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Anxiety and Death Anxiety Levels of Nurses in the COVID-19 Pandemic and Affecting Factors

Abstract

Background: The aim of this study was to determine the anxiety and death anxiety levels of nurses during the coronavirus disease 2019 pandemic and the affecting factors.

Methods: This descriptive and cross-sectional study was carried out online with 617 nurses. Data were collected using the introductory information form, Beck Anxiety Inventory, and Death Anxiety Scale. The descriptive statistics Spearman, Mann-Whitney U, and Kruskal-Wallis H tests were used to evaluate the data. A *P*-value < .05 was considered significant in the study.

Results: In the study, it was determined that anxiety (41.72 ± 8.91) and death anxiety (11.58 ± 2.59) levels of nurses were high. A total of 78.4% of the nurses stated that they were afraid of infection, and 96.1% were afraid of carrying an infection to their family. It was found that 53.2% of the nurses had psychological needs and that these individuals had higher anxiety and death anxiety (*P* < .001). A statistically significant difference was found between the total number of children of the nurses, the need for psychological support, the negative effect of their working conditions on their children, and the anxiety and death anxiety scores (*P* < .05).

Conclusion: As a result of the study, it was determined that the anxiety and death anxiety levels of nurses were high. It has been determined that nurses are afraid of being infected and carrying infections to their families. It was found that nurses needed psychological support during this period, and their children were also affected by this process. Our recommendation is to take into account the factors that adversely affect nurses during the pandemic process and to take initiatives to provide the necessary support.

Keywords: COVID-19, coronavirus, corona, pandemic, nurse

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Introduction

A pandemic is defined as an epidemic of a disease that is seen in more than one continent in the world and affects many countries.[1] Many epidemics have been declared pandemics from past to present. Some pandemics include diseases such as plague, avian influenza, smallpox, and swine flu. The recent epidemic of coronavirus disease 2019 (COVID-19) (Deaths of Coronavirus Disease-19, 2019-nCoV), has also been declared a pandemic by the World Health Organization.[2]

COVID-19 is a disease caused by coronaviruses (CoVs). CoVs constitute a large family of viruses that cause many diseases, from the common cold to severe respiratory distress.[1,2] COVID-19 was first detected in humans in Wuhan, China in December 2019 and has spread throughout the world.[2-4]

The vast majority of patients with COVID-19 (about 80%) can recover without needing hospital treatment. However, approximately one out of every five people diagnosed with COVID-19 goes through a severe disease course and has difficulty in breathing. In particular, elderly individuals and those with chronic diseases, such as hypertension and heart and lung diseases, are at high risk.[4]

The COVID-19 process is not yet fully known. Close contact has the greatest risk of transmission,[4] and the disease has caused many deaths. This has negatively affected people all over the world.[5] Health workers have important responsibilities in the fight against the disease.[3] During the pandemic, the increase in the number of patients in need of care has increased the workload of health workers.[6] The fact that the disease is transmitted through close contact has also increased the anxiety of the health workers who directly work with patients. In particular, nurses spend most of their time with patients and work in close contact.[7-9] This may increase nurses' anxiety and lead them to experience death anxiety.[10,11] Nurses should be supported psychologically and physically to ensure they provide good care to patients in all aspects.[10,12] The first thing to do at this point is to determine nurses' death anxiety and anxiety levels and provide the necessary support by identifying the causes.[13,14]

Aim

This study was conducted to determine the anxiety and death anxiety levels of nurses during the COVID-19 pandemic and the affecting factors.

Research Questions

The research questions are as follows:

- What is the anxiety level of nurses during the COVID-19 pandemic?
- What is the death anxiety level of nurses during the COVID-19 pandemic?
- What are the factors affecting the anxiety and death anxiety levels of nurses?

The Importance of Research

One of the most effective ways to be protected from COVID-19 is social isolation. However, healthcare professionals must work one-on-one with positive or suspected cases. Nurses constitute the occupational group that has the longest and closest contact with patients with diagnosed or suspected COVID-19. This affects nurses not only physically but also psychologically. Because the process of COVID-19 is not yet fully known, there are no treatments or vaccine for it, and it is stated that close contact provides the greatest risk in transmission increases the fear among healthcare workers day by day. As the prevalence of the infectious disease and the death rate increase, nurses' anxiety and concerns of death also increase. In providing effective nursing care to patients, it is important to protect the psychological health of nurses. It is thought that this study will contribute to a better understanding of the concern of death and anxiety levels of nurses during the pandemic and to the attempts to correct this situation.

Methods

Type of Research

The study has a descriptive and cross-sectional design.

Research Population and Sample

The study was carried out online between May 8 and May 31, 2020, using the questionnaire method. The sample size was not calculated, and the study included all nurses in Turkey who could reach the questionnaires through the Google Docs online link between the specified dates. As a result of the research, the power of the study was determined as 98% in the power analysis using the data of 617 nurses. It was determined that the power of the study was high and the sample size was sufficient. Power analysis was done using the G * Power 3.1.9.2 program.

Ethical Aspect of the Research

Before the study, permission was received from the Ministry of Health (dated 30.04.2020) and Eskişehir Osmangazi University Non-Interventional Clinical Research Ethics Committee (dated 07.05.2020, numbered 2020/01) and only voluntary nurses were included in the search. Written informed consent was obtained from the participants.

Data Collection Forms

The research data were collected using the introductory information form, Beck Anxiety Inventory, and Death Anxiety Scale (DAS). The introductory information form was prepared by the researchers by reviewing the literature.[10-12,14] It includes questions regarding the sociodemographic and professional characteristics of nurses and working conditions during the COVID-19 pandemic.

The Beck Anxiety Inventory was developed by Beck et al.[15] in 1988. Its Turkish validity and reliability study was conducted by Ulusoy et al.[16], and the Cronbach alpha was found to be 0.93. It is a 4-point Likert type scale consisting of 21 questions that aim to measure the severity of anxiety of an individual. Each question is scored between 0 and 3 points. A total score between 8 and 15 points indicates low anxiety, a total score between 16 and 25 points indicates moderate anxiety, and a total score between 26 and 63 points indicates high anxiety.[16]

Templer's DAS was developed by Templer to determine the level of death anxiety of individuals. The internal consistency of the scale is 0.76 and the reliability coefficient is 0.83.[17] The Turkish validity and reliability study was performed by Akca and Kose[18]. The internal consistency of the Turkish version is 0.75 and the reliability coefficient is 0.79. The scale consists of 15 items and each item has yes/no options. In the first nine items of the scale, each yes answer is scored 1 point and each no answer is scored 0 points. In the remaining six items, each yes answer is scored 0 points and each no answer is scored 1 point. The total score obtainable from the scale ranges between 0 and 15 points, and high scores indicate high death anxiety.[18]

Data Collection

The questionnaire forms were delivered to the nurses, whom researchers know, via the internet using e-mail or WhatsApp between the specified dates. Those who delivered the forms were also asked to send forms to the nurses they know via e-mail or WhatsApp. In addition, the nursing associations were asked to help them send the questionnaire to the members of their association. It took about 10 minutes for the nurses to answer the questionnaire. The inclusion criteria of the research were being a nurse working in any hospital in Turkey and agreeing to participate in the study. The nurses were informed about the study with the text at the beginning of the questionnaire, and those who agreed to participate in the study filled in the questionnaire and sent it back online. The questionnaire form started with the question "Do you agree to participate in the study?" Nurses who did not answer all the questions in the questionnaire were not included in the study.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS) for Windows, version 21.0, (IBM Corp.; Armonk, NY, USA) package software was used for statistical analyses. Descriptive statistics (frequency, percentage, mean, standard deviation) were used to evaluate the data. Fitness of the data to normal distribution was examined using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The correlation between two independent variables that were not normally distributed was determined using the Spearman test; two independent variables that were not normally distributed were compared using the Mann-Whitney U test. Comparison of three or more variables was made using the Kruskal-Wallis H test and the Bonferroni test, which was corrected from the post hoc test statistics. In the study, $P < .05$ was considered statistically significant.

Results

The study was completed with a total of 617 nurses across Turkey. Overall, 84.1% of the nurses were living in a city center. The mean age of the nurses was 30.80 ± 7.56 years. Of the nurses, 14.1% had a diagnosed chronic disease and 4.4% had a diagnosed psychological disease. No correlation was found between these characteristics of the nurses and death anxiety and anxiety scores ($P > .05$). Table 1 shows the comparison of other descriptive characteristics of the nurses with death anxiety and anxiety levels. There is a significant difference between the region where the nurses live, marital status, childbearing status, and family structure and anxiety levels ($P < .05$). In addition, it was determined that there is a significant difference between nurses' gender, marital status, childbearing status, family structures, income levels, smoking, and alcohol use and death anxiety levels ($P < .05$) (Table 1).

Table 1. Comparison of Descriptive Characteristics of Nurses and Anxiety and Death Anxiety Scores

Variable (N = 617)	n (%)	Anxiety Scores		Statistical analysis	Death Anxiety Scores		Statistical analysis
		Median	Min-Max		Median	Min-Max	
Gender							
Female	453 (73.4)	42.0	1.0-60.0	Z = -1.359 *P* = .174	12.0	3.0-15.0	Z = -2.090 *P* = .037*
Male	164 (26.6)	43.0	1.0-57.0		12.0	2.0-15.0	
Region of residence							
Mediterranean[a]	91 (14.7)	42.0	1.0-57.0	χ^2 = 22.470 *P* = .001** Post-hoc e>b; c>b	12.0	5.0-15.0	χ^2 = 11.394 *P* = .077
Aegean[b]	97 (15.7)	40.0	1.0-56.0		12.0	2.0-15.0	
Central Anatolia[c]	106 (17.2)	45.0	29.0-59.0		12.0	5.0-15.0	
Black Sea[d]	94 (15.2)	42.0	1.0-58.0		12.0	5.0-15.0	
Southeastern Anatolia[e]	87 (14.1)	44.0	1.0-58.0		12.0	5.0-15.0	
Marmara[f]	80 (13.0)	41.0	13.0-60.0		13.0	4.0-15.0	
Eastern Anatolia[g]	62 (10.0)	42.0	1.0-58.0		13.0	5.0-15.0	
Marital status							
Married	310 (50.2)	43.0	1.0-58.0	Z = -3.823 *P* < .001**	12.0	3.0-15.0	Z = -4.060 *P* < .001**
Single	307 (49.8)	41.0	1.0-60.0		12.0	2.0-15.0	
Having a child							
Yes	231 (37.4)	45.0	1.0-59.0	Z = -4.194 *P* < .001**	13.0	2.0-15.0	Z = -3.854 *P* < .001**
No	386 (62.6)	41.0	1.0-60.0		12.0	3.0-15.0	
Family structure							
Nuclear family[a]	419 (67.9)	42.0	1.0-60.0	χ^2 = 12.002 *P* = .002** Post-hoc b>a; c>b	12.0	2.0-15.0	χ^2 = 6.319 *P* = .042* Post-hoc b>c
Extended family[b]	70 (11.4)	46.0	34.0-58.0		12.5	5.0-15.0	
I live alone[c]	128 (20.7)	42.0	1.0-58.0		12.0	4.0-15.0	
Income level							
Income less than expenses[a]	72 (11.7)	44.0	30.0-58.0	χ^2 = 4.758 *P* = .093	12.0	7.0-15.0	χ^2 = 11.568 *P* = .003** Post-hoc a>c; b>c
Equivalent to the expense income[b]	450 (72.9)	43.0	1.0-60.0		12.0	2.0-15.0	
Income more than expenses[c]	95 (15.4)	41.0	1.0-58.0		15.0	5.0-15.0	
Smoking status							
I use	325 (52.7)	43.0	1.0-58.0	Z = -1.823 *P* = .068	12.0	2.0-15.0	Z = -2.450 *P* = .014*
I don't use	292 (47.3)	42.0	1.0-60.0		12.0	4.0-15.0	
Alcohol use status							
I use	265 (42.9)	42.0	1.0-58.0	Z = -0.116 *P* = .907	12.0	2.0-15.0	Z = -3.020 *P* = .003**
I don't use	352 (57.1)	43.0	1.0-60.0		12.0	4.0-15.0	

Z = Mann-Whitney U test, χ^2= Kruskal-Wallis H test.
*P < .05, **P < .01.
Max, maximum; Min, minimum.

Of the nurses, 15.4% were high school graduates, 73.3% had a bachelor's degree, and 11.3% had a graduate degree. Of the nurses, 31.8% were working in the service department, 11% were working in the outpatient clinics, 26.7% were working in the intensive care unit, 22.4% were working as an emergency nurse, and 8.1% were working as a manager nurse. It was determined that 48.1% of the nurses worked alternately day and night in the last month, that 28.8% worked a 24-hour shift, and that 23.1% worked only during the day. There was no correla-

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Table 2. Comparison of Nurses' Working Features with Anxiety and Death Anxiety Scores

Variable (N = 617)	n (%)	Anxiety Scores		Statistical analysis	Death Anxiety Scores		Statistical analysis
		Median	Min-Max		Median	Min-Max	
Years working in profession							
Less than 1 year[a]	102 (16.5)	41.0	1.0-60.0	χ^2 = 9.633 *P* = .022* Post-hoc d>a	12.0	5.0-15.0	χ^2 = 4.623 *P* = .202
1–9 years[b]	312 (50.6)	42.0	1.0-59.0		12.0	3.0-15.0	
10–17 years[c]	122 (19.8)	43.5	1.0-58.0		12.0	5.0-15.0	
18 years and over[d]	81 (13.1)	45.0	28.0-58.0		12.0	2.0-15.0	
Status of choosing nursing profession willingly							
Yes	361 (58.5)	43.0	1.0-60.0	Z = -1.748 *P* = .080	12.0	2.0-15.0	Z = -1.072 *P* = .284
No	256 (41.5)	42.0	1.0-58.0		12.0	3.0-15.0	
Your thoughts on the profession							
Happy to be doing this profession	393 (63.7)	42.0	1.0-60.0	Z = -0.368 *P* = .713	12.0	2.0-15.0	Z = -1.903 *P* = .057
Unhappy with doing this profession	224 (36.3)	43.0	1.0-58.0		12.0	2.0-15.0	

Z = Mann-Whitney U test, χ^2= Kruskal-Wallis H test.
*P < .05.
Max, maximum; Min, minimum.

tion between these characteristics of the nurses and death anxiety and anxiety scores (P > .05). Table 2 shows the comparison of other working characteristics of the nurses with death anxiety and anxiety levels. A significant difference was detected between the working years of the nurses and anxiety scores (P < .05) (Table 2).

Of the nurses, 86.2% were working in a hospital, including a coronavirus clinic. It was determined that patients with diagnosed or suspected COVID-19 were hospitalized in clinics where 70.7% of the nurses were working, and that 66.8% of the nurses provided care to patients with diagnosed or suspected COVID-19. Overall, 64.3% of the nurses stated that they had sufficient protective equipment in the clinic where they worked. Of the nurses, 28.5% had a relative diagnosed with or suspected to have COVID-19 and 3.9% had a relative who died because of COVID-19. There was no correlation between these characteristics of the nurses and death anxiety and anxiety scores (P > .05). Table 3 shows the comparison of other COVID-19–related characteristics of the nurses with anxiety and death anxiety scores. It was detected that there was a significant difference between receiving training about the care of inpatients with a diagnosis or suspicion of COVID-19, witnessing the death of these patients, and necessity for psychological support and anxiety levels (P < .05). In addition, it was determined that there was a significant difference between witnessing the death of any patients, necessity for psychological support, being afraid of getting infected with COVID-19, having problems with the care of their children during the pandemic, and negative effects of working conditions on their children and nurses' concern of death (P < .05) (Table 3).

In the study, the mean anxiety score of the nurses was 41.72 ± 8.91 and the mean death anxiety score was 11.58 ± 2.59. There was a weak positive correlation between nurses' death anxiety and anxiety scores (r = 0.139; P = .01) (Table 4).

Discussion

In this study, the anxiety scores of the nurses who were married, had at least one child, had an extended family, and were living in the Central Anatolia Region were higher than the others (P < .05) (Table 1). These study results are similar to those in the literature. A study determined that the anxiety levels of nurses who were married and had children during the outbreak were high and that single nurses considered this an advantage.[19,20] In a study, it was observed that those with child care burden during the epidemic had less desire to work.[21] Other studies reported that nurses who were married or who were living with their families during the outbreak experienced more anxiety.[20,22] This finding may be associated with the fact that the increase in responsibility at the workplace and high home-related responsibilities increase anxiety among individuals. Algur[23] found that the anxiety levels of individuals living in the Central Anatolia and Southeastern Anatolia regions were high. Individuals' anxiety levels may differ depending on the living conditions and differences in regional conditions.[24] Agriculture and animal breeding are common in the Central Anatolia Region. Both agriculture and animal breeding require long-term and regular work and pose a risk of losing. This may suggest that people have higher anxiety and thus raise high-anxiety children.

In this study, there was no difference between nurses' gender, income levels, smoking and alcohol use status (Table 1), age, place of residence (city center, district, village/town), having a diagnosed chronic disease, and having a diagnosed psychological disease and their anxiety scores (P > .05). In the literature, it was stated that anxiety level may differ depending on personal and demographic characteristics, individual habits, and the health of the individual.[25-27] This study result is different than those in the literature. The reason for this difference may be associated with the inclusion of same-profession individuals in the study, similar working conditions, and similar anxiety levels owing to many common problems.

Table 3. Comparison of Nurses' COVID-19–Related Features with Anxiety and Death Anxiety Scores

Variable (N = 617)	n (%)	Anxiety Scores		Statistical Analysis	Death Anxiety Scores		Statistical Analysis
		Median	Min-Max		Median	Min-Max	
Education status about care of the inpatient with a diagnosis or suspicion of COVID-19							
Yes	486 (78.8)	43.0	1.0-60.0	Z = -2.016 *P* = .044*	12.0	2.0-15.0	Z = -0.673 *P* = .501
No	131 (21.2)	45.5	1.0-53.0		12.0	4.0-15.0	
Witnessing the death of any patient							
Yes	563 (91.2)	43.0	1.0-59.0	Z = -1.128 *P* = .259	12.0	2.0-15.0	Z = -2.642 *P* = .008**
No	54 (8.8)	45.0	30.0-60.0		13.0	2.0-15.0	
Witnessing the death of a patient with diagnosed or suspected COVID-19							
Yes	125 (20.3)	44.5	1.0-57.0	Z = -2.592 *P* = .010*	12.0	4.0-15.0	Z = -0.811 *P* = .418
No	492 (79.7)	42.0	1.0-60.0		12.0	2.0-15.0	
Fear of getting infected with COVID-19							
Yes	484 (78.4)	43.0	1.0-59.0	Z = -1.094 *P* = .274	12.0	4.0-15.0	Z = -6.283 *P* < .001**
No	133 (21.6)	43.0	1.0-60.0		11.0	2.0-15.0	
Fear of carrying COVID-19 to the family							
Yes	593 (96.1)	45.0	1.0-60.0	Z = -0.087 *P* = .931	13.0	2.0-15.0	Z = -1.686 *P* = .092
No	24 (3.9)	44.5	1.0-60.0		13.0	9.0-14.0	
Living separately from the family in order not to infect the infection							
Yes	263 (42.6)	42.0	1.0-60.0	χ^2 = 0.575 *P* = .750	12.0	3.0-15.0	χ^2 = 1.468 *P* = .480
Sometimes	129 (20.9)	43.0	1.0-59.0		12.0	4.0-15.0	
No	225 (36.5)	42.0	1.0-60.0		12.0	2.0-15.0	
Psychological support requirements							
Yes	328 (53.2)	44.0	1.0-60.0	Z = -4.022 *P* < .001**	13.0	4.0-15.0	Z = -5.198 *P* < .001**
No	289 (46.8)	42.0	1.0-58.0		11.0	2.0-15.0	
Problems/problems related to the care of their child or children during the COVID-19 epidemic							
Yes	137 (57.6)	46.0	1.0-60.0	Z = -1.039 *P* = .299	13.0	7.0-15.0	Z = -4.976 *P* < .001**
No	101 (42.4)	43.0	24.0-58.0		12.0	2.0-15.0	
The situation that the working conditions of the nurse negatively affect the child or children							
Yes	170 (71.4)	45.0	1.0-59.0	Z = -1.150 *P* = .250	13.0	2.0-15.0	Z = -2.768 *P* = .006**
No	68 (28.6)	42.5	24.0-58.0		11.5	5.0-15.0	

Z = Mann-Whitney U test, χ^2 = Kruskal-Wallis H test.
*P < .05, **P < .01.
COVID-19, coronavirus disease 2019; Max, maximum; Min, minimum.

In this study, it was seen that the anxiety scores of the nurses increased as their professional working year increased (P < .05) (Table 2). Previous studies also found that long-term and intensive working increased nurses' anxiety levels.[20,22] This finding is consistent with the literature. Nursing is a difficult profession that requires shift work and long-term work. Overcoming these difficulties can cause more anxiety in individuals over the years.

In this study, there was no difference between the nurses' status of choosing the profession willingly, opinions about their profession

Table 4. Comparison of Death Anxiety and Anxiety Scores

	Anxiety Scores	
	r*	*P*
Death anxiety scores	.139	.001**

*r= Spearman test, ** *P* < .01

(Table 2), educational level, department, and working style and their anxiety scores (*P* > .05). The literature states that the differences in the status of choosing the profession willingly and working conditions may affect individuals' anxiety levels differently.[13,26,27] The difference between our study result and the literature findings may be associated with the fact that the research was carried out during the pandemic and that the health professionals who knew that they had the biggest role during this process went into their responsibility wholeheartedly.

In this study, the anxiety scores of the nurses who did not receive training about the care of patients diagnosed with or suspected to have COVID-19, witnessed the death of patients diagnosed with or suspected to have COVID-19, and stated that they needed psychological support were higher than the others (*P* < .05) (Table 3). Our study result is similar to those in the literature. A study reported that insufficient knowledge about the disease during the pandemic and witnessing the death of patients diagnosed with COVID-19 increased the anxiety levels of nurses.[19] Kang et al.[28] stated in their study that 17.5% of nurses received professional support during the COVID-19 pandemic and that 36.3% of them read relevant books to gain knowledge. All these results demonstrate that nurses should be supported psychologically during the pandemic. In this process, a guide for psychological crisis intervention was prepared for health workers and psychological support line teams were established.[29] The "COVID-19 Nurse Training Guide and Care Algorithms" prepared by the Turkish Nurses Association has emphasized that necessary measures should be taken to protect health workers from burnout.[30] It is important to add new attempts and ensure that all nurses who need psychological support can access these services.

In this study, there was no difference between the status of witnessing the death of any patient, the fear of getting infected with COVID-19, the fear of transferring COVID-19 to the family, the status of living separately from the family not to infect the family, the status of having problems with the care of a child or children in this process, and the negative effects of working conditions on a child or children (Table 3) and nurses' anxiety scores (*P* > .05). There was no difference between the status of working in a hospital including a coronavirus clinic, the status of having patients with diagnosed or suspected COVID-19 hospitalized in the clinic, the status of giving care to patients with diagnosed or suspected COVID-19, and the status of having sufficient protective equipment in the working environment and the anxiety scores of the nurses (*P* > .05). Furthermore, there was no difference between the status of having a relative diagnosed with or suspected to have COVID-19 and the status of having a relative who died because of COVID-19 and the anxiety scores of the nurses (*P* > .05). Previous studies reported that working conditions may affect individuals' anxiety levels differently.[13,26,27] However, there is no study in the literature examining all these characteristics. The reason for no difference may be attributed to the fact that nurses who had the same living conditions experienced anxiety similarly during the pandemic.

In this study, the nurses who were female, were married, had at least one child, had an extended family, had an income more than expenses, and did not smoke and use alcohol had higher death anxiety scores than the others (*P* < .05) (Table 1). Previous studies reported that nurses who were married and had children were more afraid of losing their families.[19-22] Nurses who live with a higher number of people in the family have higher anxiety levels because they are afraid of transmitting the infection to their family.[19] Smoking and alcohol use harm people's health. Individuals knowingly maintain these bad habits, and they also take all the risks of harm.[31] It is seen that people who stay away from such addictions attach importance to their health and life and have high levels of death anxiety.[32]

In this study, no difference was found between the region of residence (Table 1), place of residence (city center, district, village/town), age, the status of having a diagnosed chronic disease, and the status of having a diagnosed psychological disease and the death anxiety scores of the nurses (*P* > .05). There was also no difference found between the professional working year, the status of choosing the profession willingly, thoughts about their profession (Table 2), educational level, department, and the way of work and the death anxiety scores of the nurses (*P* > .05). There is no study in the literature comparing these characteristics with death anxiety. Death is a subjective concept, and the fear and anxiety of death vary from person to person. Differences in personal characteristics, region, and working conditions may affect death anxiety differently.[33-35] However, in our study, some of the descriptive and professional characteristics we presented here did not affect the level of death anxiety.

Death anxiety levels of nurses who did not witness the death of any patient, were afraid of getting infected with COVID-19, stated that they needed psychological support, had problems with the care of their child or children in this process, and thought that working conditions negatively affected their child or children were higher than the others (*P* < .05) (Table 3). Witnessing the death of people in the past can allow individuals to develop mechanisms to cope with the concept of death. This may be associated with the high death anxiety of nurses who have not previously witnessed the death of any patient. A previous study stated that nurses were afraid of getting infected, transmitting the infection to their families, and losing their loved ones during the COVID-19 pandemic.[19] Studies reported that nurses with children among those who work intensely during the pandemic experience more stress and fear of losing their children.[20,22] A mother's biggest fear is the things that will happen to her children if something goes wrong with the mother. Nurses have problems with the care of their children during working hours even when they are alive.[19] This shows that nurses do not receive sufficient social support for child care and may be the reason for the high level of death anxiety in nurses compared with others.

There was no difference found between the status of working in a hospital with a coronavirus clinic, the status of having a patient with diagnosed or suspected COVID-19 hospitalized in the clinic, the status of giving care to a patient with diagnosed or suspected COVID-19, and the status of having sufficient protective equipment in the working environment and the death anxiety scores of the nurses (*P* > .05). Nurses provide care to many patients, including those diagnosed with an infectious disease.[35] They prepare for such situations with the courses they have taken during their student years and the practices they have made. Moreover, they can access current information through in-service training given after graduation. For this reason, these characteristics may have not affected the death anxiety levels of the nurses.

There was no difference between the status of receiving training about the care of a patient with diagnosed or suspected COVID-19, the status of witnessing the death of a patient with diagnosed or suspected COVID-19, the fear of transferring COVID-19 to the family, and the status of living separately not to infect the family (Table 3) and the death

anxiety scores of the nurses (P > .05). Furthermore, there was no difference between the status of having a relative diagnosed or suspected with COVID-19 and the status of having a relative who died because of COVID-19 and the death anxiety scores of the nurses (P > .05). There is no study in the literature comparing these characteristics with death anxiety. Death anxiety can differ depending on many factors.[34,36] However, individuals who frequently encounter death attribute different meanings to death; thus, death anxiety may not be affected by external factors.[37] Nurses have occupational risks in times other than a pandemic, such as the risk of infection and the risk of transferring the infection to their families. Moreover, nurses know what is needed to prevent them. This may be associated with the fact that all these characteristics did not affect the death anxiety levels of the nurses.

In this study, it was found that the anxiety (41.72 ± 8.91) and death anxiety (11.58 ± 2.59) levels of the nurses were high and that there was a significant correlation between them. A previous study stated that health workers experienced intense anxiety and fear of death during the coronavirus pandemic and recommended to increase psychological support systems for health workers.[38] In the literature, it was emphasized that nurses with a high level of anxiety during the epidemic period should be supported psychologically.[39,40] In other studies, it was found that nurses' death anxiety was high.[41,42] Another study found that anxiety, depression, and burnout levels are higher among health workers during outbreaks compared with the general population.[43] In a study conducted with nurse candidates, it was found that anxiety levels were high because of the pandemic.[44] Other studies emphasized that the anxiety level of health workers was high during the COVID-19 pandemic.[45-47] This study result is consistent with the literature. Reducing nurses' anxiety levels can also reduce death anxiety. This result is important in terms of revealing the necessity of monitoring nurses' psychology closely during the COVID-19 pandemic and providing the necessary support. The studies in the literature stated that nurses should be given psychological support during the epidemic period.[48-51]

Limitations of the Study

The limitation of the research was that the research was conducted online with nurses working in Turkey.

Conclusion

In this study, it was determined that the concern of death and anxiety levels of nurses were high; there was a significant correlation between them; nurses are afraid of getting infected and transferring the infection to their families; and some nurses were living separately from their families for this reason. The nurses stated that they had problems with the care of their children during the pandemic, and this period affected their children negatively. In this period, more than half of the nurses stated that they needed psychological support.

In this study, it was determined that anxiety and concern of death levels of nurses were affected by many factors. It was found that anxiety scores of the nurses who were married, had at least one child, had a large family structure, were living in the Central Anatolia Region, had more years of work, did not receive training in the care of patients with diagnosed or suspected COVID-19, witnessed the death of these patients, and stated that they need psychological support are higher. Factors affecting the concern of death include being female, being married, having at least one child, having a large family structure, and having a good family income. In addition, it was detected that the concern of death levels of the nurses who have not witnessed the death of any patients until now, stated that they were afraid of being infected with COVID-19 and needed psychological support, and thought that they had problems with the care of their children and working conditions affected negatively their children were higher.

We recommend to closely monitor the psychological health of nurses with characteristics that increase anxiety and the concern of death and to increase the attempts to provide psychological support.

Ethics Committee Approval: Ethics committee approval was received for this study from the Eskişehir Osmangazi University Non-Interventional Clinical Research Ethics Committee (date and number: 07.05.2020 and 2020/01).

Informed Consent: Written informed consent was obtained from the participants who agreed to take part in the study.

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