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LABORING HEALTH: DEATH ANXIETY AND DEPRESSION LEVELS OF NURSES WORKING IN COVID-19 INTENSIVE CARE

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Abstract: This study was aimed to be conducted to determine the death anxiety and death-related depression of nurses who work in the Covid-19 intensive care units. The study was carried out descriptive study with 264 nurses working in 11 Covid-19 intensive care units within the pandemic department of a hospital. Data were collected by Nurse Introduction, Templer Death Anxiety Scale and Death Depression Scale. It was found that the anxiety levels of the nurses were high and their depression levels were moderate; The Death Anxiety Scale and Death Depression Scale scores of the nurses who did not feel any emotion related to the deaths of Covid patients were higher than those who felt sadness and anxiety (P<0.05). A moderate, positive and significant relationship was found between Death Depression Scale and Death Anxiety Scale total scale scores. For nurses working in intensive care, it is recommended to make new plans for crisis management and to take measures to manage death depression and anxiety.

Keywords: Death anxiety, Death-related depression levels, Covid-19, Laboring health, Intensive care

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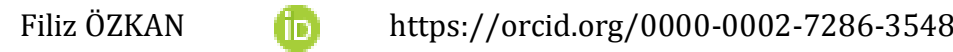
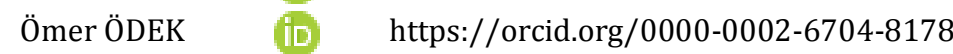
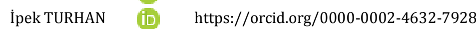
Filiz ÖZKAN  https://orcid.org/0000-0002-7286-3548
Ömer ÖDEK  https://orcid.org/0000-0002-6704-8178
İpek TURHAN  https://orcid.org/0000-0002-4632-7928

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1. Introduction

Covid-19 emerged in December 2019 in Wuhan, which is the capital of the Hubei region and one of the largest industrial and commercial centers in China. On March 11, 2020, the epidemic was declared a "pandemic" by the WHO (Aslan, 2020). The virus can be transmitted very quickly from person to person with its high transmission ability. As of March 1, the number of coronavirus cases in the world has exceeded 116 million, and the number of deaths has exceeded 2.5 million (Kao and Perng, 2021).

OSHA (Occupational Safety and Health Administration) evaluates healthcare workers in the very high and high-risk groups in terms of the risk of COVID-19 infection (Quinn et al., 2021). Along with the pandemic, nurses have started to provide end-of-life care frequently, in addition to their fear of death, and have become the person who meets all the needs of patients who do not share the same environment with anyone, including their families (Jackson et al., 2020). Studies have found that being infected or being with people who have Covid-19 increases the negative mental effects (Sakaoğlu et al., 2020). In addition, as a result of studies examining the anxiety status of health workers, it was found that as health workers' direct contact with infected people increases, their anxiety level increases and they experience psychological/mental problems (Bohlken et al., 2020; Çevik Aktura and Özden, 2020; Fukuti et al., 2020; Jiang, 2020; Lai et al., 2020). It has been determined that health workers, especially nurses, reported high levels of anxiety, stress, emotional fatigue and depressive symptoms in studies (Al Maqbali, et al., 2020; Anmella et al., 2020; Lai et al., 2020; Zerbini, et al., 2020).

Death is one of the threat perceptions for living things and health care environments are places where death cases are frequently experienced. Health professionals working with terminally ill patients are faced with the reality of their death while experiencing the fact of death closely and have to provide care to the terminally ill patient and his/her family. Therefore, there is a need for health professionals to face the problems of life and death, and to investigate their feelings towards death. Revealing the meanings attributed by health professionals to illness and death in care environments is a prerequisite for gaining the right approach (İnci and Öz, 2012). Determined that 19% of the nurses working in the intensive care clinic experienced emotional wear while caring for a terminally ill patient. It was determined that 18% of the nurses felt helplessness/inadequacy, and it was determined that half of them were negatively and badly affected by caring for the dying patient (Ay and Gençtürk, 2013).

With the Covid-19 pandemic, the changing status of intensive care workers, who are in the very high-risk group, should also be determined. It has been proven by studies that working in a high-risk group, working in a

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health care environment where death is common, and experiencing many changes in intensive care and working standards cause many problems in the mood of nurses (Cao et al., 2020; Jackson et al., 2020; Kang et al., 2020; Maria et al., 2020). Especially with the Covid-19 pandemic, the change in the process in the intensive care unit may have changed the views of nurses about death, and this may have changed their fears and concerns. It has been determined that there is no study about this subject in the literature. For this reason, the aim of this study was to be conducted to determine the death anxiety and death-related depression of nurses who work in the Covid-19 intensive care units. Research questions: 1-What is the death anxiety of the nurses who work in the intensive care unit during the Covid-19 pandemic? 2 -What is the death depression level of the nurses who work in the intensive care unit during the Covid-19 pandemic? 3- What are the factors affecting the level of death anxiety and death-related depression of nurses who work in the intensive care unit during the Covid-19 pandemic? 4- What is the relationship between the death anxiety of nurses who work in the intensive care unit during the Covid-19 pandemic and the level of depression related to death?

2. Material and Methods

2.1. Study Design and Participants

This study was conducted as a descriptive and cross-sectional study to determine the attitudes towards death, death anxiety and death-related depressions of nurses working in the Covid-19 intensive care unit.

The population of the research consists of nurses working in the pandemic intensive care units of Kayseri City Hospital, which is determined as a pandemic hospital by the Ministry of Health in Kayseri. The research was conducted between 01.05.2021 and 01.08.2021. There are 11 Covid-19 intensive care units and 360 working nurses in the hospital. In the study, it was aimed to reach the entire population of which the sample was not selected. However, the study was completed with 264 nurses because 96 nurses did not accept the study, completed the questionnaires, and did not meet the inclusion criteria. Inclusion Criteria: Having worked in the service for at least one month, being able to respond to the survey from your phone. Exclusion Criteria: Not completing the survey.

2.2. Data Collection Tools

Data were collected by Nurse Introduction Form, Templer Death Anxiety Scale (DAS) and Death Depression Scale (DDS). The data of the study were collected using an online questionnaire. The contact information of the individuals who agreed to work in consultation with the hospital management were obtained, the study was explained, and the questionnaires were sent online.

2.2.1. Nurse introduction form

It is a form consisting of 14 questions created by the researcher with the knowledge of the literature to reveal the demographic characteristics of the individuals in the study, their occupational characteristics and their thoughts on death (Sakaoğlu et al., 2020; Jackson et al., 2020).

2.2.2. Templer death anxiety scale (DAS)

It is a self-report scale consisting of 15 items to determine the level of death anxiety, developed by Templer in 1970 and validated in Turkish by Şenol in 1989. It is a scale of expressions such as anxiety, fear, and horror-related to death. The reliability coefficient of the Templer scale was found to be 0.76, while Şenol found it to be 0.86. The score range is between 0-15. The higher the scores, the higher the death anxiety was interpreted. It can be accepted that people with an average score of 7 and above have high death anxiety (Şenol, 1989; Templer, 1970).

2.2.3. Death depression scale (DDS)

This scale was developed by Templer, Lavoie, Chalguijan, and Thomas Dobson in 1990 and consists of 17 items. Turkish validity and reliability study was done by Yaparel and Yıldız. At the end of the application, the lowest score is 0 and the highest is 17. As the mean score of the scale increases, the incidence of depression in individuals increases. Cronbach's alpha coefficient of the artificial scale was found as α=0.74 (Templer et al., 1990; Yaparel and Yildiz, 1998).

2.3. Statistical Analysis

In the study, the IBM SPSS Statistics 22.0 package program was used in the evaluation of the data (IBM Corp., Armonk, New York, USA). Descriptive statistics are given as number of units (n), percentage (%), mean ± standard deviation ($\bar{X}$±SD), median, and %25-%75 percentage. The statistics was determined according to the normal distribution. The Cronbach Alpha (α) value for the reliability of the scales has been calculated. When p values were calculated less than 0.05, it was considered statistically significant. DAS and DDS scales do not show normal distribution. Mann-Whitney U and Kruskal Wallis tests were used in comparison of individuals' characteristics with DDS and DAS Scale scores. In addition, Spearman Correlation Analysis was used to test the existence of the relationship between the variables.

3. Results

In the study, the age ($\bar{X}$±SD), value of the nurses was 29.0±5.7; 60.6% were women, 40.2% were married, and 82.2% had Bachelor's degrees. It was found that 29.2% of the nurses have faced death every day, 87.1% had no difficulty in giving care to the dying patient, 28.4% of them did not feel any emotion while giving care to a dying patient, and 15.9% of them did not feel any emotion while giving care to a patient dying due to the COVID-19 (Table 1).

In the study, the median value of the nurses' DAS total scores was 7.0, while the median value of the DDS total score was 8.0 (Table 2). In the study, it was found that 55.3% of the nurses had high death anxiety (Table 3).

Table 1. Socio-demographic and working status characteristics of nurses

Socio-demographic characteristics	Number (n)	Percent (%)
Age, $\bar{x} \pm ss$	29.0±5.7	
Gender		
Female	160	60.6
Male	104	39.4
Marital status		
Married	106	40.2
Single	158	59.8
Educational status		
High school	10	3.8
Associate degree	13	4.9
Bachelor's degree	217	82.2
MSc/PhD	24	9.1
Time worked as a nurse		
0-1 years	26	9.8
1-3 years	110	41.7
3-5 years	11	4.2
5-7 years	33	12.5
7-10 years	18	6.8
10 years and above	66	30.0
Death encounter situation		
Encountered	261	98.9
Not encountered	3	1.1
The feeling he/she experiences when he/she encounter death		
Feeling Nothing	79	29.9
Anger, sadness, grief, fear, guilt, despair	185	70.1
Frequency of encountering death		
Everyday	77	29.2
Every 2 days	47	17.8
Every 3 days	29	11.0
Every 4 days	15	5.7
Every 5 days	12	4.5
Every 6 days or longer	84	31.8
Terminal maintenance status		
Yes	263	99.6
No	1	0.4
Difficulty in caring for a dying patient		
Yes	34	12.9
No	230	87.1
The emotion experienced while caring for the dying patient		
Anger, sadness, grief, fear, guilt, despair	189	71.6
Feeling Nothing	75	28.4
The emotion experienced while caring for the patient who died due to COVID-19		
Anger, sadness, grief, fear, guilt, despair	222	84.1
Feeling Nothing	42	15.9
Total	264	100.0

Table 2. Death Anxiety Scale (DAS) and Death Depression Scale (DDS) score distribution and death anxiety scale score level

Scale	Median	(%25 - %75)
DAS total score	7.0	5.0 – 8.0
DDS total score	8.0	5.0 – 11.0

Table 3. Nurses' death anxiety scale score level

Scale score	Number (n)	Percent (%)
Low DAS score (≤7)	118	44.7
High DAS score (>7)	146	55.3
Total	264	100.0

DAS= death anxiety scale

In the study, women's DDS score was 9.0, men's DDS score was 7.0; the emotion that sadness, anxiety, etc. experienced while caring for the patient who died due to the COVID-19 pandemic DDS score was 8.0, those who did not feel anything DDS score was 10.0; the emotion that sadness, anxiety, etc. experienced while caring for the patient who died DDS score was 9.0, those who did not feel anything DDS score was 6.0. In the study, a statistically significant difference was determined between death depression and gender, the emotion experienced while caring for the patient who died due to the COVID-19 pandemic, the emotion experienced while caring for the dying patient, and the frequency of encountering death (Table 4).

In the study, the emotion that sadness, anxiety, etc. experienced while caring for the patient who died due to the COVID-19 pandemic DAS score was 7.0, those who did not feel anything DAS score was 7.5; the emotion that sadness, anxiety, etc. experienced while caring for the patient who died DAS score was 7.0, those who did not feel anything DAS score was 6.0. The DAS score of those who experienced a death in 6 days or longer was determined as 8.0. Moreover, it was found that there was a statistically significant difference between the death anxiety scale and the emotion experienced while caring for the patient who died due to the covid-19 pandemic, the emotion experienced while caring for the dying patient, and the frequency of encountering death (Table 4). A moderate, positive and significant relationship was found between DDS and DAS total scale scores (rho= 0.463; P<0.001) with Spearman rank correlation.

4. Discussion

This study is the first study to determine death anxiety and death-depression of nurses working in intensive care during the Covid-19 pandemic. In the study, it was determined that the nurses felt anger, sadness, grief, fear, guilt, and hopelessness while caring for a dying patient and them felt the same feelings while giving care to a patient dying due to COVID. Similar to our study, in the studies conducted before the pandemic, it was found that the most felt emotion of the health personnel, when faced with death, was sadness (Kara, 2002).

Table 4. Comparison of individuals' characteristics with DDS and DAS Scale scores

Characteristics	DDS		DAS	
	Median	Statistical analysis and P-Value	Median	Statistical analysis and P-Value
Gender				
Female	9.0	6775.5*	7.0	7576.5*
Male	7.0	0.011	7.0	0.216
The emotion experienced while caring for a patient who died due to the Covid-19 pandemic				
Sadness, anxiety, etc. feelings	8.0	3388.0*	7.0	3471.0*
Feeling Nothing	10.0	0.005	7.5	0.008
The emotion experienced while caring for the dying patient				
Sadness, anxiety, etc. feelings	9.0	4513,0*	7.0	5877,0*
Feeling Nothing	6.0	0.000	6.0	0.029
Frequency of encountering death				
Everyday	8.0		7.0	
Every 2 days	8.0		6.0	
Every 3 days	8.0	10.4**	7.0	23,7**
Every 4 days	7.0	0.062	5.0	0.000
Every 5 days	5.5		5.0	
Every 6 days or longer	8.0		8.0	

*Mann-Whitney U, **Kruskal Wallis, DDS= death depression scale, DAS= death anxiety scale.

Similarly, in a study published during the Covid-19 pandemic, 50% of the healthcare professionals' evaluated patient deaths as extremely distressing (Shechter et al., 2020).

As the first and second problematic of the study; It was determined as 'What is the death anxiety and death depression level of the nurses working in the intensive care unit during the Covid-19 pandemic?'. In the study, it was found that the anxiety levels of the nurses in the study were high and their depression levels were moderate. In a similar study, it was found that the anxiety level of those working in the Covid-19 team was higher than the level of depression compared to those who were not in the Covid-19 team. Moreover, 37.9% showed anxiety and 25% depression, while more than half reported at least one post-traumatic stress symptom (Mosheva et al., 2021).

Another problematic of the study; an answer was sought to the question of "What are the factors affecting the death anxiety and death depression levels of nurses working in the intensive care unit during the Covid-19 pandemic?". In the study, it was found that the depression related to death and anxiety about death scale were affected by the emotion experienced while caring for the dying patient, and the emotion experienced while caring for the patient who died due to the covid-19 pandemic. Similarly, in a study conducted by Şahin et al. in 2016, it was determined that the loss of a patient during clinical practice increased death anxiety in nursing students (Şahin et al., 2016; Lázaro-Pérez et al., 2020). Found in their study conducted in Spain during the period when cases and deaths were the most common (79.4%) that healthcare professionals were highly concerned about the death processes of their patients (Lázaro-Pérez et al., 2020). It has been suggested that the anxiety experienced both in our study and in other studies is that health workers experience significant stress and anxiety in the face of the death of the people they care about (El-Hage et al., 2020; Lai et al., 2020; Zhao et al., 2020). Studies have shown that witnessing death in different environments causes post-traumatic stress disorder symptoms among professionals (Lee et al., 2017). In the study of Mosheva et al. (2021), witnessing patient death in the COVID-19 team was associated with twice the likelihood of post-traumatic stress symptoms compared to the non-working team with the COVID-19 patient. Post-traumatic disorders, we found in our study; it is thought that the statistical difference between the depression related to death experienced in healthcare workers and the emotion experienced while caring for the dying patient (Covid 19 cause and normal death) is considered to be significant. In the study, it was found that the frequency of encountering death also affected DAS. Similarly, in Eke (2003)'s study, it was determined that there was a significant difference between the death anxiety of nurses working in clinics where death was experienced frequently and in clinics where death was not experienced frequently. The relationship between witnessing the death of a patient during the pandemic and anxiety and depression can be explained as follows. Longer hospital stays of patients, concern about how the process will progress, not allowing patients to be with their families in their last moments, health care workers remaining as the last person who dying patients see, and the decrease in the average age of death may have increased the psychological burden on health workers (Lichtenthal et al., 2020; Selman et al., 2020). Therefore

in the study; The frequency of encountering death, the emotion experienced while caring for the dying patient, and the emotion experienced while caring for the patient who died due to the covid-19 pandemic were thought to affect anxiety and depression. Mosheva et al. (2021) stated that anxiety and depression can be explained by the overwhelming and irresolvable effects of stress factors and negative experiences during the pandemic, especially by witnessing the death of patients.

In the study, it was determined that there was a statistically significant difference between the death depression scale and gender and that women had higher depression scores than men. Similar to our study, the effect of witnessing patient death in the COVID-19 team on posttraumatic stress disorder was found to be stronger in women than in men (Mosheva et al., 2021). In addition, Luceño-Moreno et al. (2020) found in their study that women had higher levels of anxiety and depression than men. This can be explained by the fact that women are more comfortable in expressing their emotions, and men cannot show their emotions comfortably due to the role of being stronger and fearless (Araz and Direkçi, 2019).

Finally, the answer to the question of "What is the relationship between the death anxiety of the nurses working in the intensive care unit during the Covid-19 pandemic and the level of death depression?" was sought in the study. In the study, a moderate, positive and significant relationship was found between DDS and DAS total scale scores. In other words, as the death anxiety total score of the individuals increases, the total death depression score also increases. Similar to the present study, in studies conducted with different groups, it has been shown that there was a positive and significant relationship between death depression and death anxiety scores (Kang et al., 2020). It can be thought that death anxiety paves the way for depression because it causes individuals to feel a sense of helplessness. In other words, death depression can be evaluated as a reflection of death anxiety. Allan et al (2020), in a systematic review of the mental health of healthcare professionals during the pandemic, determined that the increase in post-traumatic syndrome disorders and psychiatric cases as a result of the pandemic decreased within a year, but was still at a significant level. Considering our study, it is thought that increasing anxiety will increase depression and create an important problem.

5. Conclusion

In the study, it was determined that the anxiety levels of the nurses were high and their depression levels were moderate. In addition, it was found that there was a statistical difference between death depression and death anxiety and gender, frequency of encountering death, the emotion experienced while caring for the dying patient, and the emotion experienced while caring for the patient who died due to the Covid-19 pandemic.

In the light of the results of the study, it is recommended to develop actions aimed at identifying frontline health workers, preventing and managing traumatic stress, especially among those who witnessed patient death. In this context, suggested actions include arranging training for healthcare professionals to reduce their death anxiety, providing psychological assistance, providing support by hospitals and team leaders to better cope with traumatic events and bereavement, ensuring effective team cohesion, and implementing strategies to support the daily work of teams. In the study, it was also observed that as the total score of death anxiety increased, the total score of death depression increased. To prevent increased anxiety from causing depression and psychiatric problems, it is anticipated that the above-mentioned measures are of great importance in terms of employee health. Healthcare workers' exposure to increased anxiety and stress at work, risking their lives, and living with death around them like never before may lead to medical neglect. For this reason, it is important to improve the health of employees for the health of patients. It is recommended to carry out studies on long-term mental health outcomes, where deficiencies and problems can be determined, among healthcare professionals who care for Covid-19 patients. In addition, it is recommended to carry out studies where the results of the applications with the suggested action plans can be evaluated with the determined groups. It has been revealed by the deaths in the world that the individual measures taken during the pandemic process are not sufficient, so it is recommended to carry out projects on a country basis.

Author Contributions

This study was designed by FÖ, ÖÖ and İT. Data were collected by FÖ and ÖÖ. The data were analyzed by FÖ. The writing process of the text of the work was provided by FÖ, ÖÖ and İT. All the listed authors met the authorship criteria and agree with the content of the article. All authors reviewed and approved the manuscript.

Conflict of Interest

The author declared that there is no conflict of interest.

Ethical Approval/Informed Consent

Research was conducted in line with the Declaration of Helsinki and Good Clinical Practice. Aim and scope of the research and the inclusion criteria were explained at the beginning of the survey. On voluntary informed consent was added at the beginning of the survey and participants that did not give voluntary informed consent were not allowed to continue the survey. Ethical permission was obtained from the Kayseri Social and Human Ethics Committee (Date: 27.04.2021-No: 186). In addition, study permission on COVID-19 was obtained from the Ministry of Health and institutional permits were obtained from institutions.

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