Original Article

Examination of the Impact of the COVID-19 Pandemic on Nursing Students' Stress Levels in Turkey

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Abstract
Background: The Covid-19 affected all stages of the education system, from preschool education to higher education and uncertainties in education caused various health problems, especially stress.
Aim: The aim of the study was to examine the impact of the COVID-19 pandemic on nursing students' stress levels in Turkey.
Methodology: It is a cross-sectional web-based survey. The population of the study includes the students of a Nursing Department of a Faculty of Health Sciences of a state university in Turkey (N=739). The sample of this study consisted of 311 nursing students. The data were collected via Google Forms using the "Sociodemographic Data Collection Form", "Questionnaire Form Regarding the Changes in Stress Level Caused by the COVID-19 Pandemic", and "Perceived Stress Scale (PSS-14)". Descriptive statistics, One Way ANOVA, Student's t-test and multiple linear regression analysis were adopted for data analysis.
Results: It was determined that students experienced moderate stress during the COVID-19 pandemic period [Perceived Stress Scale-14 (PSS-14) mean score was 29.81±7.33]. Results suggest that PSS-14 total mean scores and the variables of "I have trouble overcoming the problems in my life", "I have difficulty in concentrating", and "I feel restless and angry" were statistically significant ($p<0.05$).
Conclusion: These results revealed that the pandemic affects the stress level of the students and that the students experience moderate stress.

Keywords: COVID-19, nursing students, stress level, stress

Introduction

Emerging in Wuhan, China for the first time in the last months of 2019 and spreading rapidly in just a few months from the beginning of 2020, the Coronavirus outbreak has been announced as a pandemic by the World Health Organization (WHO); besides, it has infected about 636 million (continues to increase) people worldwide to date and has led to the deaths of an average of 6,6 million people (still increasing) (Worldometers, 2022). To slow down the spread of the virus and reduce its spread to other regions, many countries have implemented quarantines so far and mass meetings such as congresses, conferences, seminars and social organizations (wedding, etc.) were canceled and movement between countries was restricted (Do, 2020). The COVID-19 disease, which started as a health crisis, has quickly affected social and economic life and created political effects (Do, 2020). The pandemic has not only affected the morbidity and mortality rates, but also the mental health of the individuals (Sheroun et al., 2020). The factors such as uncertainty about the course of the disease, poor prognosis of the disease, high contagiousness rate, the fact that daily routines and social relationships have changed, changes and uncertainties in the education/school process, changes in business process and income level, stigmatization of sick people, insufficient reserves for medical intervention, and insufficient distribution of protective equipment have caused many

psychological problems such as stress, anxiety, sleep disorder, disappointment, anxiety, anger, and behavioral disorders in individuals (Sheroun et al., 2020; Huang, Xu, & Liu, 2020). As a matter of fact, in many studies examining the effects of the pandemic on perceived stress, it was observed that all age groups were affected by the pandemic and experienced moderate-high levels of stress (Wang et al., 2020; Vuong et al., 2020; Huang et al., 2020; Savitsky, Findling, Ereli, & Hendel, 2020; Limcaoco, Mateos, Fernández, & Roncero, 2020). The COVID-19 has also affected all stages of the education system, from preschool education to higher education and in many countries, education and training activities have started to be performed by the distance learning methods (Nicola et al., 2020; Kapasia et al., 2020; Wang et al., 2020; Gao et al., 2020). This change had positive and negative effects on students' education. There has been a digital transformation in education through online lectures, teleconferencing, digital open books, online exams, and interactions in virtual environments and online education infrastructure has been strengthened (Kapasia et al. 2020). However, several reasons such as restriction of face-to-face communication between students due to online education, increased time spent on social media due to having nothing to do, groundless information about the coronavirus obtained via social media, economic losses, failure to access online sources (having no computer or internet connection, not knowing how to access, etc.), problems in using technology, fear of failure increased stress, anger and similar symptoms in students (Lee, 2020; Gao et al., 2020; Savitsky et al., 2020). Nursing education that consists of theoretical and clinical training is generally a stressful process (Savitsky et al., 2020; Karaca, Yildirim, Ankaralı, Acıkgoz, & Akkus, 2015). The pandemic period also affected the quality of life and educational activities of nursing students, like students continuing their education in other departments. Besides, nursing students were also exposed to additional stress factors such as fear of getting infected (Savitsky et al., 2020). Theoretical courses were tried to be completed through online education, but clinical training could not be conducted and professional skills could not be acquired in real environment. In the literature, it has been stated that the fact that nursing students are exposed to long-term and uncontrollable stress during their education and learning processes is a factor that negatively affects the professional development and health status of nursing students, and that subverts nurses' thinking and decision-making competencies and decreases their academic success. Additionally, the necessity of determining the factors that cause stress in students and conducting studies to develop coping methods during nursing education has been underlined (Theofanidis & Fountouki, 2022; Karaca et al., 2015; Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2012). Departing from this information, this research was planned to examine the stress level nursing students experience due to the COVID-19 pandemic and to take the necessary precautions.

Research Question

1. What is the stress level nursing students experience due to the COVID-19 pandemic?

Methodology

Study Design: The study was a cross-sectional web-based survey.

Sample: The population of the study includes the students of a Nursing Department of a Faculty of Health Sciences of a state university in Turkey (N=739). The sample of the study, on the other hand, was calculated as 253 students with 90% power and 95% confidence interval, using the sampling method with known universe. Although the number of samples calculated online was reached in 15 days, the data collection tool was left online for another 15 days to ensure the maximum sample size. At the end of 30 days, 311 students in total filled the forms completely and 42% of the universe was reached (n=311).

Data Collection Tools

Sociodemographic data collection form: This form that was developed by the researcher after the literature review contains questions investigating the students' age, gender, grade level, economic status perception, cumulative grade point average, and region of resident in Turkey (7 items).

Questionnaire Form Regarding the Changes in Stress Level Caused by the COVID-19 Pandemic: This form was developed by the researchers after the literature review (Gross

& Seebaß, 2014; Henry & Crawford, 2005; Levenstein et al., 1993) and consists of 12 statements regarding stress responses.

Perceived Stress Scale (PSS-14): The PSS-14, which was developed by Cohen et al. (1983) (Cohen, Kamarck, & Mermelstein, 1983), adopted to Turkish by Eskin et al. (2013) (Eskin, Harlak, Demirkıran, & Dereboy, 2013), consists of subscales of 'Inadequate Self-Efficacy' and 'Stress-Discomfort Perception', and contains 14 items in total. The 5-point Likert-type PSS-14, which was developed to measure the degree to which situations in one's life are appraised as stressful, ranges from 0 (never) to 4 (very often). In the scale, items 4, 5, 6, 7, 9, 10, and 13 were reverse scored. Scores of the PSS-14 range from 0-56, with higher scores indicating greater perceived stress. The Cronbach's alpha coefficients of the scale were 0.84.

Data Collection: The data for this study were collected online via Google forms from 14 May 2020 to 14 June 2020 in Turkey. The first part of the form started with an informative text which stated information on the study and that participation in the study was on a voluntary basis, the collected data would only be used for the purpose of the study, and the data would not be shared with other persons/institutions. The form had a "yes/no" button that questioned the consent of the potential participants to participate in the study after receiving information. The students who marked the option "yes" and provided consent could move on to the survey and answer the questions. The second part was a "Socio-Demographic Data Collection Form", the third part was a "Questionnaire Form Regarding the Changes in Stress Level Caused by the COVID-19 Pandemic", and the fourth part was a "Perceived Stress Scale". The online data collection tool was published for 30 days. The whole process took about 10 min.

Statistical Analysis: The data that were collected in the study were analysed using IBM SPSS v.23.0 (IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.). The normality and homogeneity of the data were evaluated by the Kolmogorov-Smirnov and the Levene's tests, respectively. The results are presented as mean ± standard deviation or frequency and percentage. One Way ANOVA and Student's t-test were used for comparisons between groups. Forward stepwise multiple linear regression analysis was used to determine the relationship between the PSS-14 and the other variables. Statistical significance value was accepted as $p<0.05$.

Ethics Considerations: Ethics committee approval was obtained from the Bursa Uludag University Faculty of Medicine Clinical Researches Ethics Committee (Decision no. 2020-8/8, dated May 13, 2020). In order to conduct the study approval was obtained from the Scientific Research Committee of the Republic of Turkey Ministry of Health (dated April 29, 2020). All the students were informed about the purpose of the research and that the participation is voluntary.

Informed Consent: Informed consent was obtained from all the students who participated in this study.

Results

The mean age of the students was 21.06±1.96 years; 257 (82.6%) of the them were female; 76 (24.4%) of them were at 1st grade; 14 (4.5%) of them had a cumulative grade point average between 1.00-1.99 points. 46 (14.8%) of the students had a 'well' economic situation perception, and 185 (59.5%) of them live in the Marmara Region. The number of students following the developments related to the COVID-19 pandemic was 306 (98.4%) (Table 1).

The students' PSS-14 total mean score was 29.81±7.33, Inadequate Self-Efficacy subscale mean score was 13.70±4.55, and Stress-Discomfort Perception subscale mean score was 16.10±5.41. Female students' PSS-14 Stress-Discomfort Perception subscale and total mean score was found to be higher than male students ($p<0.05$). The PSS-14 Inadequate Self-Efficacy subscale mean score of the students having a 'weak' economic situation perception, students with a point average between "1.00-1.99", and the students who live abroad were found to be higher ($p<0.05$). There was no statistically significant difference between the grade level variable and the PSS-14 subscale and total mean scores ($p>0.05$) (Table 2).

The PSS-14 total mean scores of the students who stated that they feel stressed because of the pandemic, experience fear of death, are

worried about their own health, feel anger that their life has been restricted, feel future anxiety, feel restless and angry, give exaggerated reactions to events they encounter were found to be higher ($p<0.01$) (Table 3).

According to the model formed as a result of multiple linear regression analysis made with the students' statements about the changes in stress levels caused by the COVID-19 pandemic; it was determined that the variable that most affected the PSS-14 total score was the variable of "I have trouble overcoming the problems in my life because of the pandemic". A one-unit increase in the statement of having trouble overcoming the problems because of the pandemic increases the PSS-14 total score by 0.29 points ($p<0.05$) (Table 4).

Table 1. Distribution of Students' Socio-Demographic Characteristics

Characteristics	n	%
Age (X ± SD) 21.06 ± 1.96		
Gender		
Female	257	82.6
Male	54	17.4
Grade		
1st grade	76	24.4
2nd grade	67	21.5
3rd grade	95	30.5
4th grade	73	23.5
Cumulative Grade Point Average (CGPA)		
1.00-1.99	14	4.5
2.00-2.99	155	49.8
3.00-4.00	142	45.7
Economic Status Perception		
Well	46	14.8
Moderate	249	80.1
Weak	16	5.1
Region of Residence		
Marmara Region	185	59.5
Aegean Region	28	9.0
Mediterranean Region	12	3.9
Central Anatolia Region	21	6.8
Black Sea Region	16	5.1
Eastern Anatolia Region	20	6.4
Southeastern Anatolia Region	20	6.4
Abroad	9	2.9
Do you follow the developments associated with the COVID-19 pandemic?		
Yes	306	98.4
No	5	1.6
Total	311	100.0

Table 2. Comparison of subscale and total mean scores of PSS-14 with students' sociodemographic characteristics

Variables	Inadequate Self-Efficacy Subscale (X̄±SS)	Stress-Discomfort Perception Subscale (X̄±SS)	PSS-14 (X̄±SS)
Gender			
Female	13.72±4.32	16.54±5.36	30.27±7.35
Male	13.59±5.56	14.01±5.22	27.61±6.85
t; p	0.198;0.843	**3.164; 0.002**	**2.448; 0.015**
Grade Level			
1st Grade	13.84±4.66	16.25±5.69	30.09±8.07
2nd Grade	13.94±4.14	16.94±5.27	30.88±7.41
3rd Grade	13.72±4.84	15.50±5.10	29.22±7.04
4th Grade	13.32±4.55	15.98±5.63	29.31±6.81
F;p	0.247;0.370	0.948;0.637	0.827; 0.480
Economic Status Perception			
Good (1)	13.63±4.26	15.67±5.28	29.30±6.44
Neutral (2)	13.53±4.45	16.18±5.32	29.72±7.40
Bad (3)	16.56±6.10	16.12±7.32	32.68±8.30
F;p	**3.381;0.035**	0.174; 0.840	1.362; 0.258
Multiple Comparison *	(2-3) p=0.029	-	-
General Academic Average			
1.00-1.99 (1)	16.21±5.69	15.21±6.53	31.42±8.56
2.00-2.99 (2)	14.20±4.86	15.99±5.64	30.19±7.75
3.00-4.00 (3)	12.91±3.90	16.32±5.06	29.23±6.70
F;p	**5.318;0.005**	0.336; 0.715	0.983; 0.375
Multiple Comparison *	(1-3) p=0.028 (2-3) p=0.043	-	-
Region of Residence			
Marmara Region (1)	13.59±4.39	16.49±5.24	30.08±7.43
Aegean Region (2)	12.50±3.75	15.57±4.88	28.07±6.96
Mediterranean Region (3)	14.41±3.94	15.25±5.65	30.66±4.31
Central Anatolia Region (4)	12.61±2.87	17.61±4.82	30.23±5.67
Black Sea Region (5)	13.68±6.48	15.31±6.87	29.00±9.36
Eastern Anatolia Region (6)	12.85±4.34	16.05±3.97	28.90±5.45
Southeastern Anatolia Region (7)	15.20±4.68	15.35±5.70	30.55±8.38
Abroad (8)	19.88±5.84	15.44±6.40	29.33±9.16
F;p	**3.470; 0.001**	2.542; 0.124	0.397; 0.904
Multiple Comparison *	(1-8) p=0.001 (2-8) p=0.001 (6-8) p=0.003	-	-
Total Mean Score	13.70±4.55	16.10±5.41	29.81±7.33

PSS-14: Perceived Stress Scale, X̄: Mean, SS: Standard Deviation, t: student t test, F: One Way ANOVA, *The Bonferroni test was used in multiple comparison.

Table 3. Comparison of Students' Answers to the Statements Regarding the Changes in Stress Levels Caused by the COVID-19 Pandemic with the PSS-14 Total Mean Score

	PSS-14 Total Score		
Statements Regarding Changes in Stress Level Caused by the COVID-19 Pandemic	**Mean (X̄±SS)**	**Statistical Analysis (F;p)**	**Multiple Comparison ***
I feel stressed because of the pandemic			
Yes (1)	30.50±7.14	**4.051; 0.018**	(1-3) p=0.028
No (2)	28.12±8.15		(1-2) p=0.044
Neutral (3)	27.39±6.29		
I experience fear of death because of the pandemic			
Yes (1)	32.85±6.43	**4.548; 0.011**	(1-3) p=0.029
No (2)	28.83±7.37		
Neutral (3)	02.02±8.15		
I'm afraid that my family members/friends will get sick because of the pandemic			
Yes (1)	29.91±7.43	0.978; 0.377	-
No (2)	29.90±6.78		
Neutral (3)	26.44±4.55		
I'm afraid to lose one of my family members/friends because of the pandemic			
Yes (1)	29.90±7.43	0.365; 0.694	-
No (2)	29.54±6.57		
Neutral (3)	27.57±7.13		
I'm worried about my own health because of the pandemic			
Yes (1)	30.54±6.86	**3.431; 0.034**	(1-3) p=0.035
No (2)	29.05±8.38		
Neutral (3)	26.82±5.39		
I feel anger that my life has been restricted because of the pandemic			
Yes (1)	32.95±6.56	**5.607; 0.004**	(1-2) p=0.005
No (2)	28.07±7.69		
Neutral (3)	30.62±8.28		
I feel future anxiety because of the pandemic			
Yes (1)	30.95±7.05	**13.719; 0.000**	(1-2) p=0.000
No (2)	26.58±7.58		(1-3) p=0.000
Neutral (3)	25.12±5.76		
I feel restless and angry because of the pandemic			
Yes (1)	38.96±6.95	**21.317; 0.000**	(1-2) p=0.000
No (2)	26.27±7.48		(1-3) p=0.023
Neutral (3)	31.78±4.98		
I give exaggerated reactions to events I encounter because of the pandemic			(1-2) p=0.000
Yes (1)	32.43±7.48	**13.318; 0.000**	(1-3) p=0.005
No (2)	28.18±6.83		
Neutral (3)	30.43±7.18		
I feel helpless because of the pandemic			
Yes (1)	32.24±7.79	**14.013; 0.000**	(1-2) p=0.000
No (2)	27.75±6.81		
Neutral (3)	30.35±4.79		

I have difficulty in concentrating because of the pandemic Yes (1) No (2) Neutral (3)	 32.52±7.27 26.93±6.65 28.58±4.43	 **24.366; 0.000**	 (1-2) p=0.000 (1-3) p=0.027
I have trouble overcoming the problems in my life because of the pandemic Yes (1) No (2) Neutral (3)	 34.00±7.12 26.60±6.28 30.94±7.33	 **43.788; 0.000**	 (1-2) p=0.000 (1-3(p=0.040 (2-3) p=0.001

PSS-14: Perceived Stress Scale, X̄: Mean, SS: Standard Deviation, t: student t test, F: One Way ANOVA,
* The Bonferroni test was used in multiple comparison.

Table 4. Multiple Linear Regression Analysis Results of Variables Affecting the PSS-14 Total Score

Independent Variables	**Unstandardized**		**Standardized**	***t***	***p***	***VIF***
	β	***SE***	***β***			
Constant	25.797	0.591		58.278	0.000	
I have trouble overcoming the problems in my life because of the pandemic (yes)	4.503	0.894	0.296	5.035	0.000	1.388
I have difficulty in concentrating because of the pandemic (yes)	2.430	0.862	0.166	2.819	0.005	1.393
I feel restless and angry because of the pandemic (yes)	2.105	0.839	0.143	2.509	0.013	1.299
***R^2*= 0.236; *Durbin Watson*= 1.742**						

Discussion

In this study, which was carried out to determine the impact of pandemic on nursing students' stress levels, students' PSS-14 total mean score was found to be 29.81±7.33, while Inadequate Self-Efficacy subscale mean score 13.70±4.55 and Stress-Discomfort Perception subscale mean score 16.10±5.41. These results show that the students' perception of stress due to the pandemic was moderate. Studies conducted on nursing students and university students have also reported that the stress levels of the students during the pandemic were from moderate to high (Sheroun et al., 2020; Savitsky et al., 2020; Cao et al., 2020; AlAteeq, Aljhani, & AlEesa, 2020; Theofanidis & Fountouki, 2021). In the study by Kapasia et al., the most common problems experienced by students whose schools were closed due to the pandemic were stress, depression and anxiety (Kapasia et al., 2020). Although the factors causing stress in students are various, many factors were thought to increase the stress level, such as: failure to predict the course of the disease during the pandemic period, uncertainties in education, failure to get enough information, false information spreading on social media, difficulties in accessing educational materials, concerns about online testing and assessment, fear of self/relatives getting infected/dying, restriction of social life, and economic losses.

In this study, the PSS-14 Stress-Discomfort Perception subscale and total mean scores of female students were found to be higher than male students ($p<0.05$; Table 2). In various studies conducted with nursing students (Huang et al., 2020; Savitsky et al., 2020) and in different groups in society (Vuong et al., 2020; Wang et al., 2020; Limcaoco et al., 2020; Theofanidis & Fountouki, 2022a) during the pandemic period, it was found that the stress levels of women were higher. These results suggested that gender in every period has a significant effect on perceived stress and that women experience more stress due to their gender characteristics, such as being more sensitive and fragile compared to men, and different methods of coping with stress.

In this study, there was no statistically significant difference between grade level and PSS-14 subscale and total mean score ($p>0.05$; Table 2). These results show that the grade level of the students does not affect the perceived stress level. The fact that the pandemic period affects students similarly was thought to be related to the similar problems experienced by the students.

It is stated in the literature that people's socio-economic status and their perceptions of economic situation are effective variables in stress management (Wang et al., 2013; Bayram, Keskin, & Derebasi, 2016). In different studies conducted in the general population during the COVID-19 pandemic period, it was observed that the economic situation is a factor affecting the stress level (Wang et al., 2020; Vuong et al., 2020). In this study, the PSS-14 Inadequate Self-Efficacy subscale mean score of the students having a 'weak' economic situation perception was found to be higher ($p<0.05$; Table 2). Similar results have been reported in different studies (Zhi et al., 2020; Cao et al., 2020; Kapasia et al., 2020). It was thought that reasons such as economic uncertainties experienced during the COVID-19 pandemic, cutting of the student' scholarships due to interruption of face-to-face education, failure to access online education due to economic insufficiency, taking care of a sibling because of the fact that families have to work affected students' self-efficacy.

Self-efficacy is defined as the belief that an individual can initiate the necessary activities and get results in order to be effective on the events related to his life (Dikmen, Denat, Basaran & Filiz, 2016). It is stated in the literature that there is a significant relationship between self-efficacy beliefs and academic achievement (Rafii, Saremi Rasouli, Najafi Ghezeljeh, & Haghani, 2014; Dikmen et al., 2016), and that students who actively participate in their learning process cognitively, motivationally and behaviorally and study regularly and systematically make it easier to learn, be more successful and their self-efficacy level is high (Dikmen et al., 2016). In this study, the PSS-14 Inadequate Self-Efficacy subscale mean score of the students having a point average between

"1.00-1.99" was found to be higher ($p<0.05$; Table 2). The pandemic period affects all students; besides, it is an expected result that the self-efficacy of students who have low academic achievement and do not have sufficient professional knowledge and skills is low, and this result is consistent with the literature.

In this study, the PSS-14 Inadequate Self-Efficacy subscale mean score of the students who live abroad was found to be higher ($p<0.05$). It was thought that this result might be related to the factors such as the fact that students living abroad are away from their families due to the restrictions imposed in the country where they are studying, and the fact that social-economic support systems are insufficient in problems with housing and economic.

Stress, which is a universal experience, leads to the formation of various physiological, hormonal, emotional and psychological symptoms. If the individual is able to cope with these symptoms, the stress relieves, when coping mechanisms are ineffective, on the other hand, various mental health problems and negative emotions arise (Capik, Durmaz & Ozturk, 2017). Besides, long-term and overstress can cause impairment in cognitive functions (learning disability, attention deficit, etc.) (Yaribeygi, Panahi, Sahraei, Johnston & Sahebkar, 2017). In this study, the PSS-14 total mean scores of the students who feel stressed because of the pandemic were found to be higher ($p<0.05$; Table 3). In the literature, it has been stated that infectious diseases cause different emotional responses such as anxiety, stress and depression in individuals, as in SARS and Ebola virus outbreaks (Huang et al., 2020). In addition, it is known that decreased interpersonal communication worsens the problems caused by anxiety disorders/existing (AlAteeq et al., 2020). Difficulties possibly be experienced during distance education can cause stress, while rapidly implemented measures can cause extreme fear and social isolation, and lack of knowledge about infectious disease can cause panic. Uncertainty when the virus will be controlled and uncertainty of normalization are also factors leading to stress (AlAteeq et al., 2020; Sheroun et al., 2020). Living with restrictions in difficult times like the COVID-19 pandemic requires many lifestyle changes that lead to psychological distress and stress (Sheroun et al., 2020) and the stress level also increases in individuals with poor stress management (Kang, Li & Hu, 2020). Using the correct coping methods plays an important role in the process of adaptation to stress and helps the individual adapt to new and challenging situations (Birimoglu Okuyan & Deveci, 2020; Sheroun et al., 2020). In wide-ranging different studies, it was observed that one of the groups that experienced the most stress during the pandemic period was students (Limcaoco et al., 2020; Vuong et al., 2020; Wang et al. 2020; AlAteeq et al., 2020). In this study, the fact that the students who felt helpless because of the pandemic and who stated that they had trouble in overcoming the problems in their life had higher PSS-14 total mean scores ($p<0.01$; Table 3) revealed the necessity/importance of helping students in managing stress and developing effective coping methods.

In this study, the PSS-14 total mean score of the students, who stated that they were worried about their own health because of the pandemic and who experience fear of death, were found to be higher ($p<0.01$; Table 3). Savitsky et al. (2020) found that students with a high fear of getting COVID-19 infection had higher anxiety. This situation was associated with the fact that students may have felt close themselves to death in relation to the circumstances such as the COVID-19 infection to spread very quickly and to affect all age groups, the high contagiousness of the disease, it fatality in severe cases, lack of disease-specific treatment. However, it was observed that the same group of students did not experience similar concerns when it comes to the health of their relatives. It was observed that there was no statistically significant relationship between the PSS-14 total mean scores and variables of "I'm afraid that my family members/friends will get sick because of the pandemic", and "I'm afraid to lose one of my family members/friends because of the pandemic" ($p>0.05$; Table 3). Although this situation is thought-provoking, it was thought that the students participating in the research group might not be able to understand the importance of the situation since they have an

acquaintance who caught the COVID-19 in their close circle. The fact that Cao et al. (2020) found that students who had relatives or acquaintances infected with COVID-19 had higher anxiety levels supports our consideration on this matter.

Outbreaks have long-term effects. The fact that the economic situation is affected and the social life is restricted cause individuals to feel anger (Rubin & Wessely, 2020). Kapasia et al. (2020) determined that the students faced difficulties in matters such as financial situation, nutrition, and health during the period when restrictions were imposed. University campus life and education play a critical role in the psychological development of students, and practices such as restraint can cause stress symptoms, confusion and anger in university students (Brooks et al., 2020). Besides, it is stated in the literature that people may be more irritable than normal when under stress (Agwu & Tiemo, 2012). In this study, the PSS-14 total mean scores of the students who stated that "I feel anger that my life has been restricted because of the pandemic", "I feel restless and angry because of the pandemic", and "I give exaggerated reactions to events I encounter because of the pandemic" were found to be higher ($p<0.01$; Table 3), and these results are consistent with the literature. Multiple regression analysis showed the relationship between the variable of "I feel restless and angry because of the pandemic" and the PSS-14 total mean scores (Table 4).

The COVID-19 pandemic has led to a digital revolution in the higher education system through online lectures, teleconferences, digital open books, online exams and interactions in virtual environments, however, the academic activities of the students who could not access these opportunities or adapt to this education system for various reasons were negatively affected, and it caused students to experience health problems such as stress, anxiety, and depression (Kapasia et al., 2020). Nursing education, which consists of theoretical and clinical teaching, could not be performed as planned due to restrictions during the pandemic period. Theoretical courses were remedied through online education, but there were deficiencies in clinical knowledge and skills due to the inability to perform clinical applications. In this study, it was determined that the students experienced future anxiety, and the PSS-14 total mean scores of the students who stated that they feel future anxiety because of the pandemic were found to be higher ($p<0.01$; Table 3). The factors such as uncertainties about the course of the disease and students' inability to plan their educational activities as a natural consequence of this, fear of unable to be graduated and the fact that graduating students do not feel ready for the profession are thought to be effective in the perception of stress.

It is stated in the literature that exposure to long-term and intense stress affects cognitive functions such as memory, learning and attention (Yaribeygi et al., 2017). The PSS-14 total mean scores of the students who stated that they have difficulty in concentrating because of the pandemic were found to be higher ($p<0.01$; Table 3). This finding is an expected outcome for the students who stated that they experienced stress during the pandemic period, and it is compatible with the literature.

Study Limitations: The cross-sectional design of this study and the use of convenience sampling and online data collection were also limitations of the study.

Conclusion and Recommendations: These results revealed that the pandemic affects the stress level of the students and that the students experience moderate stress. In line with these results, our recommendations are as follows:

- Similar studies should be repeated in a larger sample and with different student groups.
- Training activities should be performed to reduce the stress level.
- Psychological counseling and guidance services in universities should be made more effective and professional support should be provided to students.

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