INVESTIGATION OF THE EFFECT OF NURSING STUDENTS' CORONAVIRUS FEAR ON THEIR CORONAVIRUS ANXIETY, LEARNING AND STUDY APPROACHES

HEMŞİRELİK ÖĞRENCİLERİNDEKİ KORONOVİRÜS KORKUSUNUN KORONAVİRÜS ANKSİYETESİNE, ÖĞRENME VE DERS ÇALIŞMA YAKLAŞIMLARINA ETKİSİNİN İNCELENMESİ

Ciğdem KAYA [1], Özlem BILIK [2]

[1]Department of Elderly Care, Vocational School of Health Services, Usak University, Usak, Turkey
[2]Department of Surgical Nursing, Faculty of Nursing, Dokuz Eylul University, Izmir, Turkey

ABSTRACT

Aim: To investigate the effect of nursing students' coronavirus fear on their coronavirus anxiety, learning and study approaches.

Method: It is a descriptive and cross-sectional study. The study was conducted with 217 nursing students studying at the Faculty of Health Sciences of a university and participating voluntarily in the research. Research data were collected with the participant information form, "the Fear of Covid-19 Scale", "the Coronavirus Anxiety Scale (CAS)", "the Approaches to Learning and Studying Inventory (ALSI)" between February 5 and March 31, 2021. Data were evaluated with frequency analysis, mean, standard deviation, t-test, Kruskal-Wallis, One-Way ANOVA and Mann-Whitney U test, Spearman's correlation, and simple linear regression analysis.

Results: In the study, 76.5% (n=166) of the students stated that online education did not meet their learning goals, 57.1% (n=124) stated that their willingness to attend online courses was not sufficient, 44.2% (n=96) stated that their education processes were adversely affected due to Covid-19, 29.5% (n=172) stated that lack of clinical practice negatively affected the learning and development of profession-specific skills, and 17.3% (n=144) of the students stated that face-to-face education was more effective. It was determined that the students' Covid-19 fear levels were at a moderate level (17.98±6.29), their ALSI total mean scores were 61.49± 11.78, and they preferred to use the deep learning approach the most. The cut-off value of the CAS total score of 7% of participants was found to be above 9. It was determined that there was a weak positive correlation between the fear of Covid-19 and the surface approach sub-dimension (r=.362, p<.05), and a very weak positive correlation between coronavirus anxiety and the surface approach sub-dimension (r=175, p<.05).

Conclusion: This study showed that the education processes of nursing students were adversely affected and they experienced various problems during the pandemic period. It was determined that as the fear of Covid-19 increased, the anxiety levels of the students increased and they were directed to the surface learning approach.

Keywords: Coronavirus Anxiety, Fear of Covid-19, Learning and Study Approaches, Nursing Students.

ÖZET

Amaç: Hemşirelik öğrencilerindeki koronovirüs korkusunun; koronavirüs anksiyetesine, öğrenme ve ders çalışma yaklaşımlarına etkisini incelemektir.

Yöntem: Tanımlayıcı ve kesitsel tipte bir araştırmadır. Çalışma, bir üniversitenin Sağlık Bilimleri Fakültesi Hemşirelik Bölümü'nde öğrenim gören ve araştırmaya gönüllü olarak katılan 217 hemşirelik öğrencisi ile yapılmıştır. Araştırma verileri, 5 Şubat – 31 Mart 2021 tarihleri arasında; katılımcı bilgi formu, "Covid-19 Korkusu Ölçeği", "Koronavirüs Anksiyete Ölçeği (KAÖ)", "Öğrenme ve Ders Çalışma Envanteri (ÖDYE)" ile toplanmıştır. Veriler frekans analizi, ortalama, standart sapma, t testi, Kruskall Wallis, One Way Anowa ve Mann Whitney-U, Spearman korelasyon ve basit doğrusal regresyon analizleri ile değerlendirilmiştir.

Bulgular: Araştırmada; öğrencilerin %76.5'i (n=166) online eğitimin öğrenme hedeflerini karşılamadığını, %57.1'i (n=124) online derslere katılma isteklerinin yeterli olmadığını, %44.2'si (n=96) Covid nedeniyle eğitim süreçlerinin çok olumsuz etkilendiğini, %29.5'i (n=172) klinik uygulama yapılmamasının mesleğe özgü becerilerin öğrenilmesini ve geliştirilmesini olumsuz etkilediğini ve %17.3'ü (n=144) yüz yüze eğitimin daha etkili olduğunu belirtmişlerdir. Öğrencilerin Covid-19 korkusu düzeylerinin orta düzeyde (17.98±6.29) olduğu, ÖDYE toplam puan ortalamalarının 61.49± 11.78 olup; en çok derinlemesine öğrenme yaklaşımını kullanmayı tercih ettikleri saptanmıştır. Katılımcıların %7'sinin KAÖ toplam puanı ölçeğin kesme değeri 9'un üzerinde bulunmuştur. Covid -19 korkusu ile yüzeysel öğrenme alt boyut arasında zayıf büyüklükte pozitif yönde (r=.362, p<.05), koronavirüs anksiyetesi ile yüzeysel öğrenme alt boyut arasında çok zayıf büyüklükte (r=175, p<.05) pozitif yönde anlamlı bir ilişki olduğu belirlenmiştir.

Sonuç: Bu çalışma pandemi döneminde hemşirelik öğrencilerinin eğitim süreçlerinin olumsuz etkilendiğini ve çeşitli sorunlar yaşadıklarını göstermiştir. Öğrencilerin Covid-19 korkusu arttıkça koronavirüs anksiyete düzeylerinin de arttığı ve yüzeysel öğrenme yaklaşımına yönlendikleri belirlenmiştir.

Anahtar kelimeler: Hemşirelik Öğrencileri, Coronavirüs Anksiyetesi, Covid-19 Korkusu, Öğrenme ve Ders Çalışma Yaklaşımları.

INTRODUCTION

The Covid-19 epidemic has become a global crisis with devastating social, economic and political consequences and affecting every aspect of life (Hui et al., 2020; Ornell et al., 2020). The Covid-19 pandemic process affected people's mental health and caused psychological problems such as anxiety, fear and depression (Ahorsu et al., 2020; Guan et al., 2020). Although this situation was seen in every part of society, it has also negatively affected the mental health of nursing students who were a part of it (Huang et al., 2020; Savitsky et al., 2020).

Anxiety and fear are quite common among university students, even under normal circumstances (Savitsky et al., 2020; Zeng et al., 2019). Economic difficulties, academic performance, pressure to be successful, and post-graduation plans are among the reasons for the fear and anxiety that students experience throughout their university life (Beiter et al., 2015; Zeng et al., 2019). Moreover, nursing education is consistently associated with anxiety among students (Savitsky et al., 2020). The reasons for this include heavy theory education, anxiety about getting high scores, having both theory and skill-based exams, caring for chronic and terminally ill patients, difficulties in the clinical environment, and stressful clinical education process (Chen et al., 2015; Rathnayake et al., 2016; Sancar et al., 2018). In a study conducted in China, the prevalence rates of depression, anxiety and stress symptoms among nursing students were determined as 28.7%, 41.7% and 20.2%, respectively (Zeng et al., 2019).

The Covid-19 pandemic is one of the biggest challenges education systems have ever faced. In addition to the features of nursing education, important changes in the education process due to Covid-19 (switching to online education, difficulties in maintaining online education, interruption of university life, etc.) and students' care for patients with Covid-19 in the clinical process, lack of personal protective equipment, fear of being infected increased the fear and anxiety level of students about Covid-19 (Majrashi et al., 2021; Savitsky et al., 2020). Continuity of fear can cause coronavirus anxiety. In a study conducted with nursing students, it was determined that 42.8% of nursing students who had fear of Covid-19 had moderate anxiety and 18.1% had high-level anxiety, and the factors associated with anxiety were gender, lack of personal protective equipment, and fear of being infected (Savitsky et al., 2020). In a study examining the effects of Covid-19 on the psychosocial health of university students (n=7143), it was reported that 0.9% of students experienced severe anxiety, 2.7% had moderate anxiety, and 21.3% had mild anxiety. In addition, it was determined that the presence of relatives or acquaintances infected with Covid-19 is a risk factor that increases anxiety (Cao et al., 2020).

The transition to distance education due to the pandemic and the difficulties experienced at this stage (infrastructure, digital literacy and technical problems, etc.), as well as the fear of Covid-19 and coronavirus anxiety experienced by the students, caused the learning process to be adversely affected and the study approaches to change (Carolan et al., 2020; Dewart et al., 2020). In the educational process that changed with the pandemic, while nursing students continued their theoretical courses with distance education methods, they could not continue their clinical practice education at the beginning of the pandemic. It is not known to what extent the fear of the virus in nursing students affects their anxiety level, learning process and study approaches. In the literature, there are many studies conducted with nursing students during the pandemic period. But; A study evaluating students' learning and study approaches with a scale and evaluating the effect of fear of coronavirus on learning and study approaches could not be found. The findings obtained from the planned research will create scientific data for nurse educators in the planning and implementation of nursing education during the ongoing pandemic process, and will also contribute to supporting the learning processes of future nurses. On the other hand, it will make the reflection of Covid-19 visible on the education of students, who are at the center of nursing education.

Purpose of the Study: To examine the effect of coronavirus fear on the coronavirus anxiety, learning and study approaches of nursing students.

Research Questions:

1. What is the coronavirus fear level of nursing students?

2. What is the coronavirus anxiety level of nursing students?

3. What are the levels of nursing students' learning and study approaches?

4. How does the fear of coronavirus of nursing students affect the level of coronavirus anxiety of students?

5. Does the fear of coronavirus of nursing students have an effect on students' learning and study approaches?

6. Is there a difference between the mean scores of coronavirus fear levels of nursing students according to sociodemographic variables?

7. Is there a difference between the mean scores of coronavirus anxiety levels of nursing students according to sociodemographic variables?

8. Is there a difference between the mean scores of nursing students' learning and study approaches according to their sociodemographic variables?

MATERIALS AND METHODS

Type, Place and Time of the Research

It is a descriptive and cross-sectional study. It was carried out between February 5 and March 31, 2021, with students studying at the Nursing Department of the Faculty of Health Sciences of a university and voluntarily participating in the research.

Population and Sample of the Research

The population of the research consisted of 527 nursing students studying in the Health Sciences Faculty Nursing Department of the university where the study was conducted in the 2020-2021 spring semester. Since the number of people in the population was known, the formula $n:(Nt^2pq)/(d^2(N-1)+t^2pq)$ was used in calculating the sample number, and the sample number was calculated as 222.4359 and it was planned to reach 223 students. During the data collection process, 217 students who voluntarily agreed to participate in the study and filled out the measurement tools formed the sample of the study.

      The criteria for inclusion in the study were volunteering to participate in the study and studying at the nursing department of the relevant university. In the study, students who registered to the nursing department and then froze their registration were excluded from the scope of the study.

Data Collection Tools

Data were collected with the Participant Information Form, "the Fear of Covid-19 Scale", "the Coronavirus Anxiety Scale" and "the Approaches to Learning and Studying Inventory".

Participant Information Form:

This questionnaire was prepared by the researchers. The information form includes information such as students' acceptance to participate in the research, sociodemographic information, internet access situation, their experience with the Covid-19 process, how online education affects learning needs and nursing education, and how the lack of clinical practice affects the learning process.

The Fear of Covid-19 Scale

This scale was developed by Ahorsu et al. (2020) to determine the level of fear that can develop against the coronavirus in individuals. The original form of the scale includes a total of 7 statements, consists of one dimension and does not have reverse items. It was determined that the internal consistency and test-retest reliability of the scale ($\alpha = .82$ and ICC = .72) were at acceptable levels. The scale is a 5-point Likert-type self-assessment scale. Scale items are evaluated between "Strongly Disagree: 1" and "Strongly Agree: 5". A score between 7 and 35 is taken from the scale. The increase in the scale score indicates that the level of fear of Covid-19 increases (Ahorsu et al., 2020) . In the adaptation study performed by Satıcı et al. (2020) with 1304 participants in Turkey and Cronbach's alpha was calculated as $\alpha = .847$(Satici et al., 2020). In the present study, the internal consistency coefficient of the scale was calculated as 0.89.

The Coronavirus Anxiety Scale (CAS)

The measurement tool developed by Lee (2020) is used to identify possible dysfunctional anxiety cases associated with the Covid-19 crisis. The Coronavirus Anxiety Scale (CAS) is a 5-point Likert-type scale and consists of 5 questions and one dimension. Each item of the CAS is rated on a 5-point scale based on experience over the past two weeks as "0: never," "1: rarely, less than a day or two," "2: a few days," "3: more than 7 days," and "4: almost every day in the last two weeks". The optimized cut-off point of the scale in distinguishing between those with and without dysfunctional anxiety was 9, with 90% sensitivity and 85% specificity. A total CAS score of 9 or above indicates coronavirus-related dysfunctional anxiety. The Cronbach's Alpha reliability coefficient was calculated as 0.93 in the original scale (Lee, 2020). The Turkish validity and reliability analyses of the CAS were performed by Biçer et al. (2020) and the Cronbach's Alpha was calculated as 0.832 (Biçer et al., 2020). In this study, the Cronbach's Alpha of the scale was calculated as 0.87.

The Approaches to Learning and Studying Inventory (ALSI)

This inventory (short version) was prepared by Hounsell, Entwistle, Anderson et al. (2002) to evaluate learning and study approaches. ALSI consists of five subscales and 18 items in total: surface approach, deep approach, monitoring study, effort management, and organized studying. Individuals responding to the inventory mark their level of agreement with each item on a five-point scale ranging from "(1) not appropriate at all " to "(5) completely appropriate". A high score from each learning approach dimension indicates that the individual prefers to use that learning approach more, while a low score indicates that individuals prefer to use that learning approach less. The lowest score that can be taken from the deep approach is 10, the highest score is 50, the lowest score that can be obtained from the strategic approach is 4, the highest score is 20, the lowest score that can be obtained from the

surface approach dimension is 4, and the highest score is 20 (Hounsell et al., 2005). The Turkish validity and reliability study was carried out by Topkaya et al. in 2011. The factor loads of the items in the inventory generally vary between 0.27 and 0.82. McDonald's ω reliability coefficients for the subscales of the inventory were calculated as 0.60 for surface approach, 0.75 for deep approach, 0.85 for monitoring study, 0.45 for effort management, and 0.74 for organized studying (Topkaya et al., 2011). In this study, the internal consistency coefficients of the inventory were calculated as 0.62 for surface approach, 0.87 for deep approach, 0.82 for monitoring study, 0.59 for effort management, and 0.79 for organized studying.

Data Collection Process
The data of the research were collected through Google forms. The link of the research form was sent to the e-mail addresses of the students and shared in WhatsApp groups. They were allowed to answer the questions after obtaining informed consent. Before the survey questions started, they were asked a question about their willingness to participate in the study, and if yes, they were asked to confirm. The students who did not confirm could not answer the survey questions.

Ethical Aspect of Research
The study protocol was approved by the Non-Interventional Research Ethics Committee of Dokuz Eylül University (decision no: 2021/03-13; date: 01.02.2021). Institutional permission was obtained. Moreover, the online consent of the students was obtained by adding the purpose of the research and the informed consent information on Google forms.

Analysis of data
The data of the research were analyzed in SPSS 23.0 statistical program. Number, percentage, mean, standard deviation from descriptive statistics were used. Skewness and Kurtosis values (+2 and -2) were taken into account in the assumption of normality (George & Mallery, 2010). The internal consistency coefficient (Cronbach's Alpha) was calculated to evaluate the reliability of the scales. The t-test, Kruskal-Wallis, One-Way ANOVA and Mann-Whitney U tests were used to determine whether there was a difference between the total and sub-dimension mean scores of the Fear of Covid-19 Scale, CAS and ALSI scales in terms of the sociodemographic and Covid-19 characteristics of the participants. Spearman's correlation analysis was used to determine the relationship between Covid-19 fear, CAS and ALSI scales, while simple linear regression analysis was used to determine the effect of Covid-19 fear on CAS and ALSI scale's surface approach sub-dimension.

RESULTS
The mean age of the nursing students participating in our study was 20.70±1.58; 31.3% (*n*=68) were first-year students, 80.2% (*n*=174) were women (Table 1).

It was determined that 12.9% of the students had Covid-19. Due to the pandemic, 44.2% (*n*=96) of the students were very adversely affected during the education process (Table 1).

Opinions and experiences on the changing education system during the pandemic process were showed in Table 1. 17.3% (*n*=144) of the students stated that face-to-face education was more effective, 13.2% (*n*=110) stated that they had difficulty in concentrating on online education, and 14.8% (*n*=123) stated that online education made it difficult for them to understand the subjects and they had difficulty in following the lessons. Besides, 10.7% (*n*=89) of the students stated that online education was insufficient to prepare them for professional life, and 13.6% (*n*=113) of them stated that not being in a school environment made it difficult to feel that they were students and being away from student life (campus, dormitory, friend environment, etc.) upset them (Table 1).

It was determined that 57.1% (*n*=124) of the nursing students in our study stated that their willingness to participate in online classes was not sufficient while 21.9% (*n*=93) of them stated that learning by listening alone was not suitable for them and they had difficulty in understanding the subjects. Among the participants, 76.5% (*n*=166) of them stated that online education did not meet their learning goals. Besides, it was determined that 29.5% (*n*=172) of students stated that not doing clinical practice negatively affected their learning and development of profession-specific skills (Table 1).

Table 1. Sociodemographic characteristics, internet access status of the participants, Covid-19 experiences of the participants and the effect of the pandemic on the education process

	n	%
Age (min-max/ $\overline{\mathbf{x}} \pm$ SD)	18-26	20.70±1.58
Class		
First-year	68	31.3
Second-year	41	18.9
Third-year	57	26.3
Fourth-year	51	23.5
Gender		
Female	174	80.2
Male	43	19.8
Living place		
City / district	171	78.8
Village / town	46	21.2
Internet access status		
I have no problems with my internet access	140	64.5
I have wireless internet, but the internet is not working where I am	31	14.3
My internet access is restricted because there are people who use the internet other than me at home.	39	18.0
I don't have internet access	7	3.2
Covid-19 status		
Yes	28	12.9
No	189	87.1
Presence of people diagnosed with Covid-19 in the immediate surroundings		
Yes	140	64.5
No	77	35.5
Relationship with the person who had Covid-19		
Someone from the family (parents, siblings living together)	45	26.9
Relatives, friends, neighbors, residents	122	73.1
The situation of losing a relative due to Covid-19		
Yes	35	16.1
No	182	83.9
Intimacy with the person lost due to Covid-19		
First and second-degree relatives (grandmother, grandfather, aunt, uncle, nephew, cousin, etc.)	5	13.5
Close relatives, friends, neighbors, residents of the neighborhood/shopkeepers	32	86.5
The state of being affected by the education process due to the pandemic		
Not affected at all	18	8.3
Slightly affected	103	47.5
Very negatively affected	96	44.2
Opinions and experiences on the changing education system during the pandemic process		
Face-to-face education was more effective	144	17.3
In face-to-face education, my time management was better and my willingness to learn was greater	133	16
With online education, my self-learning is improving and I am looking for more information	42	5
With online education, it is easier for me to focus on the lesson / I learn more with fun.	15	1.8
I have a hard time concentrating on online education	110	13.2
With online education, the student's responsibility for learning decreases	63	7.6
Online education topics make it difficult for me to understand and I have difficulty following the lessons	123	14.8
I think that online education is insufficient to prepare for professional life	89	10.7
Not being in a school environment makes it difficult for me to feel that I am a student and being away from my student life (campus, dormitory, friend environment, etc.) makes me sad	113	13.6
Status of participation in online education		
My desire to attend online classes is not enough	124	57.1
I do not always attend classes because there is no attendance requirement in online education	52	24
I am having trouble attending online classes due to an internet access problem	22	10.1
I willingly attend classes	19	8.8
The state of being affected by studying during the pandemic process		
Since I have a lot of free time, I can create opportunities to study	55	13.0
I learn by listening to online course recordings again	66	15.6
It is more beneficial for me to watch the lesson at any time I want	64	15.1
I have difficulty in understanding the subjects because learning by listening only is not suitable for me	93	21.9
I need to repeat the topics more with online education	66	15.6
Online education has completely changed the way I study	80	18.9

The state of meeting the learning objectives of online education		
Yes	51	23.6
No	166	76.5
The state of being affected by the educational process due to the lack of clinical practice		
It negatively affects the learning and development of profession-specific skills	172	29.5
The inability to support theory with practice makes it difficult for me to learn	144	24.7
I realized how important it is to learn by clinical practice	116	19.9
I think that preparation for professional life is insufficient without clinical practice	151	25.9

It was determined that the students' fear of Covid-19 was at a moderate level (17.98±6.29), the cut-off value of the CAS mean score was below 9 (1.75±3.27) and the ALSI scale total mean score was 61.49± 11.78 (Table 2). Besides, the cut-off value of the CAS total score of 7% of the students was found to be above 9.

Table 2. Distribution of students' mean scores of Covid-19 fear, coronavirus anxiety, and learning and study approaches scales

Scale	n	min	max	$\overline{\mathbf{x}} \pm$ SD
Covid-19 fear scale total	217	7	35	17.98±6.29
Coronavirus anxiety scale total	217	0	17	1.75±3.27
ALSI scale total	217	18	90	61.49± 11.78
Surface approach	217	4	20	10.49 ± 3.28
Deep approach	217	6	30	22.45 ± 4.97
Monitoring study	217	4	20	14.95 ± 3.47
Effort management	217	2	10	7.04 ± 1.94
Organized studying	217	2	10	6.55 ± 2.15

It was determined that female students' mean scores of the fear of the Covid-19 scale was statistically significantly higher than that of men (p<.05; Table 3). It was determined that the mean score of the Covid-19 fear scale of the students who did not have the Covid-19 disease was statistically significantly higher than the students who had the disease (p<.05; Table 3).

  The results of the correlation analysis between the participants' fear of Covid-19, CAS and ALSI scales are given in Table 4. According to the data in the table;

  • There was a weak, positive and significant relationship between the Covid-19 fear scale and the CAS mean scores (r=.362, p<.001),

  • There was a weak, positive, and significant relationship between the Covid -19 fear scale and the ALSI scale's surface approach sub-dimension mean scores (r=.362, p<.05),

  • A very weak, positive and significant relationship (r=.175, p<.05) was determined between the CAS and the ALSI scale' surface approach sub-dimension mean scores.

  • A very weak, positive and significant relationship (r=.175, p<.05) was determined between the CAS mean score and the ALSI scale' surface approach sub-dimension mean score.

  A weak, negative, and significant relationship (r=-.223, p<.001) was determined between the CAS mean score and the ALSI scale's monitoring study sub-dimension mean score.

  The results of the simple linear regression analysis performed to reveal the effect of fear of Covid-19 on students' coronavirus anxiety are given in Table 6. It was determined that fear of Covid-19 had a significant effect on coronavirus anxiety (F: 22.813; p<0,000) (Table 5). In other words, the increase in students' fear of Covid-19 explains .9% of the increase in coronavirus anxiety levels (R^2: .096).

  The results of the simple linear regression analysis carried out to reveal the effect of fear of Covid-19 on students' surface approach are given in Table 6. It was determined that fear of Covid-19 had a significant effect on the surface approach (F: 10.427; p <0.05) (Table 6). In other words, the increase in students' fear of Covid-19 explains .4% of the increase in their surface approach levels (R^2: .046).

Table 3. Comparison of the mean scores of fear of Covid-19, coronavirus anxiety and ALSI (sub-dimensions and total score) scales in terms of demographic and coronavirus-related characteristics

Scale	Gender			Living place			Covid-19 status			Presence of people with Covid-19 in the immediate surroundings			The situation of losing a relative from Covid-19		
	Female (n=174)	Male (n=43)	p	City/District	Village/town	p	Yes	No	p	Yes (n=140)	No (n=77)	p	Yes (n=35)	No (n=217)	p
Covid-19 fear scale	18.63 ± 6.19	15.37 ± 6.11	**.002**	17.64 ± 6.19	19.26 ± 6.60	.122	16.03 ± 6.19	18.27 ± 6.27	**.044***	17.52 ± 5.96	18.83 ± 6.82	.143	19.88 ± 6.12	17.62 ± 6.28	.051
Coronavirus anxiety scale	1.78 ± 3.38	1.62 ± 2.81	.788*	1.85 ± 3.30	1.36 ± 3.18	.119*	1.78 ± 4.31	1.74 ± 3.10	.352*	1.11 ± 2.35	2.90 ± 4.27	**.007***	1.71 ± 3.22	1.75 ±3.29	.405*
ALSI total	62.56 ± 10.32	57.18 ± 15.83	.114*	61.39 ± 12.06	61.86 ± 10.77	.714*	64.57 ± 12.00	61.04 ± 11.71	.144*	61.40 ± 11.45	61.66 ± 12.43	.667*	64.14 ± 11.84	60.98 ± 11.73	.120*

p<.05, t-test, * Mann Whitney U test

Table 4. The Relationship Between Participants' Fear of Covid-19, Coronavirus Anxiety, and ALSI Scales

Variebles			Covid-19 fear	Coronavirus anxiety	Surface approach	Deep approach	Monitoring study	Effort management	Organized studying	ALSI total
Spearman's rho	Covid-19 fear	Correlation Coefficient	1.000							
		Sig. (2-tailed)	.							
		N	217							
	Coronavirus anxiety	Correlation Coefficient	.362**	1.000						
		Sig. (2-tailed)	**.000**	.						
		N	217	217						
	Surface approach	Correlation Coefficient	.224**	.175**	1.000					
		Sig. (2-tailed)	**.001**	**.010**	.					
		N	217	217	217					
	Deep approach	Correlation Coefficient	.017	-.186**	-.176**	1.000				
		Sig. (2-tailed)	.800	**.006**	**.009**	.				
		N	217	217	217	217				
	Monitoring study	Correlation Coefficient	.023	-.223**	-.105	.780**	1.000			
		Sig. (2-tailed)	.736	**.001**	.123	**.000**	.			
		N	217	217	217	217	217			
	Effort management	Correlation Coefficient	-.008	-.103	.032	.541**	.610**	1.000		
		Sig. (2-tailed)	.901	.131	.636	**.000**	**.000**	.		
		N	217	217	217	217	217	217		
	Organized studying	Correlation Coefficient	.034	-.037	.036	.517**	.522**	.603**	1.000	
		Sig. (2-tailed)	.614	.586	.598	**.000**	**.000**	**.000**	.	
		N	217	217	217	217	217	217	217	
	ALSI total	Correlation Coefficient	.054	-.122	.165*	.822**	.845**	.747**	.731**	1.000
		Sig. (2-tailed)	.429	.073	**.015**	**.000**	**.000**	**.000**	**.000**	.
		N	217	217	217	217	217	217	217	217

*.p< 0.05, **.p< 0.01

Table 5. The Effect of Fear of Covid-19 on Coronavirus Anxiety

Variables					
	B	**Standard Error**	**Standardized β**	**t**	**P**
Constant	-1.145	.642	.310	-1.782	.076
Covid-19 fear	.161	.034		4.776	.000

<div align="center">R: .310   R²: .096   F: 22.813 (p<0.000)</div>

$R: .310 \quad R^2: .096 \quad F: 22.813 \ (p<0.000)$

Table 6. The Effect of Fear of Covid-19 on Surface Approach

Variables					
	B	Standard Error	Standardized β	t	P
Constant	8.474	.662	.215	12.792	.000
Covid-19 fear	.112	.035		3.229	.001

$R: .215 \quad R^2: .046 \quad F: 10.427 \ (p<0.05)$

DISCUSSION

The Covid-19 pandemic, which is one of the biggest challenges education systems have ever faced, has caused the transition from face-to-face education to online education in many countries (Daniel, 2020). This situation has caused the educational processes of students to be adversely affected in many ways. In our study, 47.5% of the students stated that the effect of the pandemic on the educational processes was slightly affected, and 44.2% was very negatively affected. Traditionally, nursing education has been about using cognitive, sensory, and psychomotor learning fields (Nashwan et al., 2020). Students are expected to gain professional skills as well as theoretical knowledge. Therefore, in addition to theory courses, the nursing education curriculum mainly includes vocational skills courses and clinical applications. In clinical education, it is aimed to integrate theoretical knowledge and practice. Students try to complete the learning process by practising and experiencing the knowledge and skills they learned at school in a real environment (Şendir et al., 2018). Moreover, with clinical applications, students develop their skills in working as a team member, inter-team communication, professional competence and decision-making (Şendir et al., 2018). With the transition to online education, the distance course of vocational skills and clinical practice courses along with theory courses has caused both students and educators to experience various problems. Successful implementation of online education depends on how the application is used by students and educators (Thongsri et al., 2019). In the present study, 35.5% of the students stated that they had difficulties in accessing the internet, 57.1% stated that their desire to participate in online education was not sufficient and 76.5% stated that online education did not meet the learning objectives. Moreover, it was determined that 21.9% of the students stated that learning only by listening was not suitable for them and they had difficulty in understanding the subjects, while 29.5% stated that not doing clinical practice negatively affected the learning and development of profession-specific skills. In studies where the online education process has been evaluated during the pandemic period, it has been shown that students have experienced difficulties in technology infrastructure and support, time management, learning space, access to the internet, following lessons, and exams (Carolan et al., 2020; Dewart et al., 2020; Kürtüncü & Kurt, 2020). In a study conducted to determine the problems that nursing students experience in distance education during the pandemic process, it has been shown that students had problems mostly due to the inadequate distance education infrastructure conditions of the university, problems with internet access due to the fact that many students log into the system, cannot follow their lessons and cannot get efficiency from the lessons (Kürtüncü & Kurt, 2020). In the qualitative research conducted on the distance learning experiences of nursing students during the Covid-19 pandemic, the students did not have full knowledge of the online education programs of their teachers, they had communication difficulties in online education, the lessons were long and they had problems focusing on the lesson in the home environment, their friendship relations were negatively affected, they felt alone and isolated and their academic workload and responsibilities increased (Wallace et al., 2021). In our study, 17.3% of the students stated

that face-to-face education was more effective, while 16% stated that their time management was better and their desire to learn was higher in face-to-face education. Besides, 13.2% of the students had difficulty in concentrating on online education, 7.6% of the students reduced their responsibility for learning with online education, and 14.8% of them stated that online education made understanding the subjects difficult and they had difficulty in following the lessons. Moreover, 10.7% of the students stated that online education was insufficient to prepare them for professional life, and 13.6% stated that not being from the school environment made it difficult to feel that they were students and being away from student life (campus, dormitory, friend environment, etc.) upset them. In a study conducted with nursing students, it was stated that during the pandemic period, 44.4% of the students thought of the online education process as stressful and 47.2% as very stressful. Moreover, it has been shown that the level of satisfaction in the online education process was low, and there was a significant and inverse relationship between the level of satisfaction and academic performance (Oducado & Estoque, 2021). In another study conducted with the participation of 211 nursing students, 59.7% of the students stated that face-to-face learning was more effective (Rana & Garbuja, 2021).

It was determined that the students' fear of Covid-19 was moderate (17.98 ± 6.29), their coronavirus anxiety was quite low (1.75 ± 3.27), and only 7% of the students had a total CAS score above the cut-off point of 9. In many studies with nursing students in the literature, it has been determined that students have experienced fear of Covid-19 (mostly at a moderate level) and anxiety (low, moderate, severe levels) during the pandemic period (Huang et al., 2020; Nehir & Güngör Tavşanlı, 2021; Yeşiltepe et al., 2021). In a study conducted with 244 nursing students in Israel, the prevalence of moderate and severe anxiety was found to be 42.8% and 13.1%, respectively (Savitsky et al., 2020). In this study, it was determined that the Covid-19 fear levels of women and students who did not have Covid-19 were statistically significantly higher. It is estimated that women have more common anxiety and depressive disorders in pandemic and this caused them to be more affected (Kim et al., 2014). In similar studies in the literature, it has been shown that female students had higher Covid-19 fear levels (Huang et al., 2020; Nehir & Güngör Tavşanlı, 2021). The thought that students who are not yet infected with Covid-19 can catch the disease at any time may be effective in the high level of fear.

A weak, positive, and significant relationship ($r=.362$, $p<.001$) was found between the Covid-19 fear scale and the CAS mean scores. Besides, it was determined that fear of Covid-19 had a significant effect on coronavirus anxiety (F: 22.813; $p<0,000$). People experience feelings of fear and anxiety together when they encounter a new situation or some important changes in their lives (Bakioğlu et al., 2020). The Covid-19 pandemic has been a global health problem affecting every aspect of life. In addition to the fear of getting the disease, the unknown about the disease increases the coronavirus anxiety level. In studies dealing with the fear of Covid-19 and coronavirus anxiety, it has been determined that there has been a positive relationship between the two variables (Bakioğlu et al., 2020; Gashi, 2020).

The students' ALSI scale total mean score was 61.49 ± 11.78, and according to the minimum (20) and maximum (90) score values that can be obtained from the scale, it can be said that the learning and study approaches in the pandemic process were at a moderate level. In addition, it was determined that the students mostly preferred to use the deep learning approach (deep approach sub-dimension mean score: 22.45 ± 4.97). This approach is based on understanding and internalization of the subject and aims to develop skills in specific academic subjects (Özgür & Tosun, 2012). Due to the characteristics of the nursing education process (including theory, skills and clinical practice components), it can be said that students tend towards a deep learning approach. In studies conducted with nursing students, it has been shown that students' deep learning approach scores were higher (Dil, 2015; Mansouri et al., 2006; Sabzevari et al., 2013). In the present study, it was determined that there was a weak positive correlation ($r=.362$, $p<.05$) between fear of Covid-19 and surface learning approach and a very weak positive correlation ($r=175$, $p<.05$) between coronavirus anxiety and surface learning approach. It has been stated that in the surface approach, students only intend to meet the requirements of the task, memorize information for evaluation, and evaluate learning as an external compulsion (Özgür & Tosun, 2012). It can be said that with the fear of Covid-19 and the increase in the level of coronavirus anxiety, the online education style leads students to a surface learning approach. It was determined that there was a very weak negative correlation ($r=-.186$, $p<.05$) between the students' coronavirus anxiety and the deep learning approach, and a weak negative and significant correlation ($r=-.223$, $p<.001$) between the coronavirus anxiety and monitoring study. The increase in the level of anxiety negatively affects the

students' deep learning approach and monitoring study. Learning is a complex and multifaceted action that requires students to monitor and regulate their cognitive, sensory and motivational processes based on the learning environment, task and purpose (Wortha et al., 2019). It is stated that emotions significantly affect learning processes, outcomes and academic achievement. (Pekrun & Linnenbrink-Garcia, 2014).

Limitatıons of the Research
While discussing the effect of fear of Covid-19 on learning and study approaches, the inability to find a similar study on this subject in the literature was accepted as a limitation.

CONCLUSION
This study showed that Covid-19 negatively affected nursing education and students experienced various problems (access to the internet, insufficient desire to participate in online education, difficulties in understanding the subjects, lack of clinical practice negatively affect the learning and development of profession-specific skills, etc.) in the online education process. It was determined that the students experienced fear of Covid-19 and as this fear increased, their coronavirus anxiety levels increased. The increase in fear and anxiety levels led students to the surface learning approach. The pandemic still continues to pose a global threat. Necessary measures should be taken to minimize the effects of the pandemic on nursing students and their education, and studies should be carried out to develop online education methods.

Conflict of Interest
The authors have no conflicts of interest to declare.

Author Contributions
Plan, design: ÖB, ÇK; **Material, methods and data collection:** ÖB, ÇK**; Data analysis and comments:** ÖB, ÇK; **Writing and corrections:** ÖB, ÇK

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