Check for updates

Received: 30 July 2023 | Revised: 18 October 2023 | Accepted: 24 October 2023

DOI: 10.1111/nicc.13007

RESEARCH ARTICLE

BACCN Nursing in Critical Care WILEY

The correlation between death anxiety, loneliness and hope levels in patients treated in the cardiac intensive care unit

Dilek Yildirim RN, PhD[1] | Ozlem Akman RN, PhD[2] | Serpil Ozturk MD[3] | Ozlem Yakin RN[3]

[1]Faculty of Health Sciences, Department of Nursing, Istanbul Aydın University, Istanbul, Turkey

[2]Faculty of Health Sciences, Istanbul Topkapı University, Istanbul, Turkey

[3]Istanbul Provincial Health Directorate Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Turkey

Correspondence
Dilek Yildirim, Faculty of Health Sciences, Department of Nursing, Istanbul Aydın University, Florya Campus (Halit Aydın Campus) Inönü Street No: 38 Sefaköy—Kucukcekmece/Istanbul, Turkey.
Email: dilekyildirim@aydin.edu.tr, dilekaticiyildirim@gmail.com

Abstract

Background: A sense of hope plays an important role in relieving stress and psychological distress of cardiology patients, as well as improving their physical well-being.

Aim: The aim of this study is to investigate the correlation between death anxiety, loneliness and hope levels in patients receiving treatment in a cardiac intensive care unit (ICU).

Design: This is a prospective, descriptive and correlational study.

Methods: The study was completed with 150 cardiac ICU patients in Istanbul, Turkey. The data were collected using a Patient Information Form, the Templer Death Anxiety Scale (TDAS), the Herth Hope Index (HHI) and the UCLA Loneliness Scale (UCLA-LS).

Results: The patients had a mean age of 63.56 ± 12.74 years. Most of the patients (82%) were treated in the ICU for heart failure. There was a statistically significant positive correlation between total scores of TDAS and UCLA-LS ($r = .337$; $p < .001$) and a statistically significant negative correlation between total scores of UCLA-LS and HHI ($r = -.292$; $p < .001$). Also, there was a statistically significant negative correlation between the scores of UCLA-LS and Positive Readiness and Expectancy Subscale ($r = -.164$; $p = .044$). The multiple linear regression indicated that the model was statistically significant ($F = 7.177$, $p < .001$). The variables of age and UCLA-LS among those included in the model were statistically significant predictors of the death anxiety scores of the patients (23.1%) ($p < .05$).

Conclusions: The cardiology patients who received treatment in the ICU had a high level of death anxiety and moderate levels of loneliness and hope. The age and loneliness level were statistically significant predictors of death anxiety.

Relevance to Clinical Practice: It is recommended that individualized nursing care be planned and provided to conscious cardiology patients who are treated in the ICU, considering their age and loneliness levels and that nursing care be planned for individuals who are at risk of fear, anxiety, loneliness and hopelessness by periodically assessing their death anxiety, loneliness and hope levels.

KEYWORDS
cardiology, death anxiety, hope, intensive care, loneliness

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.
© 2023 The Authors. *Nursing in Critical Care* published by John Wiley & Sons Ltd on behalf of British Association of Critical Care Nurses.

1 | INTRODUCTION

Cardiovascular disease (CVD) refers to conditions that afflict the heart or blood vessels. Data reported by the World Health Organization indicate that 17.9 million people worldwide die from CVD each year, accounting for 31% of all deaths.[1,2] Coronary artery disease (CAD) results from the growth of atherosclerosis in the coronary arteries, leading to clogging that alters the function of the heart. Clogging can occur in either one blood vessel or all branches of the coronary arteries, whereby the heart suffers from a lack of oxygen and nutrients. Sudden heart attacks or acute attacks can develop at any time, resulting in a lack of blood supply to the brain, whereby the patient falls unconscious within a few seconds, followed by seizures, difficulty in breathing and, if not treated immediately, severe pain and a quick death. Therefore, cardiology patients need intensive care as the initial stage of their treatment.[3,4]

What is known about the topic

- Self-perceived hope enhanced the quality of life of patients with coronary artery disease.
- Loneliness contributes to the development of several physical and mental conditions, including high systolic blood pressure and an elevated risk of heart disease.

What this paper adds

- The cardiology patients who were treated in the intensive care unit (ICU) had a high level of death anxiety and moderate levels of loneliness and hope.
- The age and loneliness level were statistically significant predictors of death anxiety.
- These results should help conscious cardiology patients treated in ICU to manage their death anxiety.

2 | BACKGROUND

Intensive care units (ICUs) are designed for patients with life-threatening conditions and high morbidity and mortality rates.[5] In these settings, patients suffer intensively from pain, witness the suffering and death of other patients in ICUs, are subjected to the restricted times and frequency of visits by their relatives, are exposed to noise and the lights that are kept on all the time, are always in a lying position and are deprived of television or radio, all of which cause them to feel stressed.[6] Also, CVD patients go through unfavourable experiences because of oral or nasal tube insertion and a lack of social support.[5] They suffer from death anxiety, helplessness, loneliness, uncertainty, depression, anxiety, sleeplessness and hopelessness.[3,5,7] Loneliness is associated with the development of several physical and mental conditions, including high systolic blood pressure and elevated risk of heart disease.[8,9] Both loneliness and social isolation are associated with an elevated risk of death because of CAD, even in middle-aged adults who have never suffered a myocardial infarction.[8,9] Loneliness also is associated with rehospitalizations, prolonged hospital stays and overuse of health resources for CVD.[10] Furthermore, high levels of fear and stress are negative experiences that suggest the possibility of death in patients.[11] Fear is a universal response to a perceived threat when people encounter various problems and dangers. Fear impairs the well-being of people; provokes their emotional, physiological and physical reactions; induces depression, anxiety and a delayed recovery and requires use of additional drugs. The most intense form of fear is death anxiety.[12] Death anxiety is an emotion associated with the thought and awareness that death is approaching. Death anxiety is defined as thoughts, fears and emotions related to the last event of life and beyond a healthy living situation.[13] A study conducted in Pakistan to examine the quality of life, hope and death anxiety in elderly people with CVD revealed that the quality of life was positively correlated with hope and social support assumed a vital role in the management of CVD disorders. However, it was also observed that patients with myocardial infarction suffered from high levels of death anxiety compared to other patients.[7] In another study, death anxiety was associated with posttraumatic stress symptoms in those who were hospitalized because of acute coronary syndrome.[14] Hope is one of the significant coping mechanisms that strengthen patients.[15] Keeping hope alive has a crucial role in the treatment of chronic diseases.[7] In another sense, hope is an effective way to motivate and make plans in order to achieve therapeutic goals. Therefore, instilling hope and keeping it alive in patients are crucial for the treatment of chronic diseases and should be incorporated into psychological interventions.[16] Hope plays an important role in relieving stress and psychological distress of patients with CVD, as well as improving their physical well-being.[17] Therefore, feeling hopeful, especially for patients with chronic disease, may increase their motivation to maintain physical, psychological, emotional and social well-being. A study reported that self-perceived hope improved the quality of life of patients with CAD.[16] Therefore, it becomes important for nurses and other health care professionals to carry out necessary interventions by paying attention to what patients go through and feel. However, no study investigating the correlation among these three concepts in patients hospitalized in cardiac ICUs was found. Hence, this study aimed to investigate the correlation between death anxiety, loneliness and hope levels in patients receiving treatment in cardiac ICUs.

The main questions of the study were: (1) What are the death anxiety, loneliness and hope levels of patients treated in the coronary ICU? (2) What is the correlation between the death anxiety, loneliness and hope levels of patients treated in the coronary ICU? (3) What are the variables that predict death anxiety?

3 | METHODS

3.1 | Research design

This is a descriptive, prospective and correlational study.

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

3.2 | Population and sample

The population consisted of patients who were treated in the cardiac ICU of the Thoracic and Cardiovascular Surgery Training and Research Hospital affiliated with a university in Istanbul, Turkey between October 2022 and March 2023. The cardiac ICU is a 78-bed unit consisting of four different sections. A total of 73 nurses work in these units. The patient-nurse ratio in the ICU is one nurse to three patients. The sample included patients who were 18 years of age or older, were conscious, had no communication problems, were treated in the cardiac ICU between the dates of the study and were willing to participate in the study. The study was completed with 150 ICU patients who met the inclusion criteria. Participants were informed about the study by meeting face-to-face with the researchers and invited to participate. Participants who agreed to participate in the study and met the inclusion criteria were recruited. The sample size was calculated using the G*Power 3.1.9.7 programme based on the formula of the sample with infinite population. The sample size was found to be at least 111 patients at the effect size of 0.3, an error margin of 0.05 and a power level of 95%. Considering the possibility of withdrawal from the study and missing data, a total of 150 patients were included in the sample. When the required sample size for the study was reached, the data collection process was completed.

3.3 | Data collection

The researchers collected the data using a questionnaire through face-to-face interview technique. It took approximately 15 min to fill out the questionnaire. The data were collected using a Patient Information Form, the Templer Death Anxiety Scale (TDAS), the Herth Hope Index (HHI) and the UCLA Loneliness Scale (UCLA-LS).

3.4 | Personal Information Form

The form consisted of eight questions about descriptive characteristics of the patients, such as age, gender, educational background and income status. The researcher prepared the questions by reviewing the literature.[3–8]

3.5 | Templer Death Anxiety Scale

Templer (1970) developed the Templer Death Anxiety Scale. The 'Test-Retest' correlation for the reliability of the scale was found to be 0.83.[18] Şenol (1989) carried out its Turkish adaptation. It is a 15-item, true-false scale that assesses the individuals' anxiety and fears about death and the risk of death. Each 'yes' response gets '1' point and each 'no' response gets '0' point for the first nine items. Conversely, each 'yes' response gets '0' point and each 'no' response gets '1' point for the other six items. The total score indicates the level of death anxiety. The maximum score of the test is 15 points. Points between 0 and 4 are considered as 'mild' death anxiety, 5–9 points are considered as 'moderate' death anxiety, 10–14 points are considered as 'severe' death anxiety and 15 points are considered as death anxiety at 'panic level'.[19] Şenol conducting a reliability study using the 'Test-Retest' method and applied the scale twice at 3-week intervals to a total of 30 elderly people inside and outside the institution. The correlation between the scores of both applications was found to be 0.86.[19] The Cronbach's alpha internal consistency coefficient of the scale was 0.809 in this study.

3.6 | UCLA Loneliness Scale

Russell et al. (1978) developed the scale.[20] Demir (1989) adapted the scale into Turkish. The scale is a 4-point Likert-type with 20 items that reflect how lonely people describe their lives. Ten items are coded as straight (1, 4–6, 9, 10, 15, 16, 19, 20) and the other 10 as reverse (2, 3, 7, 8, 11–14, 17, 18). Each item of this scale has an expression that refers to feelings and thoughts about social relationships, and individuals are asked to indicate how often they experience the circumstances in the items. The items containing positive expressions are rated as follows: 4 points for 'never experienced', 3 points for 'rarely experienced', 2 points for 'sometimes experienced' and 1 point for 'often experienced', and the items containing negative expressions are reversely rated. The maximum and minimum scores of the scale are 80 and 20 points, respectively. A high score signifies a high level of loneliness. In a study by Demir (1989), the Cronbach's alpha internal consistency coefficient of the scale was 0.96.[21] In this study, its Cronbach's alpha internal consistency coefficient was 0.862.

3.7 | Herth Hope Index

Herth developed the Herth Hope Index to assess and compare hope levels. The HHI is a 30-item scale that was designed in 1991 to assess hope in young people with chronic illness (Herth, 1991).[22] The HHI, specially designed to make the 30-item index more clinically useful, shortened to 12 items and adapted, is a Likert-type scale developed by Dr Kaye Herth in 1992. The HHI with 12 items, developed by Herth and adapted into Turkish by Aslan et al., was used in this study.[23] The Cronbach's alpha coefficient of HHI is 0.75. Each item is rated with four options: 'Strongly disagree' (1 point), 'Disagree' (2 points), 'Agree' (3 points) and 'Strongly agree' (4 points). The respondent is required to mark only one option for each item. The index consists of three subscales: 'Temporality and Future': items 1, 2, 6 and 11, 'Positive readiness and expectancy': items 4, 7, 10 and 12 and 'Interconnectedness': items 3, 5, 8 and 9. Items with negative expressions (items 3 and 6) are reversely scored. The total score of the index is calculated by summing up the scores of the responses to all items, and the score of the subscales is calculated by summing up the scores of the responses to the items of each subscale. The total score ranges between 12 and 48. High scores indicate a high level of hope. The Cronbach's alpha internal consistency coefficient of the index is 0.806 in this study.

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

3.8 | Data analysis

In the data analysis, SPSS 26.0 statistical software was used for statistical analyses. The socio-demographic characteristics of the participants were analysed descriptively. To check whether the data were normally distributed or not, Kolmogorov–Smirnov and Shapiro–Wilks normality tests were run to check the normality of the scales using the multiple normality method. According to the normality test results, it was indicated that the data showed normal distribution. Descriptive data were expressed in number, percentage and mean. The correlation between the mean scores of TDAS, UCLA-LS and HHI was analysed by the Pearson's correlation test. The prediction of death anxiety by the variables of age, gender, marital status, length of hospitalization in the ICU, UCLA-LS and HHI was analysed by multiple linear regression analysis. The decision on whether to include the variables in the model was made according to the multicollinearity test. Variance inflation factor (VIF) and tolerance value were used to assess whether or not there was multicollinearity between the variables to be included in the model. Regression analyses included variables with a tolerance value greater than 0.1 and a VIF value less than 10 in the model. No multicollinearity was found between the variables. Because no multiple linear correlations were found between the variables, multiple linear regression analysis included age, gender, marital status, duration of hospitalization in the ICU, UCLA-LS and HHI. The statistical significance level was accepted as $p < .05$.

4 | RESULTS

4.1 | Descriptive characteristics

The mean age of the patients was 63.56 ± 12.74 years. Most of the patients were male (60.7%) and were married (78.0%). The majority of the patients resided together with their families (83.3%) and in the city centre (82.0%). 52.7% of the patients were primary school graduates; most of them (66.7%) were retired or unemployed, and 54.7% described their income as equal to their expenses. A great majority of the patients (91.3%) had at least one child. 56% of them were non-smokers and 70.7% did not consume alcohol. 82% received treatment in the ICU for heart failure. The mean duration of stay in the ICU was 6.55 ± 6.03 days (Table 1).

4.2 | Mean scores of the Templer Death Anxiety Scale, UCLA Loneliness Scale and Herth Hope Index

Table 2 shows the TDAS, UCLA-LS and HHI mean scores of the patients. Their mean scores were 10.41 ± 3.94 in the TDAS, 48.06 ± 5.09 in the UCLA-LS and 30.63 ± 5.71 in the HHI. When the subscale mean scores of HHI were analysed, the participants' mean scores were 9.54 ± 1.52 for Temporality and Future subscale, 10.03 ± 1.87 for Positive Readiness and Expectancy subscale and 11.08 ± 2.12 for Interconnectedness subscale.

4.3 | Correlation analyses

There was a statistically significant weak positive correlation between TDAS and UCLA-LS total scores of the patients ($r = .337$; $p < .001$). There was a statistically significant weak negative correlation between their UCLA-LS and HHI total scores ($r = -.292$; $p < .001$). Also, a statistically significant weak negative correlation was found between their UCLA-LS and Positive Readiness and Expectancy Subscale total scores ($r = -.164$; $p = .044$) (Table 3).

TABLE 1 Socio-demographic data of the participants ($n = 150$).

Parameters		Mean ± SD
Age		63.56 ± 12.74
Length of stay in the intensive care unit, day		6.55 ± 6.03
Parameters		***n* (%)**
Gender	Male	91 (60.7)
	Female	59 (39.3)
Marital status	Married	117 (78.0)
	Single	33 (22.0)
Having a child	Yes	137 (91.3)
	No	13 (8.7)
Educational level	Literate but not graduated from any school	18 (12.0)
	Primary school	79 (52.7)
	Secondary school	21 (14.0)
	High school	28 (18.7)
	University and postgraduate	4 (2.7)
Working status	Employed	50 (33.3)
	Unemployed	100 (66.7)
Perception of income	Income less than expenses	52 (34.7)
	Income equal to expenses	82 (54.7)
	Income more than expenses	16 (10.7)
Smoking	Yes	66 (44.0)
	No	84 (56.0)
Alcohol consumption	Yes	44 (29.3)
	No	106 (70.7)

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 2 Mean scores of Templer Death Anxiety Scale, UCLA Loneliness Scale and Herth Hope Index and subscales of HHI ($n = 150$).

Scales	Mean ± SD (Min.–Max.)
Templer Death Anxiety Scale	10.41 ± 3.94 (0–15)
UCLA Loneliness Scale	48.06 ± 5.09 (31–57)
Herth Hope Index	30.63 ± 5.71 (17–42)
Temporality and Future Subscale	9.54 ± 1.52 (5–13)
Positive Readiness and Expectancy Subscale	10.03 ± 1.87 (6–16)
Interconnectedness Subscale	11.08 ± 2.12 (5–15)

4.4 | Multiple regression analyses of the variables predicting death anxiety

Multiple linear regression analyses were used to assess the prediction of TDAS scores of the patients by the variables of age, gender, marital status, length of hospitalization in the ICU, UCLA-LS, and HHI. The results of the analyses indicated that the model was statistically significant ($F = 7.177$, $p < .001$). Age and UCLA-LS variables among those included in the model were statistically significant predictors of TDAS scores of the patients (23.1%) ($p < .05$). An increase of one unit (1 year/age) in the age variable resulted in a decrease of 0.101 units in death anxiety. An increase of one unit in the variable of UCLA-LS led to an increase of 0.241 units in death anxiety (Table 4).

5 | DISCUSSION

The patients got a mean score of 10.41 ± 3.94 points on the TDAS. Given the maximum score of 15 points in the scale, the patients were observed to feel a high level of death anxiety. The majority of death anxiety studies have been mostly conducted with intensive care nurses, carers and health care professionals. However, in the literature, apparently there is no study analysing the death anxiety of cardiac patients who receive treatment in the ICU. However, death is one of the circumstances that causes all patients to feel fear the most. Accordingly, death anxiety is a notion that appears at every moment of life. Intensive care patients also begin to think death more under the influence of their illnesses and remember their relatives who passed away. This makes them fall into a death anxiety.[24,25] Moreover, the rapid change in their condition, uncertainty and threat of death in the ICU, as well as sounds of the monitoring systems, ventilators, fluid and/or drug infusion pumps in this unit also negatively influence patients. Staying in the ICU is a highly traumatic and terrifying experience for patients.[26] Studies have indicated that patients with acute coronary syndromes and myocardial infarction have a high level of death anxiety.[7,14] Therefore, it is expected in the study that the patients have a strong death anxiety.

The UCLA-LS mean scores of the patients were found to be 48.06 ± 5.09. This finding indicated that the patients felt a moderate level of loneliness. Their HHI mean scores were 30.63 ± 5.71. Given the maximum score of 48 points in the scale, it can be argued that the patients had a moderate level of hope. A study on loneliness and social support in heart failure patients reported that loneliness was an important factor for heart failure patients, and patients who felt lonely had more serious heart failure.[10] This can be associated with the high level of support that individual with chronic diseases such as heart disease expect from their family and circle when they feel inadequate, exhausted or lonely. Also, factors in the ICU such as lack of hospital attendants, social isolation, a sense of abandonment and limited communication have been considered to make patients feel lonely.[27,28]

An important finding of the present study was that as the loneliness level of the patients increased, so did their anxiety levels, while their hope levels dropped. Also, an increase of one unit in the variable of UCLA-LS led to an increase of 0.241 units in death anxiety. The literature contains no studies similar to the present study. Loneliness can be characterized by feeling of insignificance, increased sole activities and feeling of hopelessness.[29,30] Accordingly, it was an expected result that as the level of loneliness elevated, so did the level of death anxiety, but levels of hope dropped.

Another important finding of the study was that age and loneliness level were significant predictors of the TDAS scores of the patients (23.1%). An increase of one unit (1 year/age) in the age variable resulted in a decrease of 0.101 units in death anxiety. As individuals grow older, they have feelings of despair associated with a lack of strength and the uncertainty of the time of death. In the literature, it is indicated that death anxiety reduces with increasing age, which is compatible with the result of the present study.[31]

6 | LIMITATIONS AND STRENGTHS

As far as we know, this is the first attempt to investigate the correlation between death anxiety, loneliness and hope levels in patients who receive treatment in cardiac ICUs. It is very difficult to conduct an interview with cardiology patients who are treated in the ICU and conduct the study because their general condition rapidly changes as a result of symptoms such as hypertension, angina pectoris and arrhythmia; however, we managed to complete the study with this sample. However, the study has several limitations. The present study was carried out at a single centre. Its data can only be generalized to this sample. Although the use of a scale to determine the death anxiety, loneliness and hope levels of ICU patients allows objective data to be gathered from the study, patient opinions are limited to the expressions in the scale.

7 | IMPLICATIONS FOR PRACTICE AND RESEARCH

Based on the results of the study, it is recommended that individualized nursing care be planned and provided to conscious cardiology

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

TABLE 3 Correlation analysis ($n = 150$).

		1	2	3	4	5
1. Score of Templer Death Anxiety Scale	*r*	1				
	p					
2. Score of UCLA Loneliness Scale	*r*	.337**	1			
	p	**<.001**				
3. Score of Herth Hope Index	*r*	−.016	**−.292****	1		
	p	.848	**<.001**			
4. Temporality and Future Subscale	*r*	.024	−.067	.564**	1	
	p	.773	.420	**<.001**		
5. Positive Readiness and Expectancy Subscale	*r*	.022	−.164*	.863**	.376**	1
	p	.791	**.044**	**<.001**	**<.001**	
6. Interconnectedness Subscale	*r*	.077	−.160	.833**	.150	.632**
	p	.348	.051	**<.001**	.068	**<.001**

Note: Pearson's correlation test. *p* values in bold indicates statistical significance.
Abrreviation: r, correlation coefficient.
*$p < .05$; **$p < .01$.

TABLE 4 Multiple regression analysis of the variables affecting the death anxiety.

	B	Standard error	Standard Beta (β)	*t*	*p*	95.0% CI
Constant	2.895	4.254		.680	.497	−5.515 to 11.304
Age (years)	−.101	.024	−.326	−4.194	**<0.001**	−.149 to −.053
Gender	.184	.611	.023	.301	.764	−1.024 to 1.392
Marital Status	−.305	.482	−.048	−.632	.528	−1.257 to .647
Length of stay in ICU (day)	.062	.048	.095	1.288	.200	−.033 to .158
UCLA Loneliness Scale	.241	.060	.311	4.008	**<0.001**	.122 to .360
Herth Hope Index	.069	.053	.100	1.299	.196	−.036 to .174
Dependent variable: Death Anxiety						
$R = .481$ $R^2 = .231$ Adjusted $R^2 = .199$ F = 7.177, $p < .001$ Durbin Watson = 1.762 (1.5.–2.5).						

Note: Gender was coded as 1 = female, 0 = male; Marital status was coded as 1 = Married, 0 = Single. *p* values in bold indicates statistical significance.

patients who are treated in the ICU, considering their age and loneliness levels and that nursing care be planned for individuals who are at risk of fear, anxiety, loneliness and hopelessness by periodically assessing their death anxiety, loneliness and hope levels. Furthermore, it is recommended to carry out observational studies with larger sample groups in order to recognize the positive or negative effects of death anxiety, loneliness and hopelessness levels on cardiology patients.

8 | CONCLUSION

It was found that although cardiology patients who were hospitalized in the ICU had a high level of death anxiety, they had moderate levels of loneliness and hope. As the death anxiety of the patients intensified, their level of loneliness rose. As the loneliness levels of the patients rose, their hope levels dropped. One of the major results of the study was that age and loneliness level were statistically significant predictors of death anxiety (23.1%).

FUNDING INFORMATION
We have no funding sources to declare.

CONFLICT OF INTEREST STATEMENT
We have no conflict of interests to declare.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT/PATIENT CONSENT STATEMENT
Ethical approval from the Ethics Committee of Istanbul Aydın University was obtained (Date: 26.06.2022; Ethics Approval Number: 2022/11). The patient consent statement was obtained from all participants. The permission from the authors of the scales used in the study was taken by email.

ORCID
Dilek Yildirim https://orcid.org/0000-0002-6228-0007

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

REFERENCES

1. Varaei S, Shamsizadeh M, Cheraghi MA, Talebi M, Dehghani A, Abbasi A. Effects of a peer education on cardiac self-efficacy and readmissions in patients undergoing coronary artery bypass graft surgery: a randomized-controlled trial. *Nurs Crit Care*. 2017;22(1):19-28.
2. Sabharwal N, Dev H, Sinha M, Saxena P, Raman J. Cardiology, research and training: an interview with professor Eugene braunwald. *Hear Lung Circ*. 2021;30(8):1263-1267.
3. Dewi D, Prawesti A, Emaliyawati E. Description of the process of grieving and depression in patient with coronary hearth disease in the intensive room. *Padjadjaran Acute Care Nurs J*. 2019;1(1):26-36.
4. Kasapoğlu ES, Enç N. A guide for coronary artery patients. *J Cardiovasc Nurs*. 2017;8(15):1-7.
5. Edeer AD, Bilik Ö, Kankaya EA. Thoracic and cardiovascular surgery patients: intensive care unit experiences. *Nurs Crit Care*. 2020;25(4):206-213.
6. Candan Dönmez Y, Demir Korkmaz F, Geçit S. Perception of environmental stressors in intensive care unit by patients. *Turkiye Klin J Nurs Sci*. 2020;12(2):190-197.
7. Hashim M, Azim W, Hussain W, Rehman FU, Salam A, Rafique M. Quality of life, perceived social support and death anxiety among people having cardiovascular disorders: a cross-sectional study. *Pakistan J Med Heal Sci*. 2022;16(4):460-463.
8. Hwang TJ, Rabheru K, Peisah C, Reichman W, Ikeda M. Loneliness and social isolation during the COVID-19 pandemic. *Int Psychogeriatrics*. 2020;32(10):1217-1220.
9. Heffner KL, Waring ME, Roberts MB, Eaton CB, Gramling R. Social isolation, C-reactive protein, and coronary heart disease mortality among community-dwelling adults. *Soc Sci Med*. 2011;72(9):1482-1488.
10. Löfvenmark C, Mattiasson AC, Billing E, Edner M. Perceived loneliness and social support in patients with chronic heart failure. *Eur J Cardiovasc Nurs*. 2009;8(4):251-258.
11. Kapısız Ö, Eker F. Evaluatıon of the relatıonshıp between the levels and perceptıons of dyspnea and the levels of anxiety and depressıon in chronıc obstructıve pulmonary dısease (COPD) patıents. *J Psychiatr Nurs*. 2018;9(2):88-95.
12. Ralph N, Norris P. Current opinion about surgery-related fear and anxiety. *J Perioper Nurs*. 2018;31(4):3-5.
13. Yochim BP, Woodhead EL. *Psychology of Aging: A Biopsychosocial Perspective*. Vol 1. 1st ed. Springer Publishing Company; 2017:1-384.
14. Malinauskaite I, Slapikas R, Courvoisier D, Mach F, Gencer B. The fear of dying and occurrence of posttraumatic stress symptoms after an acute coronary syndrome: a prospective observational study. *J Health Psychol*. 2017;22(2):208-217.
15. Broadhurst K, Harrington A. A mixed method thematic review: the importance of hope to the dying patient. *J Adv Nurs*. 2016;72(1):18-32.
16. Soleimani MA, Zarabadi-Pour S, Huak Chan Y, Allen KA, Shamsizadeh M. Factors associated with hope and quality of life in patients with coronary artery disease. *J Nurs Res*. 2022;30(2):e200.
17. Chen Y, Fu G, Liang F, Wei J, He J, Bai J. Symptoms, Hope, self-management behaviors, and quality of life among Chinese preoperative patient with symptomatic valvular heart diseases. *J Transcult Nurs*. 2020;31(3):284-293.
18. Templer DI. The construction and validation of a death anxiety scale. *J Gen Psychol*. 1970;82(2):165-177.
19. Şenol C. *Ankara ilinde kurumlarda yaşayan yaşlılarda ölüme ilişkin kaygı ve korkular*. Ankara Üniversitesi Sosyal Bilimler Enstitüsü; 1989.
20. Russell D, Peplau LA, Ferguson ML. Developing a measure of loneliness. *J Pers Assess*. 1978;42(3):290-294.
21. Demir A. U.C.L.A Yalnızlık Ölçeğinin geçerlik ve güvenirliği. *Türk Psikol Derg*. 1989;7(23):14-18.
22. Herth K. Development and refinement of an instrument to measure hope. *Sch Inq Nurs Pract*. 1991;5(1):39-51.
23. Aslan Ö, Sekmen K, Kömürcü Ş, Özet A. Kanserli hastalarda umut. *CÜ Hemşirelik Yüksekokulu Derg*. 2007;11(2):18-24.
24. Mete HE. Kronik hastalık ve depresyon. *Klin Psikiyatr*. 2008;11(3):3-18.
25. Albarqouni L, von Eisenhart RA, Ronel J, Meinertz T, Ladwig K. Frequency and covariates of fear of death during myocardial infarction and its impact on prehospital delay: findings from the multicentre MEDEA study. *Clin Res Cardiol*. 2016;105(2):135-144.
26. Küçükosman G, Kocakulak D, Ayoğlu H. Assessment of patients discharged from the intensive care unit with tracheostomy: a retrospective analysis of single-center data. *J Anesthesiol Reanim Spec Soc*. 2020;28(1):52-58.
27. Christiansen J, Lund R, Qualter P, Andersen CM, Pedersen SS, Lasgaard M. Loneliness, social isolation, and chronic disease outcomes. *Ann Behav Med*. 2021;55(3):203-215.
28. Yang M, An Y, Wang M, Zhang X, Zhao Q, Fan X. Relationship between physical symptoms and loneliness in patients with heart failure: the serial mediating roles of activities of daily living and social isolation. *J Am Med Dir Assoc*. 2023;24(5):688-693.
29. Özdemir Ö, Yaman Z, Yilmaz M. Last utterances of patients in Covid intensive care units: a qualitative study. *Arch Psychiatr Nurs*. 2023;42:106-112.
30. Bulut TY, Çekiç Y, Altay B. The effects of spiritual care intervention on spiritual well-being, loneliness, hope and life satisfaction of intensive care unit patients. *Intensive Crit Care Nurs*. 2023;77:103438.
31. Tabah A, Philippart F, Timsit J, et al. Quality of life in patients aged 80 or over after ICU discharge. *Crit Care*. 2010;14(1):R2.

How to cite this article: Yildirim D, Akman O, Ozturk S, Yakin O. The correlation between death anxiety, loneliness and hope levels in patients treated in the cardiac intensive care unit. *Nurs Crit Care*. 2024;29(3):486-492. doi:10.1111/nicc.13007

14785153, 2024, 3, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/nicc.13007 by Turkey Cochrane Evidence Aid, Wiley Online Library on [21/06/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License