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# ANALYSIS OF THE ANXIETY AND HOPELESSNESS LEVELS OF NURSES DURING THE COVID-19 PANDEMIC

## *COVID-19 SALGINI SÜRECİNDE HEMŞİRELERİN ANKSİYETE VE UMUTSUZLUK DÜZEYLERİNİN İNCELENMESİ*

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**Abstract**
**Objective:** This study aimed to analyze the anxiety and hopelessness levels of nurses during the COVID-19 pandemic.
**Methods:** The study was carried out with a descriptive correlational design. The participants included 622 nurses actively working in healthcare institutions in eastern Turkey. The data were collected using a Descriptive Information Form, the Beck Anxiety Inventory, and the Beck Hopelessness Scale.
**Results:** The mean anxiety score of the participants was determined as 18.00±12.73, and their mean hopelessness score was 8.99±5.65. There was a statistically significant positive relationship between the mean anxiety and hopelessness scores of the participants ($p<0.05$).
**Conclusion:** It was concluded that nurses experienced moderate anxiety and hopelessness during the pandemic period, and increased levels of anxiety affected their hope levels negatively.
**Keywords:** Anxiety, COVID-19, nurse, hopelessness

**Özet**
**Amaç:** Araştırmanın amacı, COVID-19 salgını sürecinde hemşirelerin anksiyete ve umutsuzluk düzeylerinin incelenmesidir.
**Metot:** Araştırma, tanımlayıcı-ilişki arayıcı nitelikte gerçekleştirildi. Araştırma Türkiye'nin doğusundaki sağlık bakım kurumlarında aktif olarak çalışan 622 hemşire ile yürütüldü. Veriler, Tanıtıcı Bilgi Formu, Beck Anksiyet Ölçeği ve Beck Umutsuzluk Ölçeği kullanılarak toplandı.
**Bulgular:** Hemşirelerin ortalama kaygı puanının 18.00±12.73 ve umutsuzluk puanının 8.99±5.65 olduğu belirlendi. Anksiyete ve umutsuzluk puan ortalamaları arasında pozitif yönde anlamlı bir ilişki olduğu saptandı ($p\leq0.05$).
**Sonuç:** Araştırmada, hemşirelerin pandemi süreçinde orta düzeyde anksiyete ve umutsuzluk yaşadıkları ve artan anksiyete düzeyinin umut düzeyini olumsuz etkilediği sonucuna varılmıştır.
**Anahtar kelimeler:** Anksiyete, COVID-19, hemşire, umutsuzluk

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## INTRODUCTION

The COVID-19 pandemic, which is one of the most significant epidemics of recent history, emerged in the Wuhan city of the Hubei province of Chine at the end of 2019 and affected the whole world in a short time (1,2). It was reported by the World Health Organization that there were 271.963.258 confirmed cases of COVID-19 as of 17.12.2021, and 5.331.019 people died due to the disease (3). As of the specified date, there were 9.118.424 confirmed COVID-19 cases in Turkey, and 79.813 people died due to the disease (4).

The unexpectedly fast spread of COVID-19 and the increasing number of cases and deaths gave rise to several physical, mental, and social problems for health workers (5,6). This period caused health workers to experience depression, anxiety, and hopelessness (7,8). In studies performed on the topic, it was stated that most health workers had issues such as depression, anxiety, and hopelessness during the period of the pandemic (9,10). A substantial proportion of health professionals are nurses. It was discerned that by having issues such as fear of death, despair, anxiety, hopelessness, post-traumatic stress disorder, and depression, nurses who served under serious risk in the frontlines in this period were psychosocially affected (11,12). Moreover, it has been stated that factors such as future anxiety and workplace atmosphere have an effect on the anxiety and hopelessness levels of nurses (9,13,14). Nurses may be mentally affected by this period and lose their motivation to practice their profession in the future. That is why identifying the levels of anxiety and hopelessness experienced heavily by nurses, and in this regard, planning psycho-social interventions is of importance to the effective management of the pandemic. Accordingly, it was aimed in this study to identify the anxiety and hopelessness levels of nurses during the COVID-19 pandemic period.

## METHODS

This study, which was designed as descriptive and correlational study, was performed at different hospitals and in their units in eastern Turkey in May-July 2020. The population consisted of nurses actively working in internal medicine clinics, surgical clinics, intensive care units, outpatient clinics, emergency services, dialysis centers, and laboratory units of different hospitals in southeast Turkey and had social media accounts necessary for answering the online survey form created via a web database. The snowball sampling method, a non-probability sampling method, was utilized in the selection of the sample. The data collection form created through the Google Docs program was sent online (WhatsApp, Instagram) to nurses in the population, and those who gave consent to participate in the study were asked to fill out the online form and then share it with other nurses around them. A total of 622 nurses who responded to the online survey form were included in the study. Based on the measurement values expressed in percentages for methods to be used in the study as per the relevant literature, the total sample size was calculated as 622 by using the G-Power program with an effect size of 0.13150, power of 95%, and margin of error of 0.05. Based on the power analysis, the collected data were deemed adequate for the study.

### Data Collection

The data were collected in the online survey format by using a Descriptive Information Form, the Beck Anxiety Inventory, and the Beck Hopelessness Scale (15,16).

***Descriptive Information Form:*** This form, which was created by the researchers in light of the relevant literature (9,17), contained questions on the demographic characteristics of the participants such as age, gender, marital status, education level, and type of health facility where they worked, as well as questions on the focus of the study, namely, their statuses of providing healthcare to COVID-19 patients, having been COVID-19-positive, having fear while providing healthcare to COVID-19 patients, and having someone around who died of COVID-19. This form consisted of 10 questions in total.

***Beck Anxiety Inventory (BAI):*** This inventory was developed by Beck et al. (15) in 1988. It is used for the assessment of anxiety symptoms. The validity and reliability tests of the inventory in Turkey were performed by Ulusoy et al. (18) in 1993. Designed as a Likert-type scale, it is composed of 21 items, and each item is scored in a range of 0-3. The total score to be obtained from the inventory ranges between 0 and 63. Higher scores refer to increased anxiety levels, where total scores of 0-7 are interpreted as minimal anxiety, scores of 8-15 indicate mild anxiety, scores of 16-25 indicate moderate anxiety, and scores in the range of 26-63 are

considered to show severe anxiety. The Cronbach's alpha coefficient of the scale was reported as 0.93 (18). The Cronbach's alpha coefficient of was found as 0.94 in this study.

***Beck Hopelessness Scale (BHS):*** The scale was developed by Beck et al. (16) in 1974. It aims to identify the negative attitudes, expectations, and hopelessness levels of individuals in relation to the future. The validity and reliability tests of the scale in Turkey were performed first by Seber and then by Durak (19,20). The scale is composed of 20 items, and its items are answered as true or false. It has three subscales, that is, 'thoughts and expectations about the future', 'loss of motivation', and 'hope'. Higher scores point to higher levels of hopelessness, and the hopelessness levels of respondents are categorized as mild for scores of 4-8, moderate for scores of 9-14, and severe (suicidal) for scores equal to or greater than 15. The Cronbach's alpha coefficient calculated for the original version of the scale was 0.86 (19,20). The Cronbach's alpha coefficient of the scale was calculated in this study as 0.90.

**Data Analysis**

The data obtained in the study were analyzed using the SPSS 20 software package. The normality of the distribution of the data was tested using the Shapiro-Wilk normality test and Q-Q plots. Because all variables in the two-group comparisons had normal distributions, the data were analyzed using independent-samples t-test. In the comparisons including more than two groups, One-Way Analysis of Variance (ANOVA) was utilized for the variables with normal distribution, while the Kruskal-Wallis test was used for the variables with non-normal distribution. Pearson's correlation analysis was employed for testing the correlations between variables. A p value of $<0.05$ was accepted as statistically significant.

**Ethical Approval**

This study was carried out in accordance with the principles of the Declaration of Helsinki, ethical approval was received for the study from the Non-Invasive Clinical Trials Ethics Committee of Siirt University in Turkey (No. 2020/07.01), and the permission required for performing the study was obtained from the Turkish Ministry of Health. Nurses included in the population of the study were sent the online form containing explanations about the purpose of the study and its method of implementation, and they were asked to read this form and provide consent to participate. Those who voluntarily agreed to participate were allowed to go on to responding to the questions on the form.

**RESULTS**

It was found that the mean age of the participants was 28.92±6.48 years, 71.5% of the participants were female, 60.8% were single, 76.2% had undergraduate degrees, 69.0% worked at public hospitals, 53.1% worked in multiple clinics, 62.5% provided healthcare services to patients diagnosed with COVID-19, 6.8% had tested positive COVID-19 before, 93.1% had fear while providing healthcare services to COVID-19-positive patients, and 25.4% knew someone who died of COVID-19 (Table 1).

Furthermore, the mean BAI score of the participants was 18.00±12.73. Moreover, the mean scores obtained by the participants from the overall BHS, and the BHS subscales, 'thoughts and expectations about the future', 'loss of motivation', and 'hope', were consecutively 8.99±5.67, 2.42±1.01, 3.65±2.37, and 4.35±1.50 (Table 2).

It was determined that the BAI, total BHS, BHS 'thoughts and expectations' subscale, and BHS 'loss of motivation' subscale scores of the participants varied significantly based on their institutions of employment($p<0.05$). Based on their history of providing care to COVID-19-positive patients, the BAI and total BHS scores of the participants differed significantly ($p<0.05$). The BAI scores of the participants differed significantly based on their history of testing positive for COVID-19 ($p<0.05$). It was determined that the BAI, total BHS, and BHS 'hope' subscale scores of the participants varied significantly based on their status of having fear while providing care to COVID-19 patients ($p<0.05$). Finally, the BAI scores of the participants varied significantly based on their status of knowing someone who died of COVID-19 ($p<0.05$) (Table 3).

**Table 1.** The demographic and pandemic-related characteristics of the participants (n=622)

| Characteristics | N | % |
|---|---|---|
| **Gender** | | |
| Female | 445 | 71.5 |
| Male | 177 | 28.5 |
| **Marital status** | | |
| Single | 378 | 60.8 |
| Married | 244 | 39.2 |
| **Educational level** | | |
| High school | 48 | 7.7 |
| Pre-bachelor | 62 | 10.0 |
| Bachelor | 474 | 76.2 |
| Master | 38 | 6.1 |
| **Institution of employment** | | |
| Public hospital | 429 | 69.0 |
| University hospital | 140 | 22.5 |
| Primary healthcare services | 15 | 2.4 |
| Private hospital | 13 | 2.1 |
| Others (e.g., dialysis centers, private facilities, laboratories) | 25 | 4.0 |
| **Unit of employment during the COVID-19 pandemic** | | |
| Internal medicine clinics | 116 | 18.6 |
| Surgical clinics | 43 | 6.9 |
| Intensive care units | 133 | 21.4 |
| Others (e.g., outpatient clinics, emergency units, dialysis centers, laboratories) | 330 | 53.1 |
| **Has provided healthcare to COVID-19 patients** | | |
| Yes | 389 | 62.5 |
| No | 233 | 37.5 |
| **Has been diagnosed with COVID-19** | | |
| Yes | 42 | 6.8 |
| No | 580 | 93.2 |
| **Has fear of providing healthcare to COVID-19 patients** | | |
| Yes | 579 | 93.1 |
| No | 43 | 6.9 |
| **Has known someone who died of COVID-19** | | |
| Yes | 158 | 25.4 |
| No | 464 | 74.6 |
| **Mean age (years)** | 28.92 ± 6.48 | |
| **Min.-Max. (age)** | 20.00-52.00 | |

**Table 2.** Mean BAI and mean total and subscale BHS scores of the participants (n=622)

| Scale | Number of items | Min. score | Max. score | X±SD | Cronbach's alpha |
|---|---|---|---|---|---|
| **Overall BAI** | 21 | 0 | 58 | 18.00±12.73 | 0.94 |
| **BHS subscales** | | | | | |
| Thoughts and expectations about Future' subscale | 5 | 0 | 5 | 2.42±1.01 | 0.79 |
| Loss of motivation' subscale | 8 | 0 | 8 | 3.65±2.37 | 0.78 |
| Hope' subscale | 7 | 0 | 7 | 4.35±1.50 | 0.75 |
| **Overall BHS** | 20 | 0 | 20 | 8.99±5.67 | 0.90 |

BAI: Beck Anxiety Inventory, BHS: Beck Hopelessness Scale, $\overline{X} \pm SD$: mean ± standard deviation, Min:minimum, Max: maximum

**Table 3.** Comparison of the BAI, BHS total and BHS subscale scores of the participants based on their characteristics (n=622)

| **Characteristics** | **BAI (X+SD)** | **Overall BHS and BHS subscales (X±SD)** | | | |
|---|---|---|---|---|---|
| | | **'Thoughts and expectations about future' subscale** | **'Loss of motivation' subscale** | **"Hope" subscale** | **Overall BHS** |
| **Gender** | | | | | |
| Female | 18.3±12.76 | 2.42±1.02 | 3.69±2.35 | 4.40±1.48 | 9.08±5.62 |
| Male | 17.0±12.63 | 2.42±0.97 | 3.54±2.43 | 4.23±1.55 | 8.74±5.82 |
| **Test and statistical significance** | t=1.14 p=0.25 | t=-0.03 p=0.96 | t=0.68 p=0.49 | t=1.26 p=0.20 | t=0.67 p=0.49 |
| **Marital status** | | | | | |
| Single | 17.57±12.75 | 2.44±0.94 | 3.57±2.33 | 4.34±1.53 | 8.88±5.62 |
| Married | 18.67±12.69 | 2.38±1.10 | 3.77±2.44 | 4.38±1.46 | 9.15±5.76 |
| **Test and statistical significance** | t=-1.05 p=0.29 | t= 0.71 p=0.47 | t=-0.30 p=0.76 | t=-1.04 p=0.29 | t=-0.58 p=0.56 |
| **Educational level** | | | | | |
| High school | 19.85±13.67 | 2.39±1.08 | 4.22±2.45 | 4.27±1.63 | 10.60±5.86 |
| Pre-bachelor | 16.91±12.19 | 2.38±1.16 | 3.69±2.06 | 4.14±1.45 | 9.77±5.14 |
| Bachelor | 18.17±12.66 | 2.43±0.98 | 3.61±2.39 | 4.38±1.49 | 8.80±5.66 |
| Master | 15.39±13.14 | 2.34±1.02 | 3.28±2.48 | 4.47±1.58 | 7.94±6.04 |
| **Test and statistical significance** | F= 1.04 p=0.37 | F=0.13 p=0.93 | F=1.28 p=0.28 | F=0.59 p=0.61 | F= 2.29 p=0.07 |
| **Institution of employment** | | | | | |
| Public hospital | 17.07±12.50 | 2.33±0.94 | 3.33±2.35 | 4.44±1.47 | 8.16±5.58 |
| University hospital | 21.20±13.51 | 2.63±1.12 | 4.52±2.26 | 4.15±1.60 | 11.20±5.34 |
| Primary healthcare services | 19.86±10.80 | 2.46±1.18 | 3.20±1.82 | 4.66±0.97 | 9.06±5.20 |
| Private hospital | 21.46±9.92 | 2.46±1.05 | 4.46±2.43 | 4.00±1.29 | 11.46±5.50 |
| Others (e.g., dialysis centers, private facilities, laboratories) | 13.20±11.07 | 2.60±1.15 | 3.96±2.47 | 4.04±1.69 | 9.52±6.02 |
| **Test and statistical significance** | KW=16.91 **p=0.00** | KW=10.25 **p=0.03** | KW=31.62 **p=0.00** | KW=6.76 p=0.14 | KW=34.18 **p=0.00** |
| **Unit of employment during the COVID-19 pandemic** | | | | | |
| Internal medicine clinics | 18.48±13.00 | 2.24±1.00 | 3.62±2.41 | 4.40±1.59 | 9.04±5.88 |
| Surgical clinics | 17.83±12.07 | 2.44±0.93 | 4.16±2.60 | 4.16±1.41 | 9.67±6.01 |
| Intensive care units | 20.33±14.75 | 2.40±1.03 | 3.75±2.43 | 4.32±1.54 | 9.53±5.98 |
| Others (e.g., outpatient clinics, emergency units, dialysis centers, laboratories) | 16.92±11.72 | 2.38±1.01 | 3.54±2.31 | 4.38±1.46 | 8.66±5.42 |
| **Test and statistical significance** | F=2.33 p=0.07 | F=0.74 p=0.52 | F=0.96 p=0.41 | F=0.33 p=0.80 | F= 0.98 p=0.40 |
| **Has provided healthcare to COVID-19 patients** | | | | | |
| Yes | 19.98±13.23 | 2.47±1.03 | 3.70±2.34 | 4.34±1.50 | 9.37±5.66 |
| No | 14.71±11.12 | 2.33±0.96 | 3.55±2.43 | 4.37±1.50 | 8.34±5.65 |

**Table 3.** Continuation

| | | | | | |
|---|---|---|---|---|---|
| **Test and statistical significance** | t=5.09 **p<0.001** | t=1.65 p=0.09 | t=0.75 p=0.45 | t=-0.24 p=0.80 | t=2.20 **p=0.02** |
| **Has been diagnosed with COVID-19** | | | | | |
| Yes | 25.59±11.86 | 2.38±1.14 | 4.14±2.38 | 4.71±1.79 | 9.23±6.05 |
| No | 17.45±12.62 | 2.42±1.00 | 3.61±2.37 | 4.33±1.47 | 8.97±5.65 |
| **Test and statistical significance** | t=4.04 **p<0.001** | t=-0.26 p=0.78 | t= 1.38 p=0.16 | t=1.59 p=0.11 | t= 0.29 p=0.77 |
| **Has fear of providing healthcare to COVID-19 patients** | | | | | |
| Yes | 18.84±12.55 | 2.41±1.00 | 3.69±2.36 | 4.30±1.50 | 9.20±5.71 |
| No | 6.76±9.34 | 2.51±1.05 | 3.11±2.52 | 5.06±1.27 | 6.11±4.22 |
| **Test and statistical significance** | t=6.17 **p<0.001** | t=-0.60 p=0.54 | t=1.53 p=0.12 | t=-3.24 **p<0.001** | t=3.47 **p<0.001** |
| **Has known someone who died of COVID-19** | | | | | |
| Yes | 21.25±13.00 | 2.55±1.00 | 3.89±2.35 | 4.34±1.50 | 9.67±5.42 |
| No | 16.90±12.46 | 2.37±1.00 | 3.56±2.38 | 4.36±1.50 | 8.75±5.74 |
| **Test and statistical significance** | t=3.74 **p<0.001** | t=1.86 p=0.06 | t=1.47 p=0.14 | t=-0.10 p=0.92 | t=1.76 p=0.07 |

BAI: Beck Anxiety Inventory, BHS: Beck Hopelessness Scale, $\bar{X}$ ± SD: mean ± standard deviation, t: Student's t test, KW: Kruskal-Wallis test, F: One-Way ANOVA, Bold values indicate p<0.05.

In the study, a moderate, positive, and statistically significant relationship was found between the mean BAI and overall BHS, BHS 'thoughts and expectations about the future' subscale, and BHS 'loss of motivation' subscale scores of the participants. Additionally, a weak, negative, and statistically significant relationship was found between the mean BAI and BHS 'hope' subscale scores of the participants (p<0.05) (Table 4).

**Table 4.** Results of the correlation analyses between the BAI scores and BHS total and subscale scores of the participants

| | **Overall BHS** | **'Thoughts and expectations about the future' subscale** | **'Loss of motivation' subscale** | **'Hope' subscale** |
|---|---|---|---|---|
| **Overall BAI** | r= 0.37 **p=0.00** | r=0.11 **p=0.00** | r=0.30 **p=0.00** | r=-0.17 **p=0.00** |

r: Pearson' correlation.

## DISCUSSION

In this study, it was determined that the participants had moderate levels of anxiety (Table 2). Similar to this study, it has been found in a large number of previous studies that nurses experience moderate levels of anxiety (21–24). In a study conducted with nurses and doctors, nurses had higher anxiety levels than medical doctors (25). All countries are fighting against the pandemic at the same time. COVID-19 has created a common crisis that covers the entire healthcare system. In this case, in studies on the anxiety and stress levels of health workers, it has been observed that similar results have been achieved all over the world (26). It is thought that work overload, lack of personal protective equipment, failure of infection control systems, and verbal and physical violence of citizens against healthcare workers have caused anxiety during the pandemic (27). Among studies conducted before the pandemic, it was found that the anxiety levels of nurses were quite high in one study (17), and nurses were found to experience mild anxiety in another study (28). The difference in the results of this study is thought

to be due to the fact that these studies were conducted in different time periods and in different regions of Turkey.

In this study, it was determined that the participants had moderate hopeless levels (Table 2). Similarly, in the study performed by Yeşilçınar et al. (29) with nurses working in intensive care units, it was discerned that the nurses experienced moderate levels of hopelessness. Contrary to the results in this study, Aktürk et al. (30) found that nurses working in oncology and adult intensive care units who had witnessed large numbers of deaths had higher hopelessness levels compared to bank employees, teachers, and academicians who had witnesses no deaths. On the other hand, in the study which was conducted by Polat et al. (31), it was determined that nurses had low levels of hopelessness. In their study that was conducted to investigate the anxiety and hopelessness levels of healthcare workers during the COVID-19 pandemic, Hacımusalar et al. (9) reported that nurses had higher hopelessness levels compared to doctors and higher anxiety levels compared to both doctors and other healthcare workers. In a review of recent studies, it was stated that during the COVID-19 pandemic, the nurses exhibited more symptoms of mental disorders than doctors did (32). It may be asserted that situations such as the differences in the results of different studies, the workplace setting of nurses, their sociodemographic characteristics, and uncertainty about the COVID-19 pandemic period affected the anxiety and hopelessness levels of nurses.

In this study, statistically significant differences were identified in the anxiety and hopelessness levels of the participants based on the 'types of health institutions where they were employed', and the participants who were working at private hospitals had higher mean of anxiety and hopelessness scores (Table 3). As per the review of relevant literature, it was found that there was no study analyzing the anxiety and hopelessness levels of nurses who worked for private hospitals. It may be put forward that circumstances such as fear of job loss felt along with the uncertainty about the COVID-19 pandemic, the increase in the workload of those working for private hospitals, and the likely economic crisis would induce anxiety and hopelessness.

In this study, it was discerned that based on their history of 'providing health services to COVID-19 patients', there were statistically significant differences in the anxiety and hopelessness levels of the participants, and the participants who provided health services to COVID-19 patients had higher mean anxiety and hopelessness scores (Table 3). In a cross-sectional study performed in 34 hospitals in China with the participation of 1,257 health workers, 60.8% of whom were nurses, it was found that the nurses who provided healthcare directly to COVID-19 patients exhibited depression, anxiety, insomnia, and stress symptoms, and furthermore, as another significant finding, it was emphasized that the health workers in Wuhan, which was the epicenter of the pandemic, exhibited more severe symptoms of depression, anxiety, insomnia, and stress (10). In a study conducted by Nie et al. (12) to examine the psychological effects of the COVID-19 pandemic on nurses working in the frontlines, it was discovered that in addition to COVID-19, the nurses experienced symptoms such as sleep disorders, anxiety, and depression. In view of this situation, it may be considered that the anxiety and hopelessness levels of nurses who worked in the frontlines against COVID-19 were increased for reasons such as their frequent physical contact with patients diagnosed with COVID-19 and their fears of infecting themselves and their families with COVID-19.

In this study, there was a statistically significant difference in the anxiety levels of the participants based on their COVID-19 diagnosis history, and those who had tested positive for COVID-19 had a higher mean anxiety score (Table 3). The anxiety levels of nurses may have increased due to their obligation to come back to work after recovering from COVID-19, their perception that they were at a higher risk of having the disease, their thoughts that they would face patients diagnosed with COVID-19, and their fears of getting infected with COVID-19 again.

It was ascertained in this study that the anxiety and hopelessness levels of the participants varied significantly based on their status of experiencing fear while providing healthcare services to COVID-19 patients, and the participants who had experienced fear while providing healthcare services to COVID-19 patients had higher mean anxiety and hopelessness scores (Table 3). In a study carried out in two hospitals located in Wuhan, China, it was highlighted that nurses had several mental

health problems such as burnout and fear in particular, and they had predominantly high levels of anxiety and depression (7). Accordingly, nurses may have anxiety along with their fear of infecting the people around them and their friends with COVID-19, as well as feeling worried about their own health conditions, and hence, the uncertainty about the pandemic period may pave the way for hopelessness.

In this study, it was discerned that on the basis of 'having known someone who died of COVID-19', there was a statistically significant difference in the anxiety levels of the participants, and the participants who had someone around them who died of COVID-19 had a higher mean anxiety score (Table 3). It is known that in the pandemic period, nurses have witnessed a faster deterioration in the psychosocial and health-related conditions of patients than they had been used to, and they have provided patients with end-of-life care more frequently. The mental health of nurses is adversely affected by situations such as being near patients, teammates, and relatives when they suffer from the disease and witnessing their painful experiences, or when they pass away (33). It may be suggested that nurses had high stress levels for situations such as not having the chance to have funeral ceremonies or time for mourning in cases of death in contrast to their routine way of life, and along with such situations, they had anxiety.

In this study, as the anxiety levels of the participants increased, their hopelessness levels also increased (Table 4). In the study conducted by Hacımusalar et al. (9), it was found that the anxiety and hopelessness levels of health workers and the general public were positively associated during the COVID-19 pandemic period, and in the same study, it was discerned that nurses were psychologically more severely affected by the pandemic than other health workers were. One may assert that having uncertainty during the COVID-19 pandemic period, the lack of a vaccine for COVID-19 for the time being, not having the expected falls in the number of COVID-19 cases, and confronting challenges posed by working conditions were among the most significant factors inducing anxiety, and moreover, all these circumstances triggered hopelessness.

According to the results of this study, there was no statistically significant difference in the anxiety and hopelessness scores of the participants based on their gender, marital status, educational level, or unit of employment (Table 3). Şengül et al. (17) stated that there was no statistically significant difference in the anxiety levels of nurses based on their 'gender' or 'marital status', whereas there were statistically significant differences in their anxiety levels based on their 'education levels' and 'clinics where they worked'. According to Yeşilçınar et al. (29), factors such as "gender," "education level," and "unit of employment" had no effect on the hopelessness levels of nurses. Another study that was carried out with nurses working in intensive care and oncology services revealed that there was no statistically significant difference in the hopelessness levels of the nurses based on the variable of 'education' (30). The differences between the results of different studies may be attributed to the differences in the sociodemographic characteristics of their participants.

## CONCLUSION

In conclusion, it was determined that the nurses who participated in this study had moderate levels of anxiety and hopelessness, and as their anxiety levels increased, their hopelessness levels also increased.

The variables that contribute to the anxiety and hopelessness levels of nurses during the pandemic should be explored in light of these findings. Additionally, before providing medical treatment to COVID-19 patients, the 'health of nurses should be safeguarded by developing patient care plans. It is recommended to plan psychosocial interventions such as group therapy, cognitive behavioral therapy, and empowering social support networks to increase the psychological well-being of nurses in the effective management of the pandemic period. Carrying out broader studies to explore the effect of the pandemic on the mental state of nurses in subsequent periods is also recommended.

**Acknowledgment**

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**Conflicts of interest**

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**Contributions of the authors**

Both authors designed the study, reviewed the literature, analyzed the data, prepared the article, and approved the final version for submission.

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