

## PAPER DETAILS

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Process: A University Example


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## The Stress Dimension of Online Education in Nursing Students During The Covid-19 Process: A University Example/ Covid-19 Sürecinde Uzaktan Eğitimin Hemşirelik Öğrencilerinde Oluşturduğu Stres Boyutu: Bir Üniversite Örneği

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### Öz

**Giriş:** Covid-19 salgını nedeniyle eğitimde meydana gelen değişiklikler ve uzaktan eğitim, hem teorik hem de uygulamalı olarak eğitim verilen ve eğitimin etkin biçimde sürdürülmesi için birebir insanla etkileşim halinde olması gereken mesleklerden biri olan hemşirelik eğitimini de önemli derecede etkilemiştir. Covid-19 salgınında hemşirelik eğitiminin kesintiye uğramasının öğrencilerin klinik beceri geliştirmede yetersiz olma konusunda endişe yaşayabileceği belirtilmiştir. Ayrıca uygulama becerilerin yetersiz olması, yetersizliğin giderilmesi için telafi eğitimlerinin ne zaman, nerede ve nasıl yapılacağına belirsiz olmasının da hemşirelik öğrencilerini strese sokabileceği belirlenmiştir. **Amaç:** Bu araştırma Covid-19 sürecinde uzaktan eğitimin hemşirelik öğrencilerinde oluşturduğu stres boyutunun incelenmesi amacıyla planlanmıştır. **Gereç ve Yöntemler:** Tanımlayıcı ve kesitsel tipte olan çalışma 246 öğrenci ile 01-18.01.2021 tarihleri arasında gerçekleştirilmiştir. Veri toplama aracı olarak sosyodemografik soru formu, Hemşirelik Eğitimi Stres Ölçeği ve Koronavirüs Anksiyete Ölçeği kullanılmıştır. **Bulgular:** Çalışma sonucunda öğrencilerin çoğunun (%87.6) akademik başarılarının pandemi nedeni ile olumsuz etkilendiği, uzaktan eğitimden memnun olmadıkları (%79.7) öğrencilerin, Hemşirelik Eğitim Stres Ölçeği toplam, uygulama ve akademik stres alt boyut puanlarının yüksek düzeyde olduğu bu da hemşirelik öğrencilerinin yüksek düzeyde eğitim stresi yaşadığı belirlenmiştir. Ayrıca Hemşirelik Eğitim Stres Ölçeği ile Koronavirüs Anksiyete Ölçeği arasında pozitif yönde ve zayıf şiddette bir ilişki olduğu bu da koronavirüs anksiyetesinin hemşirelik eğitimini çok az etkilediği saptanmıştır. **Sonuç:** Çalışmamızda yaş, cinsiyet, hemşireliği isteme, uzaktan eğitimden memnuniyet, uzaktan eğitimi yararlı bulma, ailenin geliri uzaktan eğitimi düzenli takip etme durumlarından sonra, hemşirelik eğitiminin Stresi etkilediği belirlendi. Hemşirelik öğrencilerinin uzaktan eğitim aldıklarında hemşirelik eğitiminde yüksek düzeyde stresli olduğu bulundu.

**Anahtar kelimeler:** Hemşirelik öğrencileri, psikolojik stres, uzaktan eğitim.



## Abstract

**Introduction:** Changes in education due to the Covid-19 epidemic and distance education have also significantly affected nursing education, which is one of the professions that provide both theoretical and practical training and that needs to be in one-to-one interaction with people in order to maintain education effectively. It has been stated that the interruption of nursing education in the Covid-19 epidemic may cause students to worry about being inadequate in developing clinical skills. In addition, it has been determined that insufficient practical skills and uncertainty about when, where and how to make remedial trainings can stress nursing students. **Aim:** This research was planned to examine the stress dimension of online education in nursing students during the Covid-19 process. **Materials and Methods:** The cross-sectional study was carried out with 246 students between January 01-18, 2021. Socio-demographic Question Form, Nursing Education Stress Scale and Coronavirus Anxiety Scale were used as data collection tools. **Results:** As a result of the study, the academic success of most of the students (87.6%) was adversely affected by the pandemic, the students who were not satisfied with distance education (79.7%) had a high level of Nursing Education Stress Scale total, application and academic stress sub-dimension scores, which meant that nursing students experienced high levels of educational stress determined. In addition, it has been determined that there is a positive and weak relationship between the Nursing Education Stress Scale and the Coronavirus Anxiety Scale, which means that coronavirus anxiety affects nursing education very little. **Conclusion:** In our study, it was determined that nursing education affected stress after age, gender, wanting to be a nurse, satisfaction with distance education, finding distance education useful, family income and regular follow-up of distance education. Nursing students were found to be highly stressed in nursing education when they received distance education.

**Keywords:** Distance education, nursing students, psychological stress.

## 1.Introduction

Covid-19, which was first reported as a series of 'viral pneumonia' cases in December 2019 and stated as a disease caused by a new type of coronavirus, increased the number of cases and death rates caused fear and anxiety in people. (WHO, 2020). In general, it shows symptoms such as fever, fatigue and dry cough, but acute respiratory distress syndrome may develop in the progressive dimensions of the disease and threaten the lives of individuals. Other countries in the world with the declaration of a pandemic and the contagiousness of the disease in Turkey, the reduction of mortality and health system began to be implemented in order to load some measures and restrictions. These restrictions continue to affect many areas, particularly in education and business (OECD, 2020b; Erdem, 2020). One of the areas most affected by the Covid-19 outbreak is education. When Covid-19 disease was pandemic in Turkey the schools were closed on March 16, 2020 within the scope of restrictions and explained the educational services to meet the training needs to be offered through digital as online education (Ozer and Suna, 2020; Bakioğlu and agile, 2020). In the Covid-19 epidemic, digital devices, online resources, e-learning activities and social media technology have been used effectively with online education. However, online education brings many difficulties and limitations. The limitations of the pandemic, the internet problem in the region, computer self-efficacy, inadequate technological infrastructure, lack of any technological equipment, lack of



motivation and attitudes towards online education are among the difficulties that can be encountered in the conduct of online education (Bakioğlu & Çevik, 2020; Kahraman, 2020; ). Due to the Covid-19 epidemic, the online education has also significantly affected nursing education, which is one of the professions that are given both theoretical and practical training and must interact with people in order to continue education effectively. In addition, the fact that the Covid-19 pandemic brings together certain restrictions and the need for nurses in this period has once again revealed the importance of nursing education (Çatıker, 2020). In this context, in a study by Kurtüncü and Kurt (2020) that investigated the problems nursing students experience with online education in the Covid-19 pandemic, it was revealed that most of the nursing students found online education inadequate, that education should be face-to-face, and they had anxiety about the limitations of educational opportunity ( Kurtuncu ve Kurt, 2020). In another study conducted with nursing students in the Covid-19 epidemic, it was stated that the interruption of nursing education in the Covid-19 epidemic due to the fact that a significant part of nursing education consists of clinical training, students may be concerned about inadequate clinical skills development. In addition, it has been determined that insufficient practical skills and uncertainty about when, where and how to make remedial trainings can stress nursing students (Aslan & Pekince, 2020). In the light of this information, this research was planned to examine the stress dimension of online education in nursing students during the Covid-19 process.

#### Research Questions

1. What is the stress dimension of online education given during the Covid-19 process on nursing students?
2. Is there any difference between students' socio-demographic characteristics and factors related to online education and the total and sub-dimensions of the Nursing Education Stress Scale?

## 2. Material and methods

### 2.1. Design of research

A web-based survey was created by the researchers to minimize face-to-face interaction due to the Covid-19 pandemic. The web-based questionnaire was shared in the students' mail and WhatsApp groups. The identity information of the students was not recorded in the questionnaire.

### 2.2. Population and sample of research

The population of the descriptive and cross-sectional research consists of students (n=384) of Kilis 7 Aralık University. The sample size was determined as 244 with 99% confidence interval and 5% margin of error. The research was completed with 246 nursing students.

### 2.3. Collection of data

The study was carried out with 246 nursing students who agreed to participate in the study between 01-18 January 2021. It took an average of 10-15 minutes to complete the questionnaire.



Inclusion criteria;

- Being over than 18 years old.
- Being a student of Kilis 7 Aralık University, Department of Nursing,
- Being volunteering to participate in research,
- Should be able to use social media.

#### **2.4. Data collection tools**

The “Nursing Education Stress Scale, Coronavirus Anxiety Scale and Socio-demographic Question Form which was prepared by the researchers were used as data collection tools.

Socio-demographic Question Form: Including 10 questions (age, gender, class, family type, education status of mother and father, working status of mother and father, number of siblings, family income status, place of residence and voluntary education in the nursing department) about socio-demographic characteristics, 7 questions with online education (the effect of pandemic on academic achievement, presence of fixed internet at home, means of accessing online education lessons, satisfaction with online education, finding online education useful, following online education regularly, reasons for not following online education regularly); it consists of 17 questions in total.

Nursing Education Stress Scale: It was developed by Rhead (1995) and the Turkish validity and reliability of the scale was determined by Karaca et al. (2014). The 4-point Likert type (3 = very stressful situation, 0 = no stressful situation) scale consists of 32 items. The lowest score 0 and the highest score 96 on the scale; The lowest score 0 and the highest score 48 points are taken from the sub-dimensions. An increase in the sub-dimension or total score indicates an increase in stress. Cronbach alpha coefficients for academic and practical sub-dimensions are 0.81 and 0.93, respectively (Karaca et al. 2014). In this study, the Cronbach's alpha coefficient for the total scale was 0.93, for its sub-dimensions academic stress was 0.87, and the practice stress was 0.89.

Coronavirus Anxiety Scale:—The scale was developed by Lee (2020) to identify possible dysfunctional anxiety cases and the severity of anxiety symptoms that can be observed in connection with the psychological reactions of the disease in individuals during the coronavirus pandemic, which has reached the dimension of a social crisis by Lee (2020). The scale is a 5-point Likert type (0= never, 1 = rare, less than a day or two, 2 = a few days, 3 = more than 7 days, 4 = almost every day in the last two weeks). The scale consists of 5 questions and one dimension. High score indicates high anxiety. The Turkish reliability and validity study was determined to Biçer et al. (2020) and the Cronbach alpha coefficient was found to be 0.83. The Cronbach alpha coefficient for this study was calculated as 0.88.

#### **2.5. Analysis of data**

The data was evaluated using the SPSS 24.0 (Statistical packet for Social Sciences for Windows) statistical program. In the statistical analysis, the conformity of the data to the normal distribution was evaluated with the  $n/\text{subscale} > 50$  Kolmogorov Smirnov and



n/subscale<50 Shapiro-Wilk tests. Descriptive statistics such as percentage, frequency, mean, standard deviation, median, 1st quartile, 3rd quartile, minimum and maximum were calculated in the evaluation of the data obtained in the study. T test and ANOVA were used to compare independent groups for normally distributed data, and Mann-Whitney U test was used to compare independent groups for data that did not fit normal distribution. Post hoc tests were performed according to the homogeneity of variance test results in those who found significance in the ANOVA test. LSD post hoc test was used for normally distributed data and Dunn test was used for those that did not show normal distribution. Pearson correlation analysis was used to measure the relationship between coronavirus Anxiety Scale and Nursing Education Stress Scale total and sub-dimension scores. Pearson's correlation coefficients <0.2 were expressed as very poor correlation, 0.2-0.39 poor, 0.4-0.59 medium, 0.6-0.79 high,  $\geq 0.8$  very high correlation. Cronbach alpha coefficient was calculated for internal consistency.  $p < 0.05$  value was accepted for the significance levels of statistical tests.

## 2.6. Ethical aspect of the research

The permission of the Ethics Committee (Ethics Committee No: 2020/37) and the permission of the Ministry of Health were obtained in order to conduct the study. In the web based form, objective of this research was stated and participation was conditioned to voluntary basis. The study was administered in accordance with the principles of the Helsinki Declaration.

## 3. Results

**Table 1. Socio-Demographic Characteristics of Nursing Students and Distribution of Online Education Factors (n = 246)**

		n	%
Age	18-20 Age Range	115	46.7
	21-24 Age Range	121	49.2
	$\geq 25$ Age	10	4.1
Gender	Female	171	69.5
	Male	75	30.5
Grade	1.Grade	64	26.0
	2.Grade	57	23.2
	3.Grade	64	26.0
	4.Grade	61	24.8
Family Type	Nuclear Family	181	73.6
	Extended Family	65	26.4
Education Status Of The Mother	$\leq$ Primary Education Graduate	219	89.0
	$\geq$ High School Graduate	27	11.0
Education Status Of The Father	$\leq$ Primary Education Graduate	184	74.8
	$\geq$ High School Graduate	62	25.2
Mother Working Status	Yes	7	2.8
	No	239	97.2
Father Working Status	Yes	122	49.6
	No	124	50.4
Number Of Siblings	1-3 Brother/Sister	108	43.9
	4-6 Brother/Sister	87	35.4
	$\geq 7$ Brother/Sister	51	20.7
Family Income	Income Below Expenses	82	33.3
	Income Equal Expenses	150	61.0
	Income Above Expenses	14	5.7
Place of Residence	Village	40	16.3



	Town	64	26.0
	City	142	57.7
Status of Voluntarily Choosing the Nursing Department	Yes	187	76.0
	No	59	24.0
The Impact of the Pandemic on Academic Success	Positive	31	12.6
	Negative	215	87.4
Home Constant Internet Presence	Yes	169	68.7
	No	77	31.3
Access Tool to Online Education Lessons	Telephone	180	73.2
	Tablet / Computer	66	26.8
Satisfaction with Online Education	Yes	50	20.3
	No	196	79.7
Finding Online Education Useful	Yes	21	8.5
	No	114	46.3
	Partially	111	45.2
Regular Follow-Up of Online Education	Yes	119	48.4
	No	127	51.6
Reason For Not Being Able to Follow Online Education Regularly	Internet / Device Issues	60	24.4
	Economic Problems	38	15.4
	Family Environment Issues	29	11.8
	No Problem	119	48.4
Total		246	100.0

It was reported that 9.2% of the students were between the ages of 21-24, 69.5% of the students were female, 6.0% of the students were first grade 73.6% of had nuclear family, 89.0% of students mothers are primary school graduate and 74.8% of their fathers are primary school graduate, 97.2% of their mother have no job and 50.4% of their father do not work, 43.9% of the students have 1-3 siblings, 61.0% of the family income level equals to expenses, 57.7% live in the province, 76.0% chose the nursing department willingly. According to students' statements; the pandemic affected 87.6% of students' academic success negatively, 68.7% of the students were constant internet at home, 73.2% followed online education lessons by phone, 79.7% were not satisfied with online education, 46.3% did not find online education useful, 51.6% could not follow the lessons regularly, 24.4% could not follow their lessons regularly due to internet / device problems (Table 1).

**Table 2. Comparison of Some Socio-Demographic and Online Education Characteristics of the Students with the Total and Sub-Dimensions of the Nursing Education Stress Scale and the Mean Scores of the Coronavirus Anxiety Scale(n=246)**

		Application Stress	Academic Stress	Nursing Education Stress Scale	Coronavirus Anxiety Scale
		$\bar{X} \pm SS$	$\bar{X} \pm SS$	$\bar{X} \pm SS$	$\bar{X} \pm SS$
Age	18-20 Age Range	35.66±8.58	<b>37.64±7.65</b>	<b>73.31±15.30</b>	<b>2.66±3.74</b>
	21-24 Age Range	34.86±7.84	35.03±7.85	69.90±14.98	<b>3.94±4.01</b>
	≥ 25 Age	30.70±13.40	<b>30.20±12.89</b>	<b>60.90±26.14</b>	3.80±3.58
	*p	0.193	0.003	0.028	0.039
Gender	Female	37.46±7.44	38.22±7.03	75.69±13.70	3.57±3.87
	Male	29.59±8.27	31.06±8.50	60.66±15.68	2.75±4.00
	**p	0.001	0.001	0.001	0.132
Grade	1.Grade	33.68±9.58	35.21±8.35	68.90±16.75	<b>1.62±2.42</b>
	2.Grade	35.49±8.09	37.59±8.04	73.08±15.41	<b>4.31±4.70</b>
	3.Grade	35.64±8.04	36.45±7.93	72.09±15.48	3.82±4.01
	4.Grade	35.54±8.09	35.08±8.25	70.62±15.73	3.70±3.77
	*p	0.512	0.294	0.491	0.001
Family Income	Income Below Expenses	35.71±9.27	<b>37.41±8.61</b>	73.13±16.88	<b>4.35±3.91</b>





	Income Equal Expenses	34.94±8.19	35.78±7.79	70.72±15.31	<b>2.84±2.95</b>
	Income Above Expenses	32.71±6.53	<b>31.07±7.57</b>	63.78±13.64	4.07±5.15
	*p	0.452	0.021	0.110	0.043
Status of Voluntarily Choosing the Nursing Department	Yes	34.48±8.80	35.39±8.34	69.88±16.33	3.13±3.68
	No	36.87±7.26	37.96±7.36	74.84±13.88	3.93±4.60
	**p	0.061	0.037	0.038	0.232
The Impact of The Pandemic on Your Academic Success	Positive	33.48±8.74	33.67±8.36	67.16±15.99	5.00±4.07
	Negative	35.30±8.44	36.40±8.09	71.70±15.78	3.09±3.83
	**p	0.280	0.087	0.186	0.008
Home Constant Internet Presence	Median (1st quartile-3rd quartile)	36.00 (30.75-42.00)	37.00 (31.00-43.00)	73.00 (61.00-83.00)	2.00 (0.00-6.00)
	***p	0.247	0.768	0.456	0.600
Access Tool to Online Education Lessons	Telephone	35.03±8.63	36.16±8.18	71.20±16.04	3.58±3.99
	Tablet / Computer	35.16±8.14	35.77±8.15	79.93±15.44	2.66±3.60
	**p	0.917	0.742	0.909	0.104
Satisfaction with Online Education	Yes	33.46±8.21	32.02±7.99	65.48±15.39	3.22±3.93
	No	35.48±8.52	37.08±7.89	72.57±15.68	3.67±3.91
	**p	0.106	0.001	0.003	0.730
Finding Online Education Useful	Yes	31.66±8.69	30.33±9.24	62.00±17.31	3.47±4.83
	No	36.04±9.17	37.90±8.46	73.94±16.96	3.09±4.19
	Partially	34.72±7.53	35.24±6.98	69.96±13.57	3.55±3.41
	**p	0.079	0.001	0.003	0.668
Regular Follow-up of Online Education	Yes	34.34±8.15	34.64±8.29	68.99±15.78	3.54±3.94
	No	35.75±8.76	37.37±7.84	73.13±15.71	3.14±3.88
	**p	0.193	0.008	0.040	0.419
Reason for not Being able to Follow Online Education Regularly	Median (1st quartile-3rd quartile)	36.00 (30.75-42.00)	37.00 (31.00-43.00)	73.00 (61.00-83.00)	2.00 (0.00-6.00)
	****p	0.793	0.243	0.477	0.363

\*ANOVA test, \*\*t = Independent groups t test, \*\*\*Mann-Whitney U test, \*\*\*\*Kruskal-Wallis= $p < 0.05$ ,  
Significant data are written in bold

A statistically significant difference was found between the nursing students' age, gender, voluntarily choosing the nursing department, satisfaction with online education, finding online education useful, following online education regularly, and the Nursing Education Stress Scale mean scores ( $p < 0.05$ ) (Table 2). A significant difference was found between gender, and Application Stress sub-dimension mean scores ( $p < 0.05$ ). A statistically significant difference was determined between the students' age, gender, family income, voluntarily choosing the nursing department, satisfaction with online education, finding online education useful, following online education regularly, and Academic Stress sub-dimension mean scores ( $p < 0.05$ ) (Table 2).

**Table 3. Distribution of Total and Sub-Dimensions of Nursing Education Stress Scale and Mean Scores of Coronavirus Anxiety Scale**

	$\bar{X} \pm SD$	Minimum	Maksimum
Nursing Education Stress Scale	71.23±15.85	9	96
Application Stress	35.07±8.48	4	48
Academic Stress	36.05±8.16	5	48
Coronavirus Anxiety Scale	3.33 ± 3.91	0	20

Students' Nursing Education Stress Scale mean score was  $71.23 \pm 15.85$ , Application Stress sub-dimension mean score was  $35.07 \pm 8.48$  and Academic Stress sub-dimension mean score was  $36.05 \pm 8.16$ ; the mean score of the Coronavirus Anxiety Scale was calculated as  $3.33 \pm 3.91$  (Table 3).





**Table 4. Correlation between the Total and Sub-Dimensions of the Nursing Education Stress Scale and the scores of the Coronavirus Anxiety Scale**

	1	2	3
1 Nursing Education Stress Scale r p			
2 Application Stress r p	0.954 0.001		
3 Academic Stress r p	0.950 0.001	0.813 0.001	
4 Coronavirus Anxiety Scale r p	0.194 0.002	0.201 0.002	0.167 0.008

\*Pearson Correlation test,  $p < 0.01$ .

A positive and weak relationship was determined between the Nursing Education Stress Scale and the Coronavirus Anxiety Scale ( $r = 0.194$ ,  $p = 0.002$ ). In other words, if coronavirus anxiety increases, nursing education stress also increases (Table 4).

#### 4. Discussion

Covid-19 infection caused by the novel Coronavirus (SARS-CoV-2) has spread all over the world, mainly in Europe in a short span of time. In this period, educational institutions have been closed to decrease the spread of the virus. In order to manage this process and crisis, the Higher Education Council has discontinued face to face education and started online education in Turkey. Within this context, people have had to make a rapid transition from formal education to web-based online education (YÖK, 2020). There have also been changes in the education of nurses in future who will take place in the hero healthcare professionals of the pandemic process and the education environment have started to become more stressful for the nursing students. Especially, many inadequacies have been experienced in the applied courses, new methods have been tried for solution but the opportunities provided by formal education cannot be provided, the students have not been satisfied by this process and the education has become stressful (Telli & Altun, 2020; Kürtüncü & Kurt, 2020). Although some stress is useful, excessive stress may cause negative effects on individuals (Özel & Karabulut, 2018). For this reason, this research was planned to examine the stress dimension of online education in nursing students during the Covid-19 process.

In this study, it was determined that scores of the students in total Nursing Education Stress Scale and its practical stress and academic stress subscales were high (Table 3). It is known that nursing professional education is difficult and causes stress (Açıksöz, 2016; Labrague, 2017). The transition of education to online education in nursing as a result of the Covid-19 pandemic has made the situation even more complicated and has imposed an additional burden on young people (Birimoğlu & Karasu, 2020; Yavaş Çelik, 2020; Sami et al., 2020). And these results have suggested that the online education provided in the pandemic period has caused stress for the nursing students. Nursing education includes a process including theoretical and applied education, needing to acquire theoretical knowledge and hand skills, and requiring healthy/sick individual-focused observation and interpretation. But the fact that these requirements cannot be met in the pandemic period is



considered to be the reason for high stress experienced by the students during the education process.

In this study, the practical stress and academic stress mean score of the female students was found to be higher compared to the male students (Table 2). In many studies, similar results have been obtained (Akkaya et al., 2018; Yılmaz, 2016; Yıldırım et al., 2016; Shaban et al., 2012). However, there are studies in the literature determining that the practical stress and academic stress mean score was higher in males or there was no difference between genders (Aytekin et al., 2009; Taşdelen & Zaybak, 2013). It was considered that the sample groups of the studies and their socio-cultural structure caused the difference in the study results. In this study, it was determined that the education stress levels of the nursing students between the ages of 18-20 were higher (Table 2). When coping with stress for the younger individuals is taken into consideration, it may be asserted that this is a normal result. It is a known situation that young people are insufficient in using defense mechanisms and they have more stress when they face with a problem (Özbay et al., 1994; Courtney et al., 2020). Most of the participants were in the age group of 18-20 years and could not continue their education in the formal format during the pandemic process. This may be explained with the fact that the education stress levels of these students were high and face to face education and laboratory or clinic applications could not be performed. Also, it was determined that those who preferred the nursing department unwillingly had higher education stress levels compared to the ones who preferred the nursing department willingly (Table 2). Likewise, in their study, Akkaya et al., determined that the education stress levels of those who preferred the nursing department willingly were lower and stress level of those who preferred the nursing department unwillingly were higher (Akkaya et al., 2018). When an individual prefers his/her profession willingly, he/she generally wants to take the professional education properly and perform his/her profession in the best way after graduation. However, nursing students have become incompetent in practice although they acquire theoretical information during the pandemic and this may have increased their education stress levels.

It was determined that the education stress level and the academic stress subscale scores of the students who were not satisfied with the online education and considered that online education was not useful were higher (Table 2). The number of studies conducted on this subject is limited but it has been determined in the studies that nursing students have stated that they are not satisfied with online education (Kürtüncü and Kurt, 2020; Kızıltepe & Kurtgöz, 2020). It was determined that the education stress levels and academic stress subscale scores of the students who did not follow online education regularly were higher (Table 2). Also in their study, Kızıltepe and Kurtgöz (2020) determined that nursing students had difficulty in following and participating courses during online education, comprehending and learning the theoretical and application parts and felt incapable in clinical practice. Also, it was recommended in the same study to develop the infrastructure systems used by the institutions for online education, provide access to online education for every student, and plan the make-up course for the applied courses in the next period (Kızıltepe & Kurtgöz, 2020). Likewise, in the study by Yüksekdağ (2020), it was emphasized that online education programs were not sufficient and also the online education programs should be structured by considering the needs and perceptions of nursing students and a continuous and dynamic correlation should be developed among the national and international institutions providing nursing education, healthcare institutions and legislators



(Yüksekdağ, 2020). Nursing education is composed of the theoretical information and clinic practice parts which complete each other. The main aim of education is to have students acquire nursing information, skills and attitude in cognitive, sensory and psychomotor fields. However, in the pandemic period, the students felt incapable in terms of professional knowledge and skills, due to the insufficiencies in the infrastructure of online education and due to the fact that the students cannot follow the courses regularly and actively, thus causing their stress levels to increase.

Coronavirus Anxiety levels of the nursing students were found to be low (Table 3). This situation may be explained by the fact that Covid-19 has not caused excessive anxiety in this age group as this age group have experienced Covid-19 with more mild symptoms (Snape&Viner, 2020). Also, during nursing education, the knowledge on the fight against infectious diseases and the preventive measures increases. Therefore, that nursing students perceive and apply the required measures to be protected from Covid-19 pandemic better compared to the individuals who do not receive education in healthcare is considered to be the cause of their low Covid-19 anxiety.

That Covid-19 related cases have increased throughout the world and the time when the pandemic will end is not known are among the reasons increasing the education stress for nursing students. In this study, it was determined that the nursing education stress increased as the coronavirus anxiety increased (Table 4). According to this result, it can be asserted that Covid-19 pandemic, which has negative effects on all the parts of society, is also effective on nursing students. Extreme stress affects the physical and mental health negatively as well as learning and academic success (Wolf et al., 2015; Akkaya et al., 2018). For this reason, it is required that the online education process of the nursing students should be examined appropriately and the anxiety and stress of the students should be decreased by determining the needs of the students and applying effective methods accordingly. Also, it is required to provide stress management training for the nursing students and apply the interventions which will have them cope with this situation.

#### Limitations of The Study

In this study, the data cannot be obtained face-to-face due to Covid-19 pandemic. Also, the limitations of the study are that the study was conducted in a university, only with the students who used the social networks and in a certain time period.

#### 5. Conclusion and Suggestions

It was determined that the online education period of the nursing students had a high stress level. Transition to online education is one of the applications performed to fight against Covid-19 pandemic. The students at all age groups and in all fields have been affected in various ways due to online education. Especially, the students studying in the departments including both theoretical and practical education have faced the threat of not having the required skills besides the theoretical education. This situation has led to increased stress and anxiety levels in the nursing students, for whom the practice education has gained more importance together with the pandemic. The anxiety and stress situation of the nursing students, who will be the nurses of the future, are among the important issues to be intervened. It is recommended to provide consultancy and training to reduce the anxiety the



nursing students experienced due to covid-19 pandemic and perform improving studies for eliminating factors causing stress in online education.

## Declarations

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