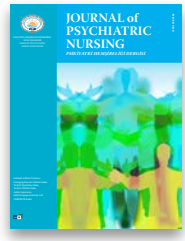
JOURNAL OF
PSYCHIATRIC NURSING

DOI: 10.14744/phd.2025.64624
J Psychiatric Nurs 2025;16(1):30-37



Original Article

Anxiety and death anxiety in individuals who were admitted to the emergency department with suspicion of COVID-19 in decreased pandemic period

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Abstract

Objectives: COVID-19 led to pandemic-related anxiety and death anxiety among Turkish people, and these might continue during the decreased period of the pandemic. There is a lack of studies that are focused on the fear and anxiety of death in individuals during the period when the effects of the pandemic have decreased. This study aimed to investigate COVID-19 anxiety and death anxiety in individuals who were admitted to the emergency department (ED) with suspicion of infection.

Methods: This descriptive cross-sectional study was conducted with 350 individuals between 25 January and 25 April 2022. The research data were collected using the Personal Information Form, the Coronavirus Anxiety Scale (CAS), and the Templer Death Anxiety Scale (DAS).

Results: The CAS score was 0.90±2.23, and the DAS score was 7.72±3.22. The CAS of participants was low, whereas the DAS was moderate. Participants who were women, who had psychiatric problems, and who witnessed death from COVID-19 had higher CAS scores ($p<0.05$). Similarly, women, who had psychiatric problems, who had COVID-19 infection before, and who heard of a death diagnosed with COVID-19 had higher DAS scores ($p<0.05$). There was a positive correlation between the CAS scores and their DAS scores ($r=0.190$; $p\leq0.001$).

Conclusion: This study showed that there was still low COVID-19 anxiety and moderate death anxiety among individuals who were admitted to the ED with suspicion of infection. Knowledge about coronavirus anxiety and death anxiety may assist in providing support to high-risk individuals, especially women, and individuals with psychiatric problems in the emergency units.

Keywords: COVID-19-related anxiety; death anxiety; emergency department

Emergency departments (ED) have great importance in the diagnosis and treatment of acute health problems.[1,2] Patients experience psychological problems, in the form of death worry because of acute medical conditions and the possibility of mortality.[3] Death is among the most important factors that form the thoughts and behaviors of people. Being close to death and encountering a fatal disease may scare individuals. The COVID-19-related high morbidity and mortality have led to a common death fear and anxiety.[4] COVID-19 disease also causes anxiety due to the lack of a specific treatment, uncertainties, and unknowns. These feelings have had negative consequences for the individual's daily routine life and mental health.[5–7] Moreover, it has been stated that these psychological effects related to COVID-19 will continue for a long time.[8]

In the 1st year of the pandemic, the global prevalence of anxiety-related COVID-19 infection increased by 25%.[9] In Southern China, in one study conducted with 1593 participants aged 18 and over reported anxiety rate was 8.3% and the depres-

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Submitted Date: April 16, 2023 **Revised Date:** December 18, 2023 **Accepted Date:** March 07, 2025 **Available Online Date:** March 28, 2025
Journal of Psychiatric Nursing - Available online at www.phdergi.org

sion rate was 14.6%.[10] In Türkiye, researchers reported that the anxiety rate was higher than in other countries during the COVID-19 pandemic.[11,12] Previous studies focused solely on examining the depression rate of patients who were admitted to the ED in Türkiye, but there is a lack of studies that determine the anxiety and death fear of suspicious individuals. One study indicated that there was no significant difference between the anxiety levels of the individuals with suspicion of COVID-19.[13] Other previous studies showed that patients without a diagnosis of COVID-19 had moderate fear,[14] and parents who applied to the pediatric ED had high anxiety during the pandemic.[15]

Health professionals and scientists focused on the pathogen and the effective treatment and proposed measures for preventing and containing the disease during pandemics. The psychological effects of the pandemic on individuals tended to be secondary. Due to this situation, individuals created a gap in coping strategies and boosted the burden associated with diseases.[16] Many people whose mental health is influenced tend to be more than the number of people affected by the COVID-19 infection.[6] One study in Japan indicated that mental health problems may have greater prevalence than the pandemic itself and that the psychosocial impacts may be unpredictable.[8] Even among patients with symptoms, anxiety due to the similarity of the conditions may affect mental health. Even though many people are considered mild symptoms, the psychiatric problems may be significantly high, overloading EDs.[6,17] So far, anxiety related to the pandemic and fear of death in individuals who were admitted to the ED with suspicion of COVID-19 has not been assessed in the Turkish population. Healthcare professionals have important responsibilities in reducing emotions such as anxiety, uncertainty, worry, and fear of death due to the pandemic.[18,19] Knowing the causes of anxiety and death anxiety in individuals and providing a holistic approach by healthcare providers reduce anxiety and fear of death and increase compliance with pandemic rules during the pandemic.[17]

What is presently known on this subject?

- Individuals experienced a sense of death anxiety and anxiety due to the high contagiousness and mortality of the disease and uncertainty during the COVID-19 pandemic. Knowing the causes of anxiety and death anxiety in individuals and providing a holistic approach by healthcare providers reduce anxiety and fear of death.

What does this article add to the existing knowledge?

- The COVID-19 pandemic led to pandemic-related anxiety and death anxiety among Turkish people and these feelings may be continued during the decreased period of the pandemic in Türkiye.

What are the implications for practice?

- The clinical implications of the present study add to managing death anxiety and anxiety in individuals during the COVID-19 pandemic by implementing convenient interventions. The implications that should be implemented to decrease death anxiety include training individuals on how to cope with the pandemic. This approach should be provided using appropriate strategies and based on individual characteristics.

Materials and Method

This study was conducted to investigate the anxiety and death anxiety related to the COVID-19 pandemic among the Turkish adult population.

Type of Research

The research conducted is a descriptive and cross-sectional study.

Research Questions

1. What are the COVID-related anxiety levels of individuals?
2. What are the death anxiety levels of individuals?
3. Is there any relationship between anxiety and death anxiety?

Research Design and Participants

This study was conducted in one of the district hospitals in Karabuk City in Türkiye between 25 January and 25 April 2022. The ED consists of the red, yellow, and green areas, resuscitation room, observation room, triage room, and COVID-19 polyclinics. Suspicious individuals are directed to the polymerase chain reaction (PCR) room in the ED. The PCR room is an area with a different entrance from the ED and a separate waiting room.

This prospective and descriptive study was carried out on a total of 350 people aged 18 and above years who were admitted to the ED in Safranbolu District State Hospital, Karabuk. The inclusion criteria were patients who applied to the ED with the symptoms of COVID-19 were requested PCR tests by the emergency physician, were 18 years and older, gave verbal and written consent to the study, had no communication problems, and had not a disease affecting the capacity to understand, while the exclusion criteria were participants who applied to the ED with other complaints, were under 18 years of age, had communication problems.

Data Collection Method and Tools

Research data were collected using the Personal Information Form, the Coronavirus Anxiety Scale (CAS), and the Templer Death Anxiety Scale (DAS) by the first author with a face-to-face interview. The surveys were pretested with 20 participants for their clarity and readability. The individuals did not report any problems concerning clarity and comprehensibility. Participants who met the inclusion criteria and gave their consent were administered the questionnaire. All the questions were completed within approximately 5–10 min. Information details about data collection tools are presented below.

Personal information form

This form was prepared by the researcher in line with the literature.[12,19–22] It is a questionnaire in which demographics such as age, gender, marital status, and having children were

questioned. In addition to questions about personal characteristics, questions about COVID-19 experiences, and history of chronic diseases were included.

CAS

This scale was developed by Lee et al.[20] in 2020. Each item of this 5-point Likert scale is rated on a 5-point from 0 (never) to 4 (almost every day) based on experience in the past 2 weeks. A CAS total score of 9 or above indicates coronavirus-related dysfunctional anxiety, high scores on a particular item, or a high total scale score (≥9) indicates an individual's problematic symptoms. Şayık et al.[23] showed that CAS is valid and reliable for the Turkish population. It was found that the fit was good in the analysis for the content validity of the scale (Kendall's W=0,20, p=0.092). Their study indicated that Turkish CAS was determined to be a highly reliable scale (Cronbach's Alpha=0.809), the item-total correlation of the items of the scale was high, and the internal consistency was at a good level.

Templer DAS

This scale was developed by Templer and it has been validated for the Turkish population.[24,25] Test–retest reliability of the scale and KR-20 reliability were found 0.79 and 0.75, respectively. Their results supported the accuracy of the scale's psychometric features in the Turkish people. The scale, which consists of 15 items and aims to measure the death anxiety of the individual, is in the form of true-false. Correct answers are given 1, wrong answers are given 0 points, and in the test scored between 0 and 15, it shows that death anxiety increases as the scores increase. Scores from 4.5 to 7 indicate normal levels of death anxiety and a score of 8 points or more is interpreted as having high death anxiety. We found the Cronbach alpha value was 0.712.

Statistical Analysis

The data were analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 20 (SPSS, Inc. Chicago, IL). Descriptive statistics (i.e., means, frequencies, percentages, minimum, and maximum value) were used for the distribution of the variables. The Kolmogorov–Smirnov test was used for the normal distribution of continuous data and scale scores. In the comparison of the demographic characteristics of the participants with the CAS and DAS scores, the Mann–Whitney U-test was used in 2 groups, and the Kruskal–Wallis Analysis of Variance was used in more than two groups. Correlation analysis was done to assess the relationship between participants' DAS and CAS mean scores using the Pearson correlation coefficient (r). A $p<0.05$ was considered statistically significant.

Ethical Considerations

Ethical approval for the study was obtained from the ethical review committee of Karabuk University (Date: January 20, 2022; No: 2022/771) and institutional permission was obtained from the administration of the cosmetic surgery clinics where the study was conducted (E-72315660-000-1312). We explained the aim of the study and received informed written consent from each participant. All data were stored in a secure, locked safe. The individuals were assured that they were not obligated to participate, and they had the right to withdraw from the present study at any time. The study was conducted by the Declaration of Helsinki. In addition, permission was granted by the authors to use the scales.

Table 1. Participants' history of COVID-19 (n=350)

History of COVID-19 (yes answers)	n	%
Had COVID-19 infection before	155	44.3
Witnessed a death diagnosed with COVID-19	101	28.9
Heard of a death diagnosed with COVID-19	257	73.4

Table 2. Participants' CAS and DAS total mean scores

	Mean±SD	Medium (min-max)
CAS total mean score	0.90±2.23	0 (0–20)
DAS total mean score	7.72±3.22	8 (0–15)

CAS: Coronavirus anxiety scale; DAS: Death anxiety scale; SD: Standard deviation.

Results

Table 1 displays the history of the study participants. From the total sample, 44.3% of the participants had a COVID-19 infection, 28.9% reported a death diagnosed with COVID-19, and 73.4% heard of a death diagnosed with COVID-19.

Table 2 features participants' CAS and DAS total mean scores. It was found that the mean of the participants' CAS total mean score was 0.90±2.23, whereas the mean score of DAS was 7.72±3.22.

It was determined that women's CAS scores were higher than men's ($p<0.05$). There were no significant differences between the participant's marital status, occupation, education, presence of chronic disease (respiratory system, heart, circulatory system disease, diabetes mellitus), and mean CAS scores ($p>0.05$). The mean CAS score of those who witnessed death with a diagnosis of COVID-19 was found to be higher ($p<0.05$) (Table 3).

In the study, there was a difference between the mean DAS scores of women and men ($p<0.05$), whereas no difference was found between the mean score of marital status, education level, respiratory system, heart and circulatory system, diabetes mellitus, and the mean scores of DAS ($p>0.05$). Furthermore, a difference was found between the mean DAS scores of the participants with and without a psychiatric illness ($p<0.05$). How-

Table 3. Comparison of the participants' sociodemographic characteristics, COVID history, and CAS scores (n=350)

	n	CAS scores		Test statistics	p
		Mean±SD	Median (min-max)		
Gender					
Male	174	0.70±1.987	0 (0–20)	U=13702.5	**0.034**
Female	176	1.11±2.44	0 (0–16)		
Marital status					
Single	164	0.77±1.50	0 (0-7)	U=15216.0	0.962
Married	186	1.02±2.72	0 (0-20)		
Education					
Primary	50	1.18±2.78	0 (0–15)	KW=0.110	0.946
High	92	1.05±2.97	0 (0–20)		
University and above	208	0.77±1.62	0 (0–13)		
Working status					
Worker	195	0.80±2.12	0 (0–20)	U=14477.0	0.399
Nonworker	155	1.03±2.37	0 (0–16)		
Respiratory system diseases					
Yes	14	0.50±1.09	0 (0–4)	U=2268.5	0.779
No	336	0.92±2.26	0 (0–20)		
Cardiovascular diseases					
Yes	23	0.70±1.66	0 (0–6)	U=3490.5	0.473
No	327	0.92±2.27	0 (0–20)		
Diabetes mellitus					
Yes	25	1.16±3.35	0 (0–16)	U=4003.5	0.880
No	325	0.88±2.13	0 (0–20)		
Psychiatric illness					
Yes	7	5.14±5.24	4 (0–16)	U=359.5	**<0.001**
No	343	0.82±2.05	0 (0–20)		
Had COVID-19 infection before					
Yes	155	1.06±2.85	0 (0–20)	U=15095.0	0.981
No	195	0.78±2.85	0 (0–10)		
Witnessed a death diagnosed with COVID-19					
Yes	101	1.25±2.23	0 (0–16)	U=10237.0	**0.001**
No	249	0.76±2.22	0 (0–20)		
Heard of a death diagnosed with COVID-19					
Yes	257	0.84±1.94	0 (0–16)	U=11923.0	0.967
No	93	1.09±2.89	0 (0–20)		

CAS: Coronavirus anxiety scale; SD: Standard deviation.

ever, there was no difference between the DAS scores of the participants who witnessed a death with a COVID diagnosis and those who did not, while there was a difference between the DAS scores of those who had COVID-19 infection and those who did not, those who had heard of a death diagnosed with COVID-19 and those who did not ($p<0.05$) (Table 4).

Results showed that there was a positive correlation between the CAS scores of the participants and their DAS scores ($p<0.001$). As the participants' CAS scores increased, their DAS scores also increased (Table 5).

Discussion

The present cross-sectional study was conducted with Turkish participants to evaluate COVID-19-related anxiety and death anxiety during the decreased period of the pandemic in Türkiye. Results of the present study showed individuals who came to the ED with symptoms had a low level of anxiety related to COVID-19 and a medium level of death anxiety COVID-19. This can be explained by the fact that COVID-19 was a global issue that still caused death anxiety in Türkiye.

Table 4. Comparison of the participants' sociodemographic characteristics, COVID-19 history, and DAS scores (n=350)

	n	DAS total mean score		Test statistic	p
		Mean±SD	Median (min-max)		
Gender					
Male	174	7.25±3.07	8 (0–14)	U=13148.0	0.022
Female	176	8.17±3.30	8 (0–15)		
Marital status					
Single	164	7.51±3.28	7 (0–15)	U=14066.0	0.207
Married	186	7.89±3.16	8 (0–15)		
Education					
Primary education	50	7.60±2.77	7 (1–14)	KW=1.327	0.515
High school	92	8.02±3.27	8 (1–14)		
University and above	208	7.61±3.30	8 (0–15)		
Working status					
Worker	195	7.67±3.12	8 (0–15)	U=14983.0	0.890
Nonworker	155	7.78±3.34	8 (1–14)		
Respiratory system diseases					
Yes	14	8.42±3.27	8.5 (2–14)	U=2069.0	0.443
No	336	7.69±3.22	8 (0–15)		
Cardiovascular disease					
Yes	23	7.69±2.78	8 (2–13)	U=3722.5	0.935
No	327	7.72±3.25	8 (0–15)		
Diabetes mellitus					
Yes	25	8.44±3.55	9 (2–14)	U=3453.0	0.209
No	325	7.66±3.19	8 (0–15)		
Psychiatric illness					
Yes	7	10.42±3.90	12 (2–14)	U=565.5	0.016
No	343	7.66±3.18	8 (0–15)		
Had COVID-19 infection before					
Yes	155	8.30±3.02	9 (1-15)	U=12085.5	0.001
No	195	7.25±3.30	7 (0-15)		
Witnessed a death diagnosed with COVID-19					
Yes	101	7.66±3.23	8 (1–15)	U=12422.0	0.858
No	249	7.74±3.22	8 (0–14)		
Heard of a death diagnosed with COVID-19					
Yes	257	8.07±3.19	8 (1–15)	U=8889.0	<0.001
No	93	6.74±3.95	7 (0–14)		

DAS: Death anxiety scale; SD: Standard deviation.

Table 5. Correlation between participants' DAS and CAS scores

	DAS	
	r*	p
CAS	0.190	<0.001

*: Spearman's correlation coefficient. DAS: Death anxiety scale; CAS: Coronavirus anxiety scale.

In the present study, individuals had a low level of COVID-19-related anxiety and moderate death anxiety. Coronavirus anxiety has been evaluated in both healthcare providers and the general population, and a high average level of coronavirus anxiety was reported in both national and international studies carried out between 2020 and 2021 when uncertainties and fear of death. These studies indicated health providers' anxiety, fear, burnout, hopelessness, and depression were found to be high during this period.[8,21,26,27] On the contrary, Hajek and König[28] found that about 72% of the German participants did not report coronavirus anxiety at all. Much literature indicates that death anxiety related to the pandemic was one of the most fear-related factors among people.[10–12,18,29,30] Our results

support the findings from other studies. A study by Sakip et al.[31] demonstrated anxiety about the COVID-19 rate was very high among both the general population and healthcare professionals during the pandemic in Bangladesh. These studies were conducted during increased COVID-19 infection and uncertainties in treatment and prognosis. In our study, we can say that the anxiety rate was very low compared to other studies. The causes may be that the pandemic gradually decreases its effect, individuals get used to the pandemic, the death rate decreases, and the severity of the symptoms is not serious. In addition, Turkish individuals' thinking about the protective effect of the vaccine and reducing the death rate, and the comforting statements of the health authorities about the pandemic may affect the results of the study. A low level of anxiety about COVID-19 may reflect habituation to the infection. But this situation may also reflect careless behaviors. High levels of death anxiety may be attributed to adverse consequences for mental health. However, our results showed that the fear of death continued when the effect of the COVID-19 epidemic decreased.

We found that women's anxiety levels and fear of death were higher than men's. Similarly, previous studies have shown the female gender as the most important predictor of anxiety and fear of death due to the COVID-19 pandemic.[21,31–33] The instinct of women to protect their family, and loved ones, and the fear of losing their relatives due to the pandemic may cause anxiety and fear of death in women.[33,34] In general, anxiety and death anxiety levels may have increased during the pandemic because women experience anxiety and death fear, maternal instincts, protective instincts, and fear and anxiety that their relatives and loved ones will be harmed and react more intensely emotionally.

We found that although there are few individuals with psychiatric problems, these individuals experienced more COVID-19-related anxiety. In one study conducted in Türkiye presence of psychiatric diseases has been identified as the most potent predictor of anxiety and fear anxiety after the pandemic.[33] In general, the pandemic is a source of secondary anxiety, stress, and depression in people massively. During the intense periods of the COVID-19 pandemic, the risk of infection and the high rate of spread, the inability to provide sufficient information about the virus by the authorities, the inability to control the virus, the lack of correct treatment, uncertainties in vaccination been reported reasons death fear and anxiety in the society. Death anxiety and COVID-19-related anxiety caused by the possible disease may impose a high level of psychological burden, causing mental diseases, disturbing the immune system, and decreasing the body's ability to cope with the disease.[30] On the other hand, it has been stated that it may cause primary and secondary psychiatric effects in individuals due to quarantine, not working, stigmatization, and social isolation. It also causes triggering and exacerbates existing symptoms in individuals with psychiatric illnesses. Therefore, healthcare providers should follow up on people with psychiatric diseases caused by the pandemic.[6,19,22]

In this study, we found that the anxiety levels of people who witnessed death with a diagnosis of COVID-19 were higher, and the death anxiety was higher in those who heard of death with a diagnosis of infection. Since the beginning of the pandemic, it has increased the anxiety of death and COVID-19-related anxiety in all countries around the world. Similarly, previous studies showed that anxiety and death fear are intense and cause burnout in people with a history of contact and whose relatives have positive PCR tests.[33,34] In our study, the DAS score of individuals with high CAS score averages also increased positively. In one study conducted in Türkiye, as the anxiety of healthcare workers increases due to COVID-19, they experience a more intense fear of death. It has been found that more intense depression is seen in individuals who experience anxiety.[11] Although there is no study comparing anxiety and death fear due to COVID-19, we think that these findings support other studies in terms of psychiatric problems.

Strengths and Limitations

This study has several limitations due to the cross-sectional design which is based on self-reported data. The responses of patients who applied to the ED with the suspicion of COVID-19 are limited to the questions measured by DAS and CAS scales; therefore, this study cannot be reflected across the country. In addition, the cross-sectional design of this survey may create a barrier that does not allow us to emphasize determining the cause-effect relationships. Therefore, future research is required to clarify the correlates of anxiety. Other data gathering or mixed methods such as observations and deep interviews may be used in future studies to overcome these issues. The information was gathered from a self-administered questionnaire, so we cannot eliminate bias. In addition, the individuals' avoidance of contact with the pen and questionnaire sheet during the data collection and their unwillingness to extend their stay in the hospital affected the number of participants. The other limitation is that we did not examine the vaccination status and type of psychological illness of the participants, so we could not determine the relationship between vaccination status, type of psychological illness, and death anxiety.

Conclusion

In the present study, we indicated that the anxiety level of the participants was low, and the results showed the fear of death continued on the days when the effect of the COVID-19 epidemic decreased. In addition, the anxiety and death fear of women due to coronavirus is significantly higher than men, the anxiety and death fear of individuals with psychiatric dis-

ease are significantly higher than others, and the anxiety levels of individuals who have lost someone are significantly higher. It was determined the death fear of individuals who heard of death with the diagnosis of COVID-19 was significantly higher than others. There was a positive correlation between coronavirus anxiety and death fear. In line with these results, it is recommended to obtain detailed information about the sociodemographic characteristics and COVID-19 history of individuals who came to the ED and to plan or organize interventions to reduce anxiety and death fear, especially for women and individuals with psychiatric disorders.

Acknowledgments: The author thanks the individuals who participated in the study.

Ethics Committee Approval: The study was approved by the Karabuk University Non-interventional Clinical Research Ethics Committee (No: 2022/771, Date: 20/01/2022).

Authorship Contributions: Concept – I.I.A., E.B.; Design – I.I.A., E.B.; Supervision – I.I.A., E.B.; Fundings - I.I.A., E.B.; Materials – I.I.A., E.B.; Data collection &/or processing – E.B.; Analysis and/or interpretation – I.I.A., E.B.; Literature search – I.I.A., E.B.; Writing – I.I.A., E.B.; Critical review – I.I.A., E.B.

Conflict of Interest: There are no relevant conflicts of interest to disclose.

Use of AI for Writing Assistance: No AI technologies utilized.

Financial Disclosure: The authors declared that this study has received no financial support.

Peer-review: Externally peer-reviewed.

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