DETERMINING THE LEVEL OF PERCEIVED SOCIAL SUPPORT AND DEATH ANXIETY IN PATIENTS WITH HEART FAILURE

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ABSTRACT

Objective: The study was conducted to determine the levels of perceived social support and death anxiety in patients diagnosed with heart failure.

Material and Method: This descriptive and cross-sectional study included all patients who visited the cardiology outpatient clinic at Siirt Training and Research Hospital between August 2023 and July 2024, with a sample of 221 patients who met the inclusion criteria. Data were collected face-to-face by the researcher using data collection forms, including a Personal Information Form, the Multidimensional Perceived Social Support Scale, and the Abdel Khalek Death Anxiety Scale. For the comparison of variables, the t-test and ANOVA were used for parametric variables, while the Mann Whitney U test, Kruskall Wallis H test, and correlation analysis were used for non-parametric variables.

Findings: It was determined that 45.2% of the patients participating in the study were female, 79.6% were married, and 38.9% had a primary school level of education. The mean score for the Multidimensional Perceived Social Support Scale was found to be 55.40±16.83, and the mean total score for the Abdel Khalek Death Anxiety Scale was found to be 57.36±14.97. A statistically significant correlation was found between the mean Abdel Khalek Death Anxiety Scale score and the mean Multidimensional Perceived Social Support Scale score (r: -.0146; p<.0.05).

Conclusion: The study found that in patients diagnosed with heart failure, as perceived social support increased, levels of death anxiety decreased. The effect of perceived social support and death anxiety levels on each other in heart failure patients can be examined to determine counselling, education, and support needs.

Keywords: Heart failure, Death, Anxiety, Social support, Nursing

INTRODUCTION

Heart failure, the most common reason for hospital admission among patients over 65 years of age, occupies an important place among cardiovascular diseases. Thanks to medical advances targeting this disease, which lowers patients' quality of life and has a high mortality rate, survival rates are increasing (Bayrak et al., 2019). With increased life expectancy, heart failure patients experience symptoms such as respiratory distress, oedema, pulmonary congestion, depression, pain, fatigue, and stress for longer periods (Shah, 2013). The New York Heart Association (NYHA) functional classification indicates that heart failure patients in advanced stages begin to experience symptoms closer to death, with increased fear and anxiety as death approaches, resulting in decreased tolerance to the heart failure symptoms encountered (Evangelista, 2012; Adler, 2009). Death anxiety, one of the emotions experienced by every individual who believes they are approaching death, is an unpleasant state involving many emotions such as worry, distress, fear, and feelings of powerlessness. Anxiety about death can cause stress due to feelings such as fear, hopelessness, and powerlessness, which can lead to the progression and intensification of physical discomfort (Frencha, 2017). It is a well-known fact that patients need more social support during these and similar periods. Social support can be defined as the emotional, practical, and moral support that an individual receives through social relationships and can be an important resource for patients in coping with their illness (Luttik et al., 2005; Ardahan, 2006). The symptoms and findings that emerge during illness, the side effects of medications, and psychosocial problems challenge patients, and many of them are able to overcome this situation with the support of their relatives and friends (Rector et al., 2007). It has been noted that a decrease in social support from spouses, compared to other support networks (friends, relatives), increases readmissions and mortality (Önalgil, 2012; Örsal et al., 2012; Gündoğan, 2022).

Within the healthcare field, nurses, who spend the most time with patients, bear a significant responsibility in providing social support. Nurses must first identify the individual's support resources and determine what type of support they require. Subsequently, initiatives to increase the social support perceived by patients can be listed as follows: strengthening family relationships, making the individual aware of their social support resources, explaining the importance of social support for the patient to the family and caregivers, and educating the patient and family on this subject. In this way, the patient and family members can more easily adapt to treatment and participate in care management. Nurses' efforts to make the patient's social support systems functional can positively affect the patient's quality of life.

It is clear that heart failure patients' perceived social support and level of death anxiety can affect their treatment processes. In light of all this information, this study was planned and conducted to determine the level of perceived social support and death anxiety among heart failure patients. The aim is to determine the effect of heart failure patients' perceived social support characteristics on their levels of death anxiety and to contribute to the provision of professional assistance that will support patients.

Research Questions

1 What is the level of perceived social support in patients with heart failure?
2 What is the level of death anxiety in patients with heart failure?
3 Do various variables in heart failure patients affect perceived social support and death anxiety levels?
4 Is there a relationship between the perceived level of social support and the level of death anxiety in patients with heart failure?

MATERIAL AND METHOD

Research Objective

This descriptive and cross-sectional study, one of the quantitative research types, was conducted to determine the perceived social support and death anxiety levels in patients with heart failure. The research was conducted between August 2023 and July 2024 with patients who visited the cardiology outpatient clinic at Siirt Training and Research Hospital.

Study Population and Sample

The population of the study consisted of 221 patients over the age of 18 diagnosed with heart failure who visited the cardiology outpatient clinic at Siirt Education and Research Hospital. No sample selection was made from the population; data were collected from all patients who met the inclusion criteria and were included in the study. The sample calculation formula for unknown populations (Baş, 2010) was used to calculate the study sample.

$$n = \frac{(t^2 \cdot p \cdot q)}{d^2}$$

n = Sample size
t = Theoretical value (1.96 at 95% confidence interval; 2.58 at 99% confidence interval)
p = Prevalence of the event under investigation (15% was used for the study)
q = Frequency of non-occurrence of the event under investigation (85% was taken for the study)
d = Margin of error (0.05 at a 95% confidence interval)

According to the literature, the prevalence of heart failure in Turkey is reported to be 15% (Akturan et al., 2016). Therefore, the prevalence of the event was set at 15% (p=0.15) in the study. Based on the calculations, it was determined that the minimum sample size required for the study should be 195 individuals. During the data collection phase, a minimum of 221 individuals were reached.

Inclusion criteria for the study

- Being over 18 years of age
- Having a diagnosis of heart failure for at least 1 year
- Being literate
- Being able to communicate
- Voluntary participation in the study

Data Collection

The research data was collected by the researcher through face-to-face interviews with patients diagnosed with heart failure who applied to the cardiology outpatient clinic of Siirt Education and Research Hospital. Approximately 10 minutes was sufficient to complete the questions. Before giving the data collection forms to patients who met the inclusion criteria for the study, an explanation about the research was provided and their written and verbal consent was obtained.

Data Collection Tools

Data were collected using the Personal Information Form, the Multidimensional Perceived Social Support Scale, and the Abdel Khalek Death Anxiety Scale.

Personal Information Form: This form, consisting of 17 questions prepared by the researcher, covers the patients' sociodemographic characteristics (age, gender, educational status, occupation, income status, marital status, etc.) and disease characteristics.

Multidimensional Perceived Social Support Scale (MPSSS): Developed in 1995 by Eker and colleagues to determine the level of social support provided to patients. The scale consists of twelve questions and is a 7-point Likert scale ranging from Strongly Disagree to Strongly Agree. The possible score range is 7-84 points, and there is no cut-off point. A high score on the scale indicates a high level of perceived social support. The scale has a three-dimensional structure. These are family (items 3, 4, 8, and 11); friends (items 6, 7, 9, and 12); and a special person (items 1, 2, 5, and 10). The Turkish validity and reliability study of the scale was conducted by Eker and colleagues. A high score on the scale indicates a high level of perceived social support (Eker and Arkar, 1995). In the study, the Cronbach's alpha coefficient for the total scale score was 0.89, 0.87 for the family subscale, 0.87 for the friends subscale, and 0.91 for the special person subscale.

Abdel Khalek Death Anxiety Scale (AKDAS): The Death Anxiety Scale was developed in Arabic and English by Abdel-Khalek in 2004 and adapted to Turkish culture by Aydoğan and colleagues (2015). The five-point Likert-type scale consists of 5 factors (fear evoked by death-related visual stimuli, fear related to the physical and mental pain accompanying death, fear related to other situations reminiscent of death, fear related to the afterlife, fear of the act of dying itself) and 20 items. The Cronbach's alpha value calculated as 0.86 for the Turkish version of the scale indicates that the scale has high internal consistency. The score that can be obtained from the scale ranges from 20 to 100 points. An increase in the score obtained from the scale indicates an increase in the level of death anxiety (Aydoğan et al., 2015; Neimeyer and Van Brunt, 1994). In the study, the Cronbach's alpha coefficient for the total scale score was found to be 0.85.

Data Analysis

The data obtained in the study were analysed using the SPSS (Statistical Package for Social Sciences) 26.0 programme. The kurtosis and skewness values of the variables were examined for normal distribution, and values within the ±1.5 range were accepted as normal distribution (Bayram 2010). Cronbach's Alpha (Cronbach α) values were used to test the reliability levels of the scales.

In the evaluation of the data, descriptive statistics such as frequency, mean, and percentages were provided. For the comparison of variables, the parametric t-test and ANOVA were used, while the non-parametric Mann Whitney U test and Kruskall Wallis H test were used for non-parametric variables. Pearson Correlation analysis was preferred for examining the relationships between variables.

Research Ethics

Ethical approval for the research was obtained from the Erzincan Binali Yıldırım University Human Research Ethics Committee (Date 31/08/2022 and Number E-88012460050.01.04-197218). The necessary permissions from the relevant institutions and organisations where the research was to be conducted were obtained following the ethics committee approval. The purpose of the research was explained to the patients, and they were assured that the confidentiality of the information to be obtained from them would be maintained, thereby ensuring their voluntary participation in the study. Written consent was obtained from patients who volunteered to participate in the study using a voluntary information and consent form. Permission to use the scales was obtained from the scale owners via email.

Limitations and Generalizability of the Study

The study was conducted between August 2023 and July 2024 and is limited to patients who visited the cardiology outpatient clinic at Siirt Training and Research Hospital and were diagnosed with heart failure. The results of this study can be generalised to this group.

FINDINGS

As shown in Table 1, 45.2% of the patients were female, 79.6% were married, 91.9% had social security, and 34.4% had an income level higher than their expenditure level. The majority of patients lived with their spouse (41.2%). The patients' ages ranged from 26 to 95, with an average of 60.7±13.1. The proportion of smokers among the patients was 45.2%, while the proportion of alcohol users was 19.0%. Fifty-two point five per cent of patients had previously undergone angiography, and 73.8 per cent had another disease. 69.2% of patients had previously visited the emergency department with heart complaints, and 66.1% had a family history of heart disease. 42.5% of patients had been diagnosed more than five years ago.

Table1. Demographic characteristics of patients (n=221)

Variable	Category	n	%	Variable	Category	n	%
Gender	Female	100	45.2	**Tobacco use**	Yes	100	45.2
	Male	121	54.8		No	121	54.8
Marital status	Married	176	79.6	**Alcohol consumption**	Yes	44	19.0
	Single	45	20.4		No	177	80.1
Educational status	Illiterate	24	10.9	**Angiography status**	Yes	116	52.5
	Primary education	86	38.9		No	105	47.5
	Secondary education	33	14.9				
	High school	47	21.3	**Presence of other diseases**	Yes	163	73.8
	University	31	14		No	58	26.2
Social security	Yes	203	91.9	**Emergency department visits due to heart failure in the past year**	Yes	153	69.2
	No	18	8.1		No	68	30.8
Income status	Income > Expenses	76	34.4	**Time of initial diagnosis**	1-3 years	79	35.7
	Income < expenditure	68	30.8		4-5 years	48	21.7
	Income = Expenses	77	34.8		Over 5 years	94	42.5

Living environment	Alone	65	29.4		**Family history of heart disease**	Yes	146	66.1
	Spouse	91	41.2			No	75	33.9
	Spouse and children	65	29.4					
	Min.-Max.	**X̄**	**Ss**			**Min.-Max.**	**X̄**	**Ss**
Age	26-95	60.7	13.1		**Number of children**	0-10	3.1	1.8

As shown in Table 2, the mean score for the Multidimensional Perceived Social Support Scale was 55.40±16.83. The subscale mean scores were 20.54±6.29 for "Family," 17.49±6.94 for "Friends," and 17.36±6.51 for "Special person." Furthermore, the total Abdel Khalek Death Anxiety Scale score average was found to be 57.36±14.97. When examining the sub-dimensions, it was observed that the highest score (17.75±4.05) was obtained from the "Fear of physical and mental pain associated with death" sub-dimension.

Table 2. Mean scores obtained from the scales (n:221)

		Min	**Max**	X̄	**SS**
MPSSS and its Subdimensions	Family sub-dimension	4.00	28.00	20.54	6.29
	Friends sub-dimension	4.00	28.00	17.49	6.94
	Special Person sub dimension	4.00	28.00	17.36	6.51
	Total score	12.00	84.00	55.40	16.83
AKDAS and its Subdimensions	Fear evoked by death-related visual stimuli	5.00	24.00	11.82	4.73
	Fear related to the physical and mental pain associated with death	7.00	25.00	17.75	4.05
	Fear associated with other situations that remind death	4.00	19.00	9.19	3.70
	Fear related to the afterlife	3.00	15.00	8.80	2.93
	Fear of the act of dying	3.00	15.00	9.81	2.97
	Toplam Puan	26.00	91.00	57.36	14.97

X̄ : mean; ss: standard deviation; AKDAS: Abdel-Khalek Death Anxiety Scale; MPSSS: Multidimensional Perceived Social Support Scale

As shown in Table 3, the mean MPSSS score for patients with social security was 56.1±16.6, while the mean MPSSS score for those without social security was 47.2±17.3.

The Mann Whitney U test revealed a statistically significant difference between the two groups (Z: -2.187; p<.05). The mean MPSSS score for patients whose income exceeded their expenses was 59.5±15.9, while the mean MPSSS score for patients whose income was less than their expenses was 53.9±16.2. while the mean MPSSS score for patients whose income equalled their expenditure was 52.6±17.7. The ANOVA test revealed that patients with higher income scored significantly higher than those with equal income, indicating a statistically significant difference between the groups (F: 3.659; p<.05). The mean MPSSS score for patients living alone was 51.2±18.9, the mean MPSSS score for patients living with their spouse was 55.2±15.8, and the mean MPSSS score for patients living with their spouse and children was 59.8±15. and it was found that patients living with their spouse and children had significantly higher scores than patients living alone, and that there was a statistically significant difference between the groups (F: 4.364; p<.05). In addition to all this, it was found that gender, marital status, and educational status did not create a significant difference in the mean MPSSS scores (p>.05). Finally, in the correlation analysis performed between the variables of age and number of children of the patients and the mean MPSSS score, a significant negative relationship was found (p<.05).

Again, as seen in Table 3, the mean AKDAS score for female patients was 60.3±14.7, while the mean AKDAS score for male patients was 55±14.8. The t-test for independent samples revealed a statistically significant difference between the two groups (t: 2.671; p<.05). It was found that variables other than gender, such as marital status, educational status, social security, income level, living arrangements, age, and number of children, did not affect the mean AKDAS scores and did not create any significant differences (p>.05).

Table 3. Comparison of MPSSS and AKDAS mean scores with demographic characteristics (n=221)

	MPSSS		**AKDAS**	
Variable	**X̄± ss**		**X̄± ss**	**Significance**
Gender				
Female	56.7±15.5	t: 1.021 p: .308	60.3±14.7	t: 2.671 **p: .008**
Male	54.4±17.9		55.0±14.8	
Marital status				
Married	56.4±15.7	t: 1.663 p: .098	58.2±14.4	t: 1.605 p: .110
Single	51.7±20.5		54.2±16.9	
Educational Status				
Illiterate	48.0±13.1	KW: 9.091 p: .059	58.5±14.6	KW: 4.137 p: .388
Primary education	53.7±18.1		59.6±15.3	
Secondary education	56.9±14.9		57.1±10.7	
High school	58.5±17.2		54.4±16.0	
University	59.4±15.6		55.1±16.4	
Social security				
Yes	56.1±16.6	z: -2.187 **p: .029**	56.9±14.7	z: -1.289 p: .197
No	47.2±17.3		62.7±17.2	
Income status				
^{a} Income>expenditure	59.5±15.9	F: 3.659 **p: .027**	56.3±14.3	F: .991 p: .373
^{ab} Income< expendiure	53.9±16.2		56.4±15.7	

^{b} Income= expenditure	52.6±17.7		59.3±14.9	
Living Environment				
^{b} Alone	51.2±18.9	F: 4.364 **p: .014**	55.5±16.3	F: .716 p: .490
^{ab} Spouse	55.2±15.8		57.9±13.4	
^{a} Spouse and children	59.8±15.0		58.5±15.7	
Age	r: -.290 **p: .000**		r: .097 p: .149	
Number of children	r: -.163 **p: .015**		r: .062 p: .358	

a>b; $\bar{X}$: mean; ss: standard deviation; MSSS: Multidimensional Perceived Social Support Scale; AKDAS: Abdel-Khalek Death Anxiety Scale; t: t-test for independent groups; F: ANOVA; z: Kruskal-Wallis H test; z: Mann-Whitney U test; r: Pearson correlation coefficient

As seen in Table 4, the mean MPSSS score of patients who smoked was 52.7±17.6, while the mean MPSSS score of those who did not smoke was 57.6±15.9. The analysis revealed a statistically significant difference between the two groups (t: -2.152; p<.05). The mean MPSSS score for patients with other diseases was 53.3±16.8, while the mean MPSSS score for those without other diseases was 61.2±15.6. Analysis revealed a statistically significant difference between the two groups (t: -3.131; p<.05). The mean MPSSS score for patients presenting to the emergency department with cardiac complaints was 52.8±16.9, while the mean MPSSS score for patients not presenting to the emergency department with cardiac complaints was 61.2±15.3. Analysis revealed a statistically significant difference between the two groups (t: -3.516; p<.05). In addition, alcohol consumption, having undergone angiography previously, having a family history of heart disease, and the number of years since diagnosis were found to have no significant effect on the mean MPSSS scores (p>.05).

Again, as seen in Table 4, the mean AKDAS score of patients who had previously undergone angiography was 60±13.8, while the mean AKDAS score of patients who had not undergone angiography was 54.5±15.7. The analysis revealed a statistically significant difference between the two groups (t: 2.749; p<.05). The mean AKDAS score for patients with heart failure and another concomitant disease was 59.3±14, while the mean AKDAS score for patients without another concomitant disease was 51.9±16.3. Analysis revealed a statistically significant difference between the two groups (t: 3.311; p<.05). The mean AKDAS score for patients presenting to the emergency department with cardiac complaints was 59.4±14.6, while the mean AKDAS score for patients who did not present to the emergency department with cardiac complaints was 52.9±15. Analysis revealed a statistically significant difference between the two groups (t: 3.021; p<.05). The mean AKDAS score for patients diagnosed one to three years ago was 54.2±14.3, for those diagnosed four to five years ago it was 55.3±14.4, and for those diagnosed more than five years ago it was 61.1±15.1. and the analysis revealed statistically significant differences between the groups (F: 5.408; p<.05). Apart from these variables, a family history of heart disease, smoking, and alcohol consumption were found to have no effect on the mean AKDAS scores and did not create any significant differences (p>.05).

Table 4. Comparison of the mean scores of the MPSSS and AKDAS with factors related to the patients' health (n=221)

	MPSSS		**AKDAS**	
Variable	**X̄± ss**	**Significance**	**X̄± ss**	**Significance**
Tobacco use				
Yes	52.7±17.6	**t: -2.152** **p: .032**	57.6±15.2	t: .251 p: .802
No	57.6±15.9		57.1±14.9	
Alcohol consumption				
Yes	52.3±17.8	t: -1.359 p: .176	57.0±16.6	t: -.190 p: .849
No	56.2±16.5		57.5±14.6	
Angiography status				
Yes	53.5±16.8	t: -1.730 p: .085	60.0±13.8	**t: 2.749** **p: .006**
No	57.5±16.7		54.5±15.7	
Presence of other diseases				
Yes	53.3±16.8	**t: -3.131** **p: .002**	59.3±14.0	**t: 3.311** **p: .001**
No	61.2±15.6		51.9±16.3	
Emergency department visits due to cardiac causes in the last year				
Yes	52.8±16.9	**t: -3.516** **p: .001**	59.4±14.6	**t: 3.021** **p: .003**
No	61.2±15.3		52.9±15.0	
Family history of heart disease				
Yes	55.1±17.2	t: -.330 p: .742	58.7±14.7	t: 1.843 p: .067
No	55.9±16.3		54.8±15.3	
Time of initial diagnosis				
1-3 years	56.9±14.8	F: .988 p: .374	54.2±14.3	**F: 5.408** **p: .005**
4-5 years	56.6±18.1		55.3±14.4	
Over 5 years	53.6±17.7		61.1±15.1	

a>b; X̄ : mean; ss: standard deviation; MPSSS: Multidimensional Perceived Social Support Scale; AKDAS: Abdel-Khalek Death Anxiety Scale; t: t-test for independent groups; F: ANOVA; z: Kruskal-Wallis H test; z: Mann-Whitney U test

As shown in Table 5, a weak but statistically significant negative correlation was found between the AKDAS mean score and the MPSSS score (r: -.0146; p<.05).

Table 5 Relationship between AKDAS and MPSSS mean scores (n=221)

Scale		**AKDAS**
MPSSS	r	-,146*
	p	**,030**

*. Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

In this section, the findings of the study examining perceived social support and death anxiety levels in patients with heart failure are discussed and interpreted in line with the literature.

In the study, the mean total score for the MPSSS was calculated as 55.4±16.8, while the mean total score for the AKDAS was 57.4±15 (Table 2). Considering the highest and lowest scores that can be obtained from the scales, these values can be described as average scores. A review of the literature reveals that Barutcu (2011) similarly found that the mean total score on the perceived social support scale among patients was 49.34±17.57 (Barutcu, 2011). Similarly, in a study conducted by Durmaz et al. (2023) with individuals with chronic illnesses, the average perceived social support scale score was found to be 66.51±15.40 (Durmaz et al., 2023). The results show that the mean scores for perceived social support have not changed significantly from the past to the present and have remained at almost the same level. Similarly, in death anxiety, Uçar et al. (2023) calculated the average AKDAS score as 52.48±17 in their study with COVID-19 patients (Uçar et al., 2023). Human beings, who are aware of birth and death, may feel helpless in the face of destructive and inevitable events beyond their control (Çölgeçen 2020) and, consequently, may experience anxiety.

It has been determined that individuals diagnosed with heart failure who have social security perceive higher levels of social support compared to those without social security (Table 3; $p<0.05$). No studies in the literature support this finding. On the contrary, results have been encountered showing that social security does not create a significant difference in perceived social support (Altunışık and Doğan, 2023; Akbulut, 2019). However, this result suggests that heart failure patients perceive health insurance from healthcare institutions as a form of social support, similar to the social support they perceive from family and friends.

It was found that individuals diagnosed with heart failure whose income exceeded their expenses had a higher level of perceived social support compared to other groups (Table 3; $p<0.05$). Similar to this finding in the literature, Turnier and colleagues (2021) and Akbulut (2019) found that high-income patients perceived a significantly higher level of social support. It was determined that social support received from family was higher (Akbulut, 2019). The research results are consistent with the literature.

It has been found that patients living alone who have been diagnosed with heart failure have significantly lower levels of social support compared to patients living with their spouses and children (Table 3; $p<0.05$). Numerous studies in the literature review highlight the importance of chronic illnesses and perceived social support. Among these studies, more emphasis is placed on perceived social support from family rather than support from spouses and friends, and the importance of the family in this process is discussed (Akbulut, 2019; Murberg et al., 1998; Güneş and Altıok, 2009; Wang et al. 2006; Aydıner Boylu and Günay, 2018; Altunışık and Doğan, 2023; Sayers et al., 2008). In addition, Robinson and colleagues reported that patients received social support primarily from their families, healthcare professionals, and close friends, and that perceived social support from their families provided greater comfort to individuals (Robinson et al., 2018). This indicates that the morale derived from family unity, the sense of belonging, and the feeling of not being alone increase the social support perceived by patients.

When the perceived social support scores were examined in terms of age and number of children, it was observed that perceived social support decreased with increasing age or number of children (Table 3; $p<0.05$). Similar results have been found in the literature (Akbulut, 2019; Şahin, 2012; Softa et al., 2016). This situation is evidence that patients become more isolated or feel more alone as they age. Similarly, having more children suggests a situation where responsibility is shifted to other siblings. It can be stated that the presence of children who communicate with the patient in a meaningful way and make them feel supported is more important than the mere number of children. Furthermore, it is thought that this situation stems from the disease process, along with various physiological changes occurring in individuals, an increase in health problems, and greater emotional fragility. In relation to this finding, it is interpreted that heart failure patients receive more social support because the situation of "death at a young age" is more painful in society.

When the perceived social support score averages were examined in terms of gender, marital status, and educational status, it was determined that they did not cause any change in the social support score (Table 3; $p>0.05$). There are many studies in the literature that have obtained similar results to these findings (Aras and Tel, 2002; Akbulut, 2019, Aydıner Boylu and Günay, 2018; Ünsal and Karakurt, 2021; Chen et al., 2017). In addition, studies have found that gender (Unger and Jacobs, 1995), marital status (Altunışık and Doğan, 2023; Ünsal and Karakurt, 2021; Wang et al., 2006; Akbulut 2019) and educational status (Altunışık and Doğan, 2023; Aydıner Boylu and Günay, 2018) have been found to influence social support. However, upon reviewing the studies, it has been concluded that social support is a human need that every individual, every patient, greatly requires, regardless of gender, marital status, and educational status. Regardless of marital status, educational status, and the environment one is in, it can be stated that quality relationships and friendships develop independently of these variables.

When death anxiety scores were examined by gender, it was determined that women scored significantly higher than men (Table 3, $p<0.05$). A review of the literature reveals similar studies showing that women experience more death anxiety than men (Yan et al., 2022; Soleimani et al., 2020). Furthermore, according to a meta-analysis conducted by Lester and his colleagues, 37 out of 40 studies examined found that women had higher levels of death anxiety than men (Lester et al., 2007). This can be attributed to the role of motherhood and womanhood, women's attachment to their families, and their inability to separate from them (Yan et al., 2022; Kastenbaum, 2007). In general, it is thought that women's high levels of death anxiety may stem from social values, the female role, and conformity to this role, as well as from their emotional responses to fear and anxiety and their tendency not to hide their feelings.

When examined in terms of average death anxiety scores, variables such as marital status, educational status, social security, income level, people living with, age, and number of children did not show any difference (Table 3, $p>0.05$). A review of the literature reveals studies supporting these findings (Alioğulları, 2021; Öztürk et al., 2011; Kaba, 2019) as well as studies with opposite results (Aburuz 2018; Ebrahimi et al., 2018; Yan et al., 2022; Aburuz, 2018; Tel et al., 2020; Gündoğan, 2022). Regarding these results, it has been interpreted that the similar levels of death anxiety among the research group stem from their similar cultural and religious beliefs and the general perception that death can occur at any age and in any form.

It was determined that the perceived social support scores of patients diagnosed with heart failure who smoked were significantly lower (Table 4; $p<0.05$). Studies in the literature have found similar results (Busnello et al., 2001; Ünsal and Karakurt, 2021). Smoking is considered one of the negative coping mechanisms. It may be started due to various difficulties encountered in the course of life. This situation raises the question of whether smoking is the reason for social support or whether smoking is used because of the lack of social support. ts suggest that when patients face a serious health problem and do not receive the social support they expect, or when they feel lonely, they turn to smoking more, thus suggesting that individuals who smoke become even more lonely and unable to receive social support. Furthermore, the presence of another disease condition in patients besides heart failure or having visited the emergency room for heart-related reasons in the last year also causes the social support score to be significantly low ($p<0.05$). No findings have been reported in the literature in this area. It is interpreted that having an additional illness in patients diagnosed with heart failure has a negative impact on the patient and that they require more social support. It is thought that this result arises due to the uncertainty of acute developments.

When examining the variables of alcohol consumption, previous angiography, family history of heart disease, and duration of diagnosis in terms of perceived social support mean scores, no significant difference was found (Table 4; $p>0.05$). Similar results are found in the literature for the duration of diagnosis (Akbulut, 2019), but similar results were not encountered for the variables of alcohol consumption, previous angiography, and family history of heart disease. The fact that these variables were not among the variables examined in patients in the studies means that the research contributes to the literature.

It was found that patients with heart failure who had previously undergone angiography had significantly higher levels of death anxiety (Table 4; $p<0.05$). This result is interpreted as the experience of the consequences of the disease prior to angiography increasing the level of death anxiety in heart failure patients. A review of the literature reveals that, similarly, cardiac patients who underwent angiography had significantly higher levels of death anxiety than those who did not (Yılmaz 2011).

It was determined that individuals diagnosed with heart failure who also had an additional illness had higher levels of death anxiety (Table 4; $p<0.05$). A review of the literature reveals similar findings in Yılmaz's study examining death anxiety in heart and haemodialysis patients, which found that heart patients with additional chronic illnesses had higher levels of death anxiety (Yılmaz, 2011). In the study by Elbi and Sertöz, it was found that ischemic heart patients with additional illnesses had significantly higher levels of death anxiety than patients without additional illnesses (Elbi and Sertöz, 2009). The literature indicates that chronic health problems may increase anxiety and fear related to death (Elbi and Sertöz, 2009). It has been observed that as anxiety related to health problems increases, so does anxiety about death (Işıl and Karaca, 2009).

It has been determined that the level of death anxiety increases as the duration of the diagnosis of heart failure increases in individuals diagnosed with heart failure (Table 4; $p<0.05$). A review of the literature reveals similar findings. In Yılmaz's study, a positive and significant relationship was determined between the duration of diagnosis and death anxiety in heart and haemodialysis patients (Yılmaz, 2011). The prolonged treatment process of the disease is an important factor affecting the patient's social life, family and environmental relationships. This situation is thought to have a detrimental effect on the patient's quality of life and to increase the level of death anxiety.

It has been determined that the level of death anxiety among patients who visited the emergency department with heart complaints in the last year was significantly higher than among those who did not visit (Table 4; $p<0.05$). In relation to this finding, studies have also determined that patients' sudden heart complaints increase death anxiety (Yılmaz 2011; Elbi and Sertöz 2009). In relation to this result, it can be considered that the level of death anxiety is higher in patients presenting to the emergency department due to their helplessness at the time of the sudden onset of the event or their consideration of the worst possible scenario.

When death anxiety scores were examined in terms of smoking and alcohol consumption, statistical analysis revealed no significant difference between the groups (Table 4; p>0.05). A review of the literature revealed that studies conducted by Bayrak et al. (2019) and Buruntekin (2022) similarly found no significant relationship between death anxiety levels and smoking status in individuals diagnosed with heart failure (Bayrak et al., 2019; Buruntekin, 2022). This result has been interpreted as indicating that smoking does not create a difference due to its social normalisation. Furthermore, a review of the literature revealed that similarly, no significant relationship was determined between the age of onset of alcohol use and duration of alcohol use and death anxiety levels in patients with alcohol dependence (Çiçek, 2021). This result was consistent with the findings of this study.

When the mean death anxiety scores were examined in terms of family history of heart failure, statistical analysis between the groups revealed no significant difference (Table 4; p>0.05). A review of the literature reveals similar findings in Yılmaz's study examining death anxiety in heart and haemodialysis patients, which determined that there was no significant difference in death anxiety levels based on the presence of similar diseases in the family (Yılmaz, 2011). This result suggests that the community does not deny death, is aware that genetic factors are influential, and that this may not affect death anxiety.

A statistically significant, low-level, negative correlation was found between the average death anxiety score and the perceived social support score in individuals diagnosed with heart failure (p<0.05; Table 5). As perceived social support increases, death anxiety decreases . Literature reviews and research findings suggest that social support provided by close family members, friends, and healthcare professionals to patients diagnosed with heart failure reduces the level of death anxiety. For example, a study by Yan and colleagues also found that in individuals diagnosed with heart failure, death anxiety levels decreased as perceived social support increased, particularly family care and socio-economic assistance (Yan et al., 2022). Similarly, a study by Aburuz (2018) also concluded that perceived social support decreased as perceived social support increased (Aburuz, 2018).

CONCLUSIONS AND RECOMMENDATIONS

Death anxiety decreases as perceived social support increases in individuals diagnosed with heart failure. The level of death anxiety in individuals diagnosed with heart failure varies according to gender, but does not vary according to marital status, educational status, having/not having social security, income status, or individuals living together.

The perceived level of social support in individuals diagnosed with heart failure varies according to whether they have social security, their income status, and the people they live with, but does not vary according to gender, marital status, or educational status.

In individuals diagnosed with heart failure, death anxiety varies according to whether they have undergone angiography, have another illness, have visited the emergency department due to heart problems, and the time since diagnosis, but does not vary according to age, number of children, smoking and alcohol consumption, or family history of heart disease. Perceived social support in individuals diagnosed with heart failure varies according to age, number of children, smoking, having another illness, and visiting the emergency department due to heart problems, but does not vary according to alcohol consumption, having previously undergone angiography, family history of heart disease, or time to diagnosis.

Recommendations

- It is important to develop social support programmes for patients. Emotional support, information sharing, and practical assistance opportunities can be offered to patients and their relatives.
- Training programmes focusing on the psychosocial needs of heart failure patients can be organised among healthcare professionals to raise awareness. This will enable a better understanding of patients' emotional support needs and the provision of appropriate assistance.
- Individual and group therapies aimed at reducing the level of death anxiety in patients with heart failure should be supported. In these therapies, the concerns of patients and their relatives should be addressed, and healthy coping mechanisms should be taught and supported.
- Healthy lifestyle habits that support coping with heart failure should be encouraged. Patients should be educated and supported on topics such as regular exercise, healthy eating, and stress management.

- Families and close friends should support patients with heart failure and respond to their emotional needs with understanding. Counselling services should be offered to relatives of patients, and they should be encouraged not to neglect their own self-care.

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