



## Original Article

# Nursing student attitudes toward nursing profession and their state anxiety level during COVID-19 outbreak

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### Abstract

**Objectives:** This study was designed to investigate nursing students' attitudes toward the nursing profession and examine their state anxiety level during the coronavirus 2019 (COVID-19) pandemic.

**Methods:** The population for this descriptive research was Turkish university nursing students. The study sample consisted of 1653 nursing students who participated in the study between April 25 and May 10, 2020. The Attitude Scale for Nursing Profession (ASNP) and the State-Trait Anxiety Inventory (STAI) were used to collect the study data. The Mann-Whitney U test, Kruskal-Wallis test, and the Spearman correlation test were used to evaluate the findings.

**Results:** The mean score of the preference for the nursing profession (PNP) subscale of the ASNP was  $51.13 \pm 8.61$  and the mean score of the general attitude toward the nursing profession (GATNP) subscale score was  $34.82 \pm 2.80$ . The mean STAI mean score was  $43.95 \pm 11.17$ . There was a weak, negative relationship between the STAI and the PNP ( $r = -0.279$ ) and the GATNP ( $r = -0.140$ ) ( $p < 0.05$ ). The 2 most important predictors of state anxiety level were motivation to join the nursing profession and being a female ( $p < 0.01$ ).

**Conclusion:** The students who participated in the study reported a moderate state anxiety level. Mental health assessments of student nurses are recommended, as well as efforts to increase their psychological resilience and ability to cope with stress.

**Keywords:** COVID-19; nursing profession; state anxiety; student nurse.

The coronavirus 2019 (COVID-19) outbreak first emerged in late 2019 in Wuhan, China, and the rapid spread of the potentially deadly disease throughout the world led to the declaration of a pandemic by the World Health Organization in March 2020.<sup>[1,2]</sup> Governments had to take various measures, such as social distance policies, lockdowns, quarantine regulations, and intercity travel bans to reduce the spread of the virus, which is easily transmitted from one individual to another. In many parts of the world, all face-to-face education activities were suspended and distance education was initiated as a replacement.<sup>[3]</sup>

Mental health issues, such as depression, alexithymia, and post-traumatic stress disorder have been observed in university students who were trying to continue their educa-

tion while in quarantine.<sup>[4]</sup> Students reported more negative emotions than the general population, largely as a result of the interruption of their work and education.<sup>[5]</sup> Students reported confusion and pessimism, were seen to develop obsessive-compulsive behaviors, and expressed worry about the health of their family as well as economic/social concerns.<sup>[6]</sup> Psychosocial problems, such as sleep difficulties, deterioration in social interaction, concerns about academic performance, poor eating patterns, depressive thoughts, suicidal thoughts, substance use, and anxiety have been recorded.<sup>[7-9]</sup>

Some research has focused on reactions among nursing students. Savitsky et al.<sup>[10]</sup> noted a prevalence of moderate and severe anxiety among nursing students of 42.8% and 13.1%, respectively. Senior nursing and medical students in Spain

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**Submitted Date:** August 30, 2020 **Accepted Date:** November 26, 2021 **Available Online Date:** March 21, 2022

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**What is presently known on this subject?**

- Since the outbreak of the coronavirus 2019 (COVID-19) pandemic, students have been shown to experience more negative emotions than the general population. In addition to other concerns, their work and education was interrupted due to social distance rules and the closure of schools, which has led to increased difficulty.

**What does this article add to the existing knowledge?**

- Nursing students surveyed after the outbreak of the pandemic period demonstrated only moderate state anxiety, and they largely retained a positive attitude toward the nursing profession. A greater positive attitude toward the profession was associated with reduced state anxiety.

**What are the implications for practice?**

- These findings of factors that affected the level of state anxiety and the attitude of nursing students toward the profession assessed during the pandemic could provide a valuable contribution to mental health improvement programs.

expressed fear of becoming infected and infecting their family members, concern about lack of knowledge and skills in practice, and fear of coping with and managing difficult situations.<sup>[11]</sup> In addition to emotional symptoms, students have also experienced problems arising from the circumstances of their nursing education. Kurduncu and Kurt<sup>[12]</sup> found that students who could not go to the clinic and were pursuing their training via distance education had trouble coping with the anxiety and stress caused by the pandemic, had difficulty following the lessons, and experienced exam anxiety. Students have also reported that they experienced a loss of motivation, concentration impairment, and memory problems related to learning at home.<sup>[13]</sup> Some students were also afraid of not being able to reach nursing career goals due to the potential effects of delays in their education process.<sup>[14]</sup> The fact that some students enrolled in this difficult program without a sincere commitment to the profession as a result of family pressure or the desire to find steady employment is also significant. Considering that psychological symptoms experienced by students may affect their perspective on the profession, this study was conducted to determine the anxiety level and attitudes toward the profession among nursing students during the COVID-19 epidemic. The study sought to answer the following questions:

- What is the level of nursing students' state anxiety and their attitude toward the nursing profession during the COVID-19 pandemic?
- What are the factors affecting nursing students' level of state anxiety and attitude toward the nursing profession?
- Is there a relationship between state anxiety and attitude toward the nursing profession among nursing students?

## Materials and Method

### Ethical Considerations

Written approval was granted by the Aksaray University Human Research Ethics Committee on April 24, 2020 (no: 2020/04-01) before beginning the study. The student nurses participating in the research were informed about the study, and advised that participation was voluntary and that indi-

vidual information would be kept confidential. The principles of the Declaration of Helsinki were observed throughout the research.

### Study Design

This descriptive study aimed to determine the anxiety level and attitude of student nurses toward the profession during the COVID-19 pandemic. The target population consisted of university students studying in a nursing department in Turkey. The sample consisted of 1653 student nurses who participated in the study between April 25 and May 10, 2020. The formula  $n = (t^2 \times s^2) / d^2$  was used to calculate the sample size, applying the principle that the dependent variable is numerical in a group where the universe is not clear.<sup>[15]</sup> A study conducted Açıksoz et al.<sup>[16]</sup> was used as a reference publication for this research. In that study, the SD value in the Attitude Scale for Nursing Profession (ASNP) was 7.64. Since the correlation between dependent variables was to be investigated, a Cohen's effect size of 0.5 was used in the formula ( $t=1.96, s=7.64, d=0.5$ ), which yielded a minimum sample size of 896. The inclusion criteria were current undergraduate nursing student status, consent to participate in the research, and providing complete data. Those whose mother tongue was not Turkish were excluded.

### Data Collection Tools

A student information form, the ASNP and the State-Trait Anxiety Inventory (STAI) were used to collect the study data.

*Student Information Form:* Students were asked to respond to 7 questions posed to solicit data for descriptive characteristics related to gender, cohort year, age, individual motivation to join the program, attitude toward the nursing profession before the COVID-19 pandemic, attitude toward the profession during the pandemic, and their view of society's attitude towards the profession.<sup>[7-12]</sup>

*Attitude Scale for Nursing Profession:* The ASNP was developed by Çoban and Kaşıkçı<sup>[17]</sup> in 2010. The scale consists of 40 questions and includes 3 subdimensions that measure views on characteristics of the nursing profession (CNP), preference for the nursing profession (PNP), and general attitude toward nursing profession (GATNP). Each item is scored using a Likert-type scale of 1 (strongly disagree) to 5 (totally agree). The scale was found to have a Cronbach alpha coefficient of 0.91. Eight items (21, 23, 25, 26, 28, 30, 34, and 38) are scored in reverse. The scale does not use a total score and there is no cut-off score; high subscale scores reflect a positive attitude toward the nursing profession. This study used the PNP and GATNP subdimension scores. The possible score is 13-65 for the PNP and 9-45 for the GATNP. The Cronbach alpha value for each subdimension was 0.88 and 0.72, respectively.

*State-Trait Anxiety Inventory:* The STAI was developed by Spielberger et al.<sup>[18]</sup> A validity and reliability study of a Turkish version was conducted by Öner and Le Compte.<sup>[19]</sup> The state anxiety

ety (STAI-S) subscale was used in the present study to evaluate the respondents' feelings at the time of the assessment. Each statement is scored 1-4 to indicate a response of "not at all" to "very much so". Items 1, 2, 5, 8, 10, 11, 15, 16, 19, and 20 are reverse scored. The possible STAI-S score is 20-80. A low score indicates no or little anxiety while a higher score indicates a higher level of anxiety. In this study, the Cronbach alpha value of the scale was 0.93.

### Data Collection

The data were collected online due to the distance education format in place as a result of pandemic conditions. Students were invited to participate via social media and telephone, a link was provided to those who agreed to complete the questionnaire, and the answers of the people who filled out the form thoroughly were evaluated.

### Data Analysis

IBM SPSS Statistics for Windows, Version 25.0 (IBM Corp., Armonk, NY, USA) was used to evaluate the data. Descriptive statistics such as frequency, percentage, mean and SD were calculated. Normal distribution was evaluated with the Kolmogorov-Smirnov test. Since the data were not normally distributed, the Mann-Whitney U test was used to perform pairwise comparisons, the Kruskal-Wallis test was used to compare more than 2 variables, and the Spearman correlation test was used to determine the relationship between 2 variables. The variables found to be significant were re-evaluated using multiple linear regression analysis to determine the variable that most predicted greater state anxiety. A p level of <0.05 was considered statistically significant.

## Results

Of the students surveyed, 79.1% were women, 29.5% were in the fourth year of the nursing program, and 42.6% were in the 20-21 age group. Of these, 76.2% willingly chose the nursing department, and 86.7% reported a positive attitude toward the profession before the COVID-19 pandemic. While 60% did not change their attitude toward the profession despite the pandemic, 24.9% indicated a positive change. In addition, 80.7% stated that society's attitude toward the profession had improved since the pandemic (Table 1).

The mean PNP score of the students was  $51.13 \pm 8.61$ , and the mean GATNP score was  $34.82 \pm 2.80$ . The mean STAI-S score was  $43.95 \pm 11.17$  (Table 2).

Table 1 illustrates the analysis of the factors affecting the mean STAI-S subscale score. The PNP and GATNP scores were higher in females ( $51.75 \pm 8.26$ ,  $34.96 \pm 2.61$ ) compared with those of males ( $48.79 \pm 9.46$ ,  $34.28 \pm 3.39$ ), those who willingly chose the department ( $53.40 \pm 7.21$ ,  $34.91 \pm 2.76$ ) versus those enrolled due to family pressure or other reasons ( $43.88 \pm 8.72$ ,  $34.53 \pm 2.92$ ), and those who had a positive at-

titude toward the profession before the COVID-19 pandemic ( $52.85 \pm 7.19$ ,  $34.96 \pm 2.70$ ) than those with a negative prior attitude ( $39.99 \pm 8.76$ ,  $33.85 \pm 3.25$ ) ( $p < 0.05$ ). The PNP and GATNP scores were higher in those whose attitudes toward the profession changed positively following the outbreak ( $52.39 \pm 8.25$ ,  $35.13 \pm 2.75$ ) and those whose attitudes did not change ( $51.80 \pm 8.60$ ,  $34.81 \pm 2.77$ ) compared with those who had a negative change in attitude ( $43.55 \pm 8.61$ ,  $34.22 \pm 3.46$ ) and those who were undecided ( $47.55 \pm 6.94$ ,  $34.35 \pm 2.74$ ) ( $p < 0.05$ ). Respondents who said that the society's attitude toward the profession had changed positively since the onset of the COVID-19 pandemic ( $51.60 \pm 8.25$ ) had a higher PNP score than those who said that there had been a negative change in public opinion ( $50.03 \pm 8.74$ ) or no change ( $48.23 \pm 10.70$ ). Those who said that society's attitude toward the profession had changed positively ( $34.91 \pm 2.75$ ) had a higher GATNP score than those who said it had not changed ( $34.17 \pm 3.00$ ) ( $p < 0.05$ ).

The analysis of the factors affecting the STAI-S score also indicated that the mean score was higher in females ( $44.40 \pm 11.12$ ) than males ( $42.26 \pm 11.20$ ), those who actively wanted to pursue nursing ( $47.23 \pm 11.64$ ) than those who pursued it unwillingly ( $42.93 \pm 10.82$ ), those who had a negative attitude toward the profession prior to the pandemic ( $48.52 \pm 11.80$ ) than those who had a positive attitude ( $43.25 \pm 10.91$ ), those whose attitudes toward the profession changed negatively ( $50.37 \pm 12.74$ ) than those who were undecided about a change in their attitude ( $47.26 \pm 10.03$ ), those who reported no change ( $43.32 \pm 11.08$ ), and those who experienced a positive change in attitude following the outbreak of the pandemic ( $42.94 \pm 11.00$ ) ( $p < 0.05$ ) (Table 1).

There was a weak, negative relationship between the STAI-S and the PNP ( $r = -0.279$ ) and the GATNP ( $r = -0.140$ ) ( $p < 0.05$ ) (Table 3). As demonstrated in the regression analysis results in Table 4, the 2 variables that predicted the students' STAI-S mean score were the PNP ( $\beta = -0.266$ ) and gender ( $\beta = 0.119$ ) ( $p < 0.01$ ).

## Discussion

This study was designed to assess the attitudes of nursing students regarding the profession and their level of anxiety during the COVID-19 pandemic, and the results indicated that the students' feelings about a preference for the profession and their attitudes toward the nursing profession were reasonable. The professional identity of nurses in this challenging time has been the subject of some discussion, including students' concerns about preparedness given circumstances of limited supervision.<sup>[20]</sup> Pandemic-related inability participate in the normal clinical training, difficulties contacting educators and resources in a virtual environment, encountering obstacles to their education and evaluation, and experiencing economic difficulties, has resulted in some distress.<sup>[21,22]</sup> However, our findings suggest that despite all of these problems, the general attitude of the students surveyed toward the profession of nursing was not adversely affected in Turkey.

**Table 1. Factors affecting nursing students' PNPS, GATNPS, and STAI-S scores**

Variables	n (%)	PNP	GATNP	STAI-S
		Mean±SD	Mean±SD	Mean±SD
<b>Gender</b>				
Female	1308 (79.1)	51.75±8.26	34.96±2.61	44.40±11.12
Male	345 (20.9)	48.79±9.46	34.28±3.39	42.26±11.20
z		-5.323	-2.888	-2.861
p		.000	.004	.004
<b>Program year</b>				
1	486 (29.4)	51.73±8.03	34.78±2.75	44.18±11.56
2	340 (20.6)	51.39±8.07	34.79±2.93	44.20±10.31
3	339 (20.5)	51.34±8.60	34.77±2.84	43.05±10.56
4	488 (29.5)	50.21±9.44	34.90±2.75	44.18±11.74
x <sup>2</sup>		4.809	1.160	2.984
p		.186	.762	.394
<b>Age (years)</b>				
18-19	354 (21.4)	51.91±7.65	35.01±2.68	44.02±11.13
20-21	705 (42.6)	51.33±8.71	34.84±2.77	43.73±11.10
22-23	471 (28.5)	50.21±8.96	34.76±2.81	44.56±11.42
≥ 24	123 (7.5)	51.29±9.03	34.29±3.28	42.72±10.65
x <sup>2</sup>		7.595	2.321	2.403
p		.055	.508	.493
<b>Choosing the nursing profession willingly</b>				
Yes	1259 (76.2)	53.40±7.21	34.91±2.76	42.93±10.82
No	394 (23.8)	43.88±8.72	34.53±2.92	47.23±11.64
z		-18.162	-2.335	6.455
p		.000	.020	.000
<b>Attitude toward the profession before the COVID-19 pandemic</b>				
Positive	1433 (86.7)	52.85±7.19	34.96±2.70	43.25±10.91
Negative	220 (13.3)	39.99±8.76	33.85±3.25	48.52±11.80
z		-17.727	-4.861	-6.392
p		.000	.000	.000
<b>Attitude toward the profession during the COVID-19 pandemic</b>				
Positive	411 (24.9)	52.39±8.25	35.13±2.75	42.94±11.00
Negative	70 (4.2)	43.55±8.61	34.22±3.46	50.37±12.74
No change	992 (60.0)	51.80±8.60	34.81±2.77	43.32±11.08
Undecided	180 (10.9)	47.55±6.94	34.35±2.74	47.26±10.03
x <sup>2</sup>		116.483	12.232	43.763
p		.000	.007	.000
<b>View of society's attitude toward the profession since the COVID-19 pandemic</b>				
Positive	1334 (80.7)	51.60±8.25	34.91±2.75	43.94±11.01
Negative	167 (10.1)	50.03±8.74	34.65±3.00	43.14±11.23
No change	152 (9.2)	48.23±10.70	34.17±3.00	44.94±12.41
x <sup>2</sup>		15.730	8.257	1.926
p		.000	.016	.382

Z: Mann-Whitney U test; x<sup>2</sup>: Kruskal-Wallis test. GATNP: General attitude toward nursing profession; PNP: Preference for the nursing profession; STAI-S: State anxiety scale.

The valuable frontline role of healthcare professionals during the pandemic has been widely recognized and likely played a role in the students' perspective. In this study, 24.9% of the

students reported a positive perspective regarding the profession. Our results indicated that 80.7% of the students thought that there had been a positive change in society's perspective

**Table 2. Mean PNP, GATNP, and STAI-S scores**

Scales	Mean±SD	Median	Min-Max
Preference for nursing profession subscale	51.13±8.61	52	15-65
General attitude toward nursing profession subscale	34.82±2.80	35	17-43
State anxiety scale	43.95±11.17	44	20-80

GATNP: General attitude toward nursing profession; PNP: Preference for the nursing profession; STAI-S: State anxiety scale.

**Table 3. Correlation between PNP, GATNP, and STAI-S**

		STAI-S	PNP	GATNP
STAI-S	r	1.000	-0.279	-0.140
	p	-	0.000	0.000
	N	1653	1653	1653
PNP	r	-0.279	1.000	0.357
	p	0.000	-	0.000
	N	1653	1653	1653
GATNP	r	-0.140	0.357	1.000
	p	0.000	0.000	-
	N	1653	1653	1653

GATNP: General attitude toward nursing profession; PNP: Preference for the nursing profession; STAI-S: State anxiety scale.

of the profession since the outbreak of COVID-19. Another study has noted improvement in the perspective of patients and society; patients were grateful for the efforts of the nurses to provide the best care possible in challenging conditions and for their respectful and generous dedication.<sup>[23]</sup> It has also been reported that nursing students understood the importance of the profession to society as well as the potential risks.<sup>[13]</sup> However, another study conducted in Turkey reported that a positive perspective of the nursing profession had decreased

among students during the pandemic (63.4% before vs. 50.6% after).<sup>[24]</sup>

In this study, we found that nursing students had a moderate level of state anxiety during the COVID-19 pandemic. However, the mean score was higher than that of some studies conducted before the pandemic.<sup>[25-28]</sup> The higher level of anxiety may reasonably be due to the fear of being infected with the virus, the unusual conditions they were forced manage, or insufficient coping skills.<sup>[10,29]</sup>

The present study determined that nursing students who were female, joined the department willingly, had a positive attitude toward the profession prior to the COVID-19 pandemic, and whose attitude toward the profession had changed positively during the pandemic had a more positive attitude toward the nursing profession. To the best of our knowledge, there is no other study that has measured the attitude of nursing students in Turkey during the pandemic who may have joined the profession reluctantly. Previous research has also shown that generally, the attitude of Turkish nurses is positive.<sup>[30]</sup> It has also been noted that student nurses who were female, looked forward to entering the profession, and were satisfied with their career path demonstrated a particularly positive attitude.<sup>[31-33]</sup> The present study carried out during the challenging conditions of the pandemic is valuable in terms of demonstrating which students may be at risk of leaving the profession and provide useful information for student guidance.

In this study, a higher state anxiety level was demonstrated by nursing students who were female, had joined the profession reluctantly, had a negative attitude toward the nursing profession before the COVID-19 pandemic, and exhibited a negative attitude toward the profession during the pandemic. Other research has recorded similar findings.<sup>[34]</sup> It has been noted that female students had a higher stress level than males, and that those in the 18-20 age group had a higher stress level than those who were older.<sup>[29]</sup> A study of nursing students in Israel conducted during the COVID-19 pandemic found that female

**Table 4. Results of regression analysis between the state anxiety level and variables**

Variables	B	SE	β	t	p
PNP	-0.345	0.041	-0.266	-8.349	0.000
GATNP	-0.157	0.102	-0.039	-1,548	0.122
Age	-0.302	0.791	-0.011	-0.382	0.703
Gender	3.276	0.655	0.119	4.999	0.000
Program year	0.673	0.709	0.027	0.949	0.343
Choosing the nursing profession willingly	-0.979	0.723	-0.037	-1.355	0.176
Attitude toward the profession before the COVID-19 pandemic	-0.446	0.919	-0.014	-0.485	0.628
Attitude toward the profession since the COVID-19 pandemic	-0.881	0.618	-0.034	-1.426	0.154
Society's attitude toward the profession since the COVID-19 pandemic	0.792	0.674	0.028	1.175	0.240

R=0.318, R<sup>2</sup>=0.101, F=20.510, p<0.01

GATNP: General attitude toward nursing profession; PNP: Preference for the nursing profession; STAI-S: State anxiety scale.

gender, inadequate personal protective equipment, and fear of infection were associated with a high level of anxiety.[10] A study conducted during the COVID-19 pandemic determined that positive perspectives of the profession among Turkish nursing students had declined and that the state anxiety level of those who had a negative or uncertain view of the profession expressed greater anxiety and reluctance to pursue the profession.<sup>[24]</sup> Such findings remind us of the importance of considering the role of anxiety on motivation and the need for appropriate measures to address its impact. Students with moderate anxiety need to know that their anxiety level is manageable and have the tools to protect themselves and move forward in their academic career.

Finally, there was a weak and negative relationship between the nursing students' state anxiety level and attitudes toward the nursing profession. Similarly, Cici and Yilmazel<sup>[24]</sup> found that negative attitudes toward the profession were associated with greater anxiety. It is essential to determine the factors that predict the relationship between a student's anxiety level and their attitude toward the nursing profession. The reasons for pursuing the profession, their career goals, and whether they plan to work as a nurse after graduation should be evaluated and considered in order to provide appropriate guidance.

## Conclusion

This study determined that the nursing students surveyed generally demonstrated moderate state anxiety and had a positive attitude toward the profession. There was a weak, negative correlation between state anxiety and attitude toward the nursing profession. In addition, female gender, choosing the department willingly, and a positive attitude toward the profession prior to and during the pandemic affected both state anxiety and attitude toward the profession. The 2 most important predictors of state anxiety were the PNP score and gender. Female gender and personal motivation to pursue the vocation were essential characteristics that were associated with lower student anxiety.

Students must be given the tools to manage their anxiety. Programs that will contribute to the development of a professional attitude could benefit from the identification of students who were negatively affected by the pandemic and the contributing factors. In addition, students with moderate anxiety should be followed up after graduation and supported to ensure that they do not experience more severe anxiety while working in clinical settings.

## Study Strengths and Limitations

A strength of this study is that it was carried out during a quarantine period when distance education was required, which had a considerable impact on the level of student anxiety, and therefore provides valuable data. The most important limitation of the study is that since the research was conducted on-

line, the students could not ask the researchers about items they did not understand while answering the questions and scales. Furthermore, if the research could have been conducted in a face-to-face environment, the purpose of the study could have been better expressed, and perhaps greater participation could have been achieved.

**Conflict of interest:** There are no relevant conflicts of interest to disclose.

**Peer-review:** Externally peer-reviewed.

**Authorship contributions:** Concept – A.Y.; Design – A.Y.; Supervision – A.Y., E.B.Y.; Fundings – A.Y., E.B.Y.; Materials – A.Y.; Data collection &/or processing – A.Y.; Analysis and/or interpretation – A.Y., E.B.Y.; Literature search – E.B.Y.; Writing – E.B.Y.; Critical review – A.Y., E.B.Y.

## References

1. Turkish Academy of Sciences. The COVID-19 Pandemic Assessment Report. Available at: <http://www.tuba.gov.tr/files/images/2020/kovidraporu/Covid-19%20Raporu-Final+.pdf>. Accessed May 3, 2020.
2. WHO. Coronavirus disease 2019 (COVID-19) Situation Report–99. Available at: [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200428-sitrep-99-covid-19.pdf?sfvrsn=119fc381\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200428-sitrep-99-covid-19.pdf?sfvrsn=119fc381_2). Accessed May 3, 2020.
3. Praghlapati A. COVID-19 impact on students. Available at: <https://osf.io/xm9w4/>. Accessed Jun 12, 2020.
4. Tang W, Hu T, Yang L, Xu J. The role of alexithymia in the mental health problems of home-quarantined university students during the COVID-19 pandemic in China. *Pers Individ Dif* 2020;165:110131.
5. Duong V, Luo J, Pham P, Yang T. The ivory tower lost: How college students respond differently than the general public to the COVID-19 pandemic. Available at: <https://arxiv.org/abs/2004.09968>. Accessed Jun 12, 2020.
6. Khodabakhshi-koolaei A. Living in home quarantine: Analyzing psychological experiences of college students during Covid-19 pandemic. *J Mil Med* 2020;22:130–8.
7. Islam A, Barna SD, Raihan H, Khan NA, Hossain T. Depression and anxiety among university students during the Covid-19 pandemic in Bangladesh: A web-based cross-sectional survey. *Plos ONE* 2020;15:e0238162.
8. Son C, Hegde S, Smith A, Wang X, Sasangohar F. Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *J Med Internet Res* 2020;22:e21279.
9. Aylie NS, Mekonen MA, Mekuria RM. The psychological impacts of COVID-19 pandemic among university students in Bench-Sheko Zone, South-west Ethiopia: A community-based cross-sectional study. *Psychol Res Behav Manag* 2020;13:813–21.
10. Savitsky B, Findling Y, Erel A, Hendel T. Anxiety and coping strategies among nursing students during the covid-19 pandemic. *Nurse Educ Pract* 2020;46:102809.

11. Collado-Boira EJ, Ruiz-Palomino E, Salas-Media P, Folch-Ayora A, Muriach M, Baliño P. "The COVID-19 outbreak"-An empirical phenomenological study on perceptions and psychosocial considerations surrounding the immediate incorporation of final-year Spanish nursing and medical students into the health system. *Nurse Educ Today* 2020;92:104504.
12. Kürtüncü M, Kurt A. Problems of nursing students in distance education in the Covid-19 pandemic period. *Eur J Res Soci Economics* 2020;7:66-77.
13. Lovric R, Farcic N, Miksic S, Vcev A. Studying during the COVID-19 pandemic: A qualitative inductive content analysis of nursing students' perceptions and experiences. *Educ Sci* 2020;10:188.
14. Dewart G, Corcoran L, Thirsk L, Petrovic K. Nursing education in a pandemic: Academic challenges in response to COVID-19. *Nurse Educ Today* 2020;92:104471.
15. Aktürk Z, Acemoğlu H. Sağlık çalışanları için araştırma ve pratik istatistik: Örnek problemler ve SPSS çözümleri. 2. Baskı. İstanbul: Anadolu Matbaası, 2011.
16. Açıköz S, Uzun Ş, Arslan F. Assessment of relationship between nursing students' self-efficacy and levels of their anxiety and stress about clinical practice. *Gülhane Tıp Derg* 2016;58:129-35.
17. Coban Gİ, Kasikci M. Development of the attitude scale for nursing profession. *Int J Nurs Pract* 2011;17:518-24.
18. Spielberger CD, Gorsuch RL, Lushene RE. Manual for Stait-Trait anxiety inventory. California: Consulting Psychologist Press; 1970.
19. Öner N, Le Compte A. Durumluk-sürekli kaygı envanteri el kitabı. 2. Baskı. İstanbul: Boğaziçi Üniversitesi Yayınları; 1983.
20. Swift A, Banks L, Baleswaran A, Cooke N, Little C, McGrath L, et al. COVID-19 and student nurses: A view from England. *J Clin Nurs* 2020;29:3111-4.
21. Ezhilarasu P. Move towards virtual learning in the context of COVID-19 pandemic: Opportunities and challenges. *Indian J Cont Nsg Edn* 2020;21:2-3.
22. Puljak L, Čivljak M, Haramina A, Mališa S, Čavić D, Klinec D, et al. Attitudes and concerns of undergraduate university health sciences students in Croatia regarding complete switch to e-learning during COVID-19 pandemic: A survey. *BMC Med Educ* 2020;20:416.
23. Galehdar N, Toulabi T, Kamran A, Heydari H. Exploring nurses' perception of taking care of patients with coronavirus disease (COVID-19): A qualitative study. *Nurs Open* 2020;8:171-9.
24. Cici R, Yilmazel G. Determination of anxiety levels of perspectives on the nursing profession among candidate nurses with relation to the COVID-19 pandemic. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7436916/>. Accessed Aug 25, 2020.
25. Karagözoğlu Ş, Özden D, Türk G, Yıldız FT. Anxiety, stress levels experienced by nursing students studying in the classical and-integrated curriculum in their first clinical practice and some affecting factors. *J Dokuz Eylül Univ Nurs Faculty* 2014;7:266-74.
26. Arabacı LB, Korhan EA, Tokem Y, Torun R. Nursing students' anxiety and stress levels and contributed factors before-during and after firsts clinical placement. *J Hacettepe Univ Faculty Nurs* 2015;2:1-16.
27. Çelik GG, Eşer İ. Effect of touching on anxiety and practice skill of nursing students during intravenous catheterization skill training. *J Human Sci* 2017;14:1820-30.
28. Çevik K, İnce S, Ayçeman N, Ergin E. Effects of aroma inhalation on anxiety and vital signs of nursing students during their first blood drawing practice. *Int J Health Sci* 2017;7:243-52.
29. Aslan H, Pekince H. Nursing students' view on the COVID-19 pandemic and their perceived stress levels. *Perspect Psychiatr Care* 2020;57:695-701.
30. Tarhan G, Kılıç D, Yıldız E. Investigation of the relationship between attitudes towards the nursing profession and occupational professionalism. *Gülhane Tıp Derg* 2016;58:411-6.
31. Zencir G, Eşer İ. Nursing students' attitudes towards the nursing profession, nursing preferred with the relationship between: Example of Turkey. *Dokuz Eylül Univ Faculty Nurs Elect J* 2016;9:30-7.
32. Göl İ. Nursing students' attitudes towards the nursing profession in relation to their altruism levels. *Int J Caring Sci* 2018;11:663-71.
33. Mahmoud SR, Abd-Elhafez KH, Marzouk SA, Yousef YE, Gad E, Mohamed NA. Nursing students' attitudes toward nursing profession and its relation to study adjustment. *Int J Nurs Didactics* 2019;9:9-16.
34. Huang L, Xu F, Liu H. Emotional responses and coping strategies of nurses and nursing college students during COVID-19 outbreak. Available at: <https://www.medrxiv.org/content/10.1101/2020.03.05.20031898v1.full.pdf>. Accessed May 3, 2020.