should be included in the study of according to the results of this study. It was attempted to contact all nursing department students and the sample included a total of 449 nursing students who agreed to participate in the study.

Inclusion and exclusion criteria for research

Inclusion criteria: Students who do not have a diagnosis or history of mental health, who participated in the study voluntarily.

Exclusion criteria: Students not meeting the inclusion criteria.

Data Collection Tools: Introductory Information Form, Coronavirus (COVID-19) Fear Scale, Coronavirus Anxiety Scale, Obsession with COVID-19 Scale, and Beck Depression Inventory

Introductory information form*:* Introductory information form: This form developed by the researchers; It consists of a total of 20 questions, including a 13-question socio-demographic information form that includes features such as gender, age, place of residence, and 7 questions that question characteristics related to coronavirus, including questions such as being vaccinated against coronavirus and how many times they have been vaccinated (Mora-Magaña et al., 2022; Alsolais et al., 2021; Beisland et al., 2021; Bagcchi, 2020; Greenberg et al., 2020; Lai et al., 2020; Lu et al., 2020; Zhang et al., 2020).

Coronavirus (COVID-19) Fear Scale (CFS): The scale developed by Ahorsu et al. (2020) and Bakioğlu et al. (2020). collected them in one dimension and under 7 items. There is no reverse item for the scale questions, the total score obtained from the scale items reflects the COVID-19 fear level experienced by

the individual. There is no cut-off point in the scale, and a minimum of 7 and a maximum of 35 points is taken. It was stated that with the increase in the score obtained from the scale, the fear of Coronavirus increased (Ahorsu et al., 2020; Bakioğlu et al., 2020). While the Cronbach's alpha coefficient of the scale was 0.87 (Bakioğlu et al., 2020), it was found to be 0.90 in the current study.

Coronavirus Anxiety Scale (CAS): The scale was developed by Lee (2020a) and adapted into Turkish by Evren et al. (2020). It is a single-dimension and 5-item Likert-type scale, and the statements regarding the scale items show how often the participant has experienced what he or she has experienced in the last 2 weeks. The answers are "Never:0", "Rarely, less than a day or two:1", "A few days:2", "More than 7 days:3" and "Almost every day in the last 2 weeks:4". In calculating the scale score, the scores given to all statements are summed and evaluated as a minimum of 0 and a maximum of 20 points. The CAS scale total score is ≥9, there is dysfunctional anxiety associated with coronavirus, and the high score from the scale indicates an increased anxiety about COVID-19 (Lee, 2020a; Evren et al., 2020). The Cronbach α coefficient of the scale is 0.92 (Evren et al., 2020) and it was found to be 0.91 in the current study.

Obsession with COVID-19 Scale (OCS): Due to the presence of disturbing and persistent thoughts about the coronavirus, the OCS scale, a mental health screening tool, was developed by Lee (2020b) for self-report. Each item of the scale, adapted into Turkish by Evren et al. (2020), was scored between 0 (not at all) and 4 (almost every day) based on experience in the last two weeks. If the cut-off point of the scale is 7 and above, and the total score is 7 and above, there is a dysfunctional thought about the coronavirus. As the total score obtained from the scale increases, the obsession associated with COVID-19 also increases. The Cronbach α coefficient of the scale is 0.71 (Lee, 2020b; Evren et al., 2020). This coefficient was found to be 0.84 in the current study.

Beck Depression Inventory (BDI): This scale was developed by Beck et al. (1961), and its Turkish validity and reliability study was conducted by Hisli (1989). The scale measures a person's risk of depression and measures the level and severity of depressive symptoms. The 21-item scale is a four-point Likert-type self-report scale with each item scored between 0 and 3. The total scores obtained from the scale items are summed and a minimum of 0 and a maximum of 63 points can be obtained from the scale. An increase in the total score obtained from the scale indicates that the severity of depression is high (Beck et al. 1961; Hisli 1989). In the Turkish version of the scale, a score of 17 and above defines depression above normal (Hisli, 1989). The Cronbach alpha coefficient of the scale is 0.80 (Hisli, 1989). In this study, the Cronbach's alpha coefficient was found to be 0.93.

Data Analysis

SPSS 26.0 package program was used to evaluate the data. Number, mean, percentage, median, standard deviation, minimum and maximum values were calculated from descriptive statistics. The suitability of the data to the normal distribution was tested with Kolmogorow Smirnow. Independent Sample t-Test was used for two independent groups in cases where the difference between the mean scores of the scales according to the categorical variables conformed to the normal distribution. In cases where this difference did not comply with the normal distribution, the Kruskal Wallis test was used for more than two groups and the Man Whitney U Test was used for two independent groups. The relationship between the scale mean scores was determined by spearman correlation analysis. The statistical significance of the study was accepted as $p<0.05$, with a confidence interval of 95%.

RESULTS

56.3 % (253) of the participants were nursing students at Mus Alparslan University, whereas 43.7 % (196) were nursing students at Batman University. It was found that 6 percent (27) of the students had coronavirus-related anxiety, 16.3 % (73) had COVID-19-related obsessions, and 38.1 percent (38) had depression.

Nursing student's mean CFS score was determined as 17.2 (±6.2), CAS mean score as 2.01 (±3.4), OCS mean score as 3.62 (±3.1), and BDI mean score as 14.6 (±11.6) (Table 1).

Table 1. The Mean Scores of COVID-19 Fear Scale, COVID-19 Anxiety Scale, Obsession with COVID-19 Scale and Beck Depression Inventory of Nursing Students

Scales	Total Nursing Student (n=449)	Muş Alparslan University (n=253)	Batman University (n=196)	Statistical Analysis	
	Mean (±SD)	Mean (±SD)	Mean (±SD)	t	p
CFS	17.2 (±6.2)	16.7 (±6.06)	17.8 (±6.4)	-1.89	0.59
CAS	2.01 (±3.4)	1.7 (±3.2)	2.3 (±3.75)	-1.66	0.09
OCS	3.6 (±3.1)	3.4 (±3.0)	3.9 (±3.1)	-1.75	0.07
BDI	14.6 (±11.6)	13.6 (±11.6)	15.9 (±11.5)	-2.05	**0.04**

CFS: COVID-19 Fear Scale, CAS: COVID-19 Anxiety Scale, OCS: Obsession with COVID-19 Scale, BDI: Beck Depression Inventory, t: Independent Sample t Test

The difference between the scale mean scores of nursing students according to their sociodemographical characteristics is given in Table 2. The mean CFS score was found to be significantly higher in female students, those from nuclear families and those with social security ($p<0.05$). The mean CAS score was found to be significantly higher in those whose income was equal to or less than their expenditure ($p<0.05$). The OCS mean score of those with a nuclear family was found to be significantly higher ($p<0.05$). The mean BDI score was found to be significantly higher in third-year nursing students, those with a lower income than their expenses, and those who smoke ($p<0.05$).

Table 2. The difference between mean scores of COVID-19 Fear Scale, COVID-19 Anxiety Scale, Obsession with COVID-19 Scale and Beck Depression Inventory of nursing students according to their sociodemographic characteristics

Sociodemographic characteristics	Total Student (n=449)	CFS		CAS		OCS		BDI	
	n (%) / Mean±SD	Mean (SD)	Test / p	Mean (SD)	Test / p	Mean (SD)	Test / p	Mean (SD)	Test / p
Grade level									
First	100 (22.3)	16.1 (5.4)	H: 7.2	1.5 (2.6)	H: 4.3	3.4 (2.7)	H: 5.6	15.9 (10.4)	H: 14.2
Second	109 (24.3)	17.1 (6.3)	p:0.06	2.1 (3.3)	p: 0.23	3.7 (3.3)	p: 0.12	14.5 (10.8)	**p<0.01**
Third	142 (31.6)	18.3 (6.4)		2.1 (3.4)		3.9 (2.9)		16.2 (13.2)	
Fourth	98 (21.8)	17.0 (6.4)		2.2 (4.2)		3.2 (3.1)		11.2 (10.6)	
Age	21.46 (±2.22)								
18 - 20 year old	154 (34.3)	16.9 (5.4)	H: 0.8	1.8 (3.1)	H: 1.1	3.7 (3.0)	H: 2.5	15.3 (10.2)	H: 3.3
21 - 24 year old	267 (59.5)	17.3 (6.6)	p:0.6	1.9 (3.3)	p:0.5	3.5 (3.0)	p:0.2	14.2 (12.3)	p:0.1
25 - 32 year old	28 (6.2)	18.1 (6.0)		3.2 (5.5)		4.3 (3.3)		14.9 (12.0)	
Gender									
Girl	277 (61.7)	18.0 (5.6)	U: 19178	1.8 (3.0)	U:232 28	3.7 (2.8)	U:219 78	13.8 (10.0)	U:227 20
Boy	172 (38.3)	16.0 (6.9)	**p<0.01**	2.2 (4.0)	p:0.62	3.5 (3.3)	p:0.16	16.0 (13.7)	p:0.40
Family type									
Nuclear	341 (75.9)	17.7 (6.5)	U: 15574	2.1 (3.6)	U:178 87	3.8 (3.1)	U:159 99	14.0 (10.9)	U: 16610
Extended	108 (24.1)	15.8 (4.9)	**p:0.01**	1.6 (2.8)	p:0.62	3.0 (2.6)	**p: 0.03**	16.7 (13.4)	p: 0.12
Working status									

Yes		29 (6.5)	15.7 (5.4)	U: 5164	1.3 (2.4)	U: 5230	3.1 (3.3)	U: 5238	10.8 (8.9)	U: 4973
No		420 (93.5)	17.3 (6.2)	p: 0.17	2.0 (3.5)	p: 0.16	3.6 (3.0)	p: 0.20	14.9 (11.7)	p: 0.09
Income status										
Income Expense	<	212 (47.2)	16.9 (6.5)	H: 4.2	2.0 (3.7)	H: 9.9	3.7 (3.2)	H: 2.9	16.4 (11.4)	H: 13.8
Income Expense	=	216 (48.1)	17.6 (5.8)	p: 0.11	2.0 (3.2)	**p<0.01**	3.6 (2.9)	p: 0.23	12.9 (11.4)	**p<0.01**
Income Expense	>	21 (4.7)	16.3 (7.2)		0.8 (3.3)		2.6 (2.9)		14.7 (14.1)	
Social security status										
Yes		222 (49.4)	18.0 (5.7)	U: 21043	1.9 (3.3)	U: 25013	3.7 (2.9)	U: 23160	13.8 (10.0)	U: 24381
No		227 (50.6)	16.4 (6.6)	**p<0.01**	2.0 (3.5)	p: 0.88	3.4 (3.1)	p: 0.13	15.4 (12.9)	p: 0.55
Smoking status										
Yes		78 (17.4)	16.2 (7.4)	U: 12604	2.3 (4.5)	U:143 23	3.5 (3.6)	U: 13431	18.0 (13.3)	U: 11778
No		371 (82.6)	17.4 (5.9)	p: 0.07	1.9 (3.2)	p: 0.87	3.6 (2.9)	p: 0.31	13.9 (11.1)	**p: 0.01**

CFS: COVID-19 Fear Scale, CAS: COVID-19 Anxiety Scale, OCS: Obsession with COVID-19 Scale, BDI: Beck Depression Inventory, SD: Standart Deviation, H: Kruskal-Wallis H Test; U: Man Whitney U Test; Z: Wilcoxon Sign Test

Table 3 displays the difference in the mean scores of nursing students regarding their experiences with COVID-19. The mean CFS score was significantly higher ($p<0.05$) among individuals who had lost a relative to COVID-19, got the COVID-19 vaccine, and followed to post-vaccination isolation measures. The mean CAS score was significantly higher ($p<0.05$) among individuals with COVID-19 disease who had lost a loved one to COVID-19. The mean OCS score was significantly higher ($p<0.05$) among individuals who had COVID-19 disease, had lost a loved one to COVID-19, and had followed to post-vaccination isolation measures. The mean BDI score was significantly higher ($p<0.05$) among individuals who were vaccinated against COVID-19.

Table 3. The difference between mean scores of COVID-19 Fear Scale, COVID-19 Anxiety Scale, Obsession with COVID-19 Scale and Beck Depression Inventory of nursing students according to their experiences with COVID-19

Total Nursing Student (n=449)	**n (%)**	**CFS**		**CAS**		**OCS**		**BDI**	
		Mean (SD)	**Test/p**	**Mean (SD)**	**Test/p**	**Mean (SD)**	**Test/p**	**Mean (SD)**	**Test/p**
Contracting a COVID-19 disease									
Yes	181 (40.3)	17.1 (6.3)	U: 23442	2.5 (4.2)	U: 21701	4.0 (3.3)	U: 21209	15.6 (11.6)	U: 22165
No	268 (59.7)	17.3 (6.1)	p: 0.54	1.6 (2.8)	**p: 0.03**	3.3 (2.8)	**p: 0.02**	14.0 (11.6)	P: 0.12
Getting a COVID-19 vaccine									
Yes	420 (93.5)	17.4 (6.2)	U: 4598	2.0 (3.4)	U: 5694	3.6 (3.0	U: 5778	14.8 (11.5)	U: 4751
No	29 (6.5)	14.9 (6.6	**P: 0.02**	1.9 (3.8)	P: 0.52	3.5 (3.5)	P: 0.64	11.5 (12.3	**p: 0.04**
Losing due to COVID-19									
Yes	146 (32.5)	19.2 (6.5)	U: 16126	2.9 (4.2)	U: 17349	4.4 (3.5)	U: 18043	15.3 (12.2)	U: 21259

No	303 (67.5)	16.2 (5.8)	**p<0.01**	1.5 (2.9	**p<0.01**	3.2 (2.7)	**p<0.01**	14.3 (11.3)	P: 0.50
Compliance with post-vaccination isolation measures									
Yes	391 (87.1)	17.5 (6.0)	U: 8327	2.0 (3.4)	U: 10304	3.7 (3.0)	U: 9147	14.1 (11.1)	U: 9794
No	58 (12.9)	15.3 (7.3)	**p<0.01**	1.9 (3.8)	P: 0.21	3.0 (3.3)	**p: 0.01**	18.0 (14.2)	P: 0.09

CFS: COVID-19 Fear Scale, CAS: COVID-19 Anxiety Scale, OCS: Obsession with COVID-19 Scale, BDI: Beck Depression Inventory, SD: Standart Deviation, U: Man Whitney U Test

There was a high level of positive correlation between nursing students' mean scores of CFS and CAS, CFS and OCS, and CAS and OCS, and a moderate positive significant relationship between CFS, CAS and OCS and BDI mean scores ($p<0.05$) (Table 4).

Table 4. Comparison of the relationship between mean scores of COVID-19 Fear Scale, COVID-19 Anxiety Scale, Obsession with COVID-19 Scale and Beck Depression Inventory in nursing students

Scales	**Total Nursing Student (n=449)**			
	1	**2**	**3**	**4**
1. Spearmen's rho CFS	1			
2. Spearmen's rho CAS	**0.514***	1		
3. Spearmen's rho OCS	**0.510***	**0.633***	1	
4. Spearmen's rho BDI	**0.212***	**0.237***	**0.307***	1

CFS: COVID-19 Fear Scale, CAS: COVID-19 Anxiety Scale, OCS: Obsession with COVID-19 Scale, BDI: Beck Depression Inventory, *Corelation is significant at p<0.01 level.

84.8% of the students stated that their fear and anxiety decreased after vaccination. Among the obsessive feelings and thoughts of the students about the COVID-19 disease, the idea of "Epidemic disease, a contagious and deadly virus" was frequently mentioned (Table 5).
It was determined that coronavirus anxiety and COVID-19-related obsessions increased the risk of depression 10.6 times (95% CI [3.61-31.36]) and 3.6 times (95% CI [2.17-6.21]), respectively, in nursing students ($p<0.05$).

Table 5. Vaccination status of nursing students, obsessive thoughts and feelings about COVID-19 disease and state of change in feelings towards COVID-19 post-vaccination

Total Nursing Student (n=449)	**n (%)**
First dose COVID-19 vaccine	
Biontech	367 (87.4)
Sinovac	53 (12.6)
Second dose COVID-19 vaccine	
Biontech	343 (87.9)
Sinovac	46 (11.8)
Turkovac	1 (0.3)
Third dose COVID-19 vaccine	
Biontech	33 (91.7)
Sinovac	3 (8.3)
Obsessive thoughts and feelings about COVID-19 disease	
Epidemic disease, a contagious and deadly virus	128 (28.5)
Fear, anxiety, stress, danger, restlessness, nightmare	71 (15.8)
Stopping the flow of life, a difficult and bad process	42 (9.4)
Biyontech, sinovac , that is, vaccine.	42 (9.4)
Death, loss, inevitable end	39 (8.7)
Cleaning, hygiene, social distance, mask, precaution	36 (8.0)
Restriction of freedom, prohibition, social isolation, obstacle	31 (6.9)
Influenza	19 (4.2)
Biological attack, biological weapon	9 (2.0)
Economic damage, job loss	9 (2.0)

Others	27 (6.01)
State of change in feelings towards COVID-19 post-vaccine	
Fear and anxiety decreased after vaccination	356 (84.8)
My level of fear and anxiety did not change after vaccination or increased	64 (15.2)

Others; A disease that negatively affects a person's mental health, depression, a disease that will not go away for a long time, a process in which people endanger human life without thinking about themselves and their environment, disruption of education and training, a gift of God, media, awareness, duties of health workers in the difficult process

DISCUSSION

In this study, 6% of nursing students exhibited COVID-19-related anxiety, 16.3% of them showed COVID-19-related obsessions, and 38.1% of them had depression. There are limitations in terms of the findings of this study. The participant pool comprised of nursing students from two institutions in the regions of Eastern and Southeastern Anatolia, Turkey.

Similar studies report that the fear experienced during the pandemic process occurs as a result of an emotional reaction from within when faced with threats similar to COVID-19, and that there is a positive relationship between excessive fear of COVID-19 and anxiety symptoms (Durmuş, 2022; Modena et al., 2022; Harper et al., 2021; Oti-Boadi et al., 2021; Bitan et al., 2020; Hasan Khan et al., 2020; Martínez-Lorcaa et al., 2020; Soraci et al., 2020). It has been stated that the excessive fear of COVID-19 experienced during the pandemic is also associated with suicide cases in India and Bangladesh (Alyami et al., 2020). Harper et al. (2021), it was stated in their studies that increasing social distance as an important determinant is due to fear of COVID-19. He also reported that hand hygiene plays an important role in compliance with public health measures. Another study revealed that students have a moderate fear of COVID-19 (Martínez-Lorcaa et al., 2020). In a study conducted on nursing students studying at various universities in Turkey, the COVID-19 fear score was reported as 17.1 ± 6.4, which is similar to the results of this study (Yeşiltepe et al., 2021). The mean CFS score was found to be 17.2 in this current study. Fear of COVID-19 is recognized as an important predictor of behavioral changes and health maintenance, as well as detrimental consequences for people's health.

According to research, fear of COVID-19 is linked to anxiety, depression, and suicidal behavior (Modena et al., 2022). Individuals with a serious fear of COVID-19 have been reported to have a greater risk of depression and anxiety (Soraci et al., 2020). There are studies showing that depression, phobic-anxiety, obsessive-compulsive, and psychological symptoms reported by students significantly increased during the pandemic (Modena et al., 2022; Zurlo et al., 2022; Alsolais et al., 2021; Fontenelle et al., 2021; Fernández et al., 2020; Soraci et al., 2020). Fernández et al., (2020) found 31.8% anxiety, 27.5% depression, and 25.1% obsession-compulsion in the participants. Fontenelle et al. (2021) determined the Obsession-Compulsion ratio of the participants as 15.3%. In another study with students, it was reported that increased anxiety associated with COVID-19 was associated with more depression and OCD symptoms (Wheaton et al., 2021). In another study conducted on medical students, low levels of fear, moderate anxiety and depression related to COVID-19 were reported (Campos et al., 2021). A study conducted in the USA revealed that 48.1% of students had moderate-to-severe depression, 38.4% had moderate-to-severe anxiety, and 18.0% had suicidal thoughts. In addition, it was reported that the depression score averages of female students are higher than that of males (Wang et al., 2020). Moreover, when the studies were examined, no study was found in the literature evaluating COVID-19 obsession in nursing students. It has been determined that researches on anxiety, depression, obsessive compulsive disorders are more frequent (Modena et al., 2022; Zurlo et al., 2022; Alsolais et al., 2021; Fontenelle et al., 2021; Fernández et al., 2020; Soraci et al., 2020). In this study, COVID-19-related obsessions was determined as 16.3%. Obsessive thoughts and feelings about COVID-19 disease is most often (28.5%) 'Epidemic disease, a contagious and deadly virus'. There is no study in the literature evaluating obsessions and questioning obsessive thoughts about COVID-19 Pandemic on nursing students. Srivastava et al. (2020)'s research on individuals over the age of 18 determined that the level of Covid19-related obsessions is high (13.47%). Kurt et al. (2020) also found a similar result (14.3%). Although our finding is similar to other studies, it is seen that it is higher. This study makes a significant contribution to the literature in this respect.

This current research revealed that students experienced high levels of fear, anxiety and depression associated with COVID-19, and female students experienced higher levels of fear than male students. It has also been shown that fear of COVID-19 is associated with depression and anxiety. Anxiety is common among nursing students in general. However, during the pandemic, its intensity

increased from moderate (13 percent) to high (43 percent) (Savitski et al., 2020). In a study conducted on Bangladeshi students quarantined at home, stress was found in 28.5%, anxiety in 33.3%, and depression in 46.92% (Hasan Khan et al., 2020). Another study revealed that female students experience more fear and anxiety of COVID-19 than male students (Huang et al., 2020). There are also studies stating that female students' depression scores are higher than male students (Ali Shah et al., 2021; Tee et al., 2020; Wang et al., 2020). In this study, although there was no significant difference between the depression score averages by gender, it was determined that the depression score average of male students was higher than that of female students. During the data collection phase of the study, the fact that the education and training period was conducted through online (distance education) caused difficulties in reaching the entire targeted sample group.

CONCLUSION

As a result fear, anxiety, and depression among nursing students should be properly monitored during times of epidemics such as COVID-19. In order to increase nursing students' coping strategies, it is necessary to maintain face-to-face and distance communication from the beginning of the pandemic. Nursing sStudents' coping mechanisms should be bolstered by the implementation of new educational techniques that reinforce their current resources, such as time management and exercise, and expand their accessibility on digital platforms. Protective, supportive, and improving mental health activities must be planned within the scope of nursing students' opportunities, competences, and social support networks . Also, Nursing students who are expected to work actively in healthcare institutions in the future should be mentally strong in possible pandemic situations. For this reason, it is recommended to integrate psychosocial empowerment programs into course curriculum contents at universities.

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Plan, design: Ş.A., A.K; Materials, methods, and data collection: Ş.A., A.K; Analysis and interpretation:A.K; Ş.A.; Writing and critical assessment: Ş.A., A.K.

Conflict of interest
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