KALP YETMEZLİĞİ OLAN HASTALARA BAKIM VEREN AİLE ÜYELERİNDE BAKIM VERME YÜKÜ İLE YAŞAM KALİTESİ ARASINDAKİ İLİŞKİ: TANIMLAYICI BİR ÇALIŞMA

Mehmet AĞASLAN[1], Gülşah KUMAŞ[2]

[1] Tarsus Üniversitesi Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü, Mersin, Türkiye
0009-0009-2462-0232
[2] Çukurova Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, Adana, Türkiye
0000-0002-5102-2643

ÖZ

Giriş: Kalp yetersizliği (KY), sadece hastaların sağlığını olumsuz etkilemekle kalmayan, aynı zamanda aile bakım verenler üzerinde önemli fiziksel, duygusal ve sosyal yük oluşturan kronik ve ilerleyici bir durumdur. Bakım verenlerin yaşadığı yük ile yaşam kaliteleri arasındaki ilişkinin anlaşılması, destekleyici müdahalelerin geliştirilmesi ve bütüncül bakım sonuçlarının iyileştirilmesi için önemlidir.

Amaç: Bu araştırmada KY hastalarına bakım veren aile üyelerinde bakım verme yükü ve yaşam kalitesi arasındaki ilişkinin incelenmesi amaçlanmıştır.

Yöntem: Araştırma, tanımlayıcı ve kesitsel türde gerçekleştirilmiştir. Bir devlet hastanesinin kardiyoloji kliniklerinde yatarak tedavi gören 138 KY hastasına bakım veren aile üyeleri dahil edilmiştir. Araştırma Temmuz 2024-Eylül 2024 tarihleri arasında gerçekleştirilmiştir. Verilerin toplanmasında "Bakım Veren Tanıtıcı Formu", "Zarit Bakım Verme Yükü Ölçeği (ZBVYÖ)" ve "Kalp Yetersizliğinde Aile Bakım Verici Yaşam Kalitesi Ölçeği (KYABVYKÖ)" kullanılmıştır. Verilerin analizinde tanımlayıcı istatistikler kullanılmıştır. Ölçek puanları arasındaki yordayıcı ilişkiyi değerlendirmek amacıyla basit doğrusal regresyon analizi gerçekleştirilmiştir. İstatistiksel anlamlılık değeri $p<0,05$ olarak kabul edilmiştir.

Bulgular: Bakım verenlerin ZBVYÖ puan ortalaması 36,36±20,79 ve KYABVYKÖ puan ortalaması 55,73±14,60 olarak belirlenmiştir. Bakım verenlerin bakım yükü ile yaşam kalitesi arasında negatif yönlü güçlü düzeyde istatistiksel olarak anlamlı bir ilişki bulunmuştur (S.ß:-0,815; $p<0,001$). Ayrıca ZBVYÖ puanları KYABVYKÖ puanlarındaki değişimi %71,5 oranında açıklamaktadır (R^2: 0,715).

Sonuç: Araştırmada bakım verenlerin bakım yükü düzeylerinin ortalamanın altında, yaşam kalitesi düzeylerinin ise ortalamanın üzerinde olduğu saptanmıştır. Bulgular, bakım yükü arttıkça yaşam kalitesinin güçlü ve anlamlı biçimde azaldığını ortaya koymuştur. Ayrıca, bakım yükü yaşam kalitesindeki değişimin büyük bir bölümünü açıklamaktadır. Bu sonuç, bakım yükünün azaltılmasına yönelik müdahalelerin, bakım verenlerin yaşam kalitesini artırmada kritik bir öneme sahip olduğunu göstermektedir.

Anahtar Kelimeler: Kalp yetersizliği, bakım verme yükü, yaşam kalitesi.

THE RELATIONSHIP BETWEEN CAREGIVER BURDEN AND QUALITY OF LIFE AMONG FAMILY MEMBERS CARING FOR PATIENTS WITH HEART FAILURE: A DESCRIPTIVE STUDY

ABSTRACT

Background: Heart failure (HF) is a chronic and progressive condition that not only impairs patients' health but also places a significant physical, emotional, and social burden on family caregivers. Understanding the relationship between caregiver burden and their quality of life is essential for developing supportive interventions and improving holistic care outcomes.

Aim: This study aimed to examine the relationship between caregiving burden and quality of life among family members providing care to patients with HF.

Method: The study was conducted using a descriptive and cross-sectional design. A total of 138 family members caring for patients hospitalized in the cardiology clinics of a state hospital were included. Data were collected between July 2024 and September 2024 using the "Caregiver Identification Form," the "Zarit Burden Interview (ZBI)," and the "Family Caregiver Quality of Life Scale in Heart Failure (FCQoL-HF)." Descriptive statistics were used to analyze the data. Simple linear regression analysis was performed to evaluate the predictive relationship between scale scores.

Results: The mean ZCBS score of caregivers was 36.36±20.79, and the mean FCQoL-HF score was 55.73±14.60. A statistically significant strong negative correlation was found between caregiver burden and quality of life (β:-0.815; $p<0.001$). Additionally, ZBI scores explained 71.5% of the variance in FCQoL-HF scores (R^2: 0.715).

Conclusion: The findings indicated that caregivers' burden levels were below average, while their quality of life was above average. The results demonstrated that as caregiver burden increased, quality of life decreased significantly and strongly. Moreover, caregiver burden accounted for a substantial proportion of the variation in quality of life. These findings highlight the critical importance of interventions aimed at reducing caregiver burden to improve caregivers' quality of life.

Keywords: Heart failure, caregiver burden, quality of life.

İletişim/Correspondence
Mehmet AĞASLAN
Hemşirelik Bölümü
Tarsus Üniversitesi Sağlık Bilimleri Fakültesi, Mersin, Türkiye

E-posta: mehmetagaslan@tarsus.edu.tr
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INTRODUCTION

Heart failure is a chronic condition characterized by the inability of the heart to pump sufficient blood to meet the metabolic demands of body tissues (1). HF, which develops as a result of impaired cardiac function, necessitates the management of numerous symptoms such as dyspnea, fatigue, edema, sleep disturbances, anxiety, and depression (2). In recent years, the rapid increase in the aging population, along with the rising prevalence of chronic diseases such as diabetes, hypertension, and coronary artery disease, has contributed to the growing incidence of HF (3). As a major cause of mortality and morbidity, the global prevalence of HF is reported to range between 1–3%, while in Türkiye, more than 2 million individuals are estimated to be living with the disease (1,4). ecognized as a significant public health problem worldwide, HF also contributes to increased healthcare costs by leading to recurrent hospitalizations (5).

Heart failure, characterized by recurrent symptom exacerbations, is a clinical condition that requires lifelong treatment and care (6). With advancing age, its prevalence increases, and the disease affects not only the individual but also family members directly. In many aspects, such as hospitalizations, comorbidities, treatment adherence, maintenance of appropriate physical activity, and adequate nutrition, patients rely heavily on the support of their family members (7). Therefore, the role of family caregivers is of critical importance in the management of HF.

In Türkiye, the care needs of individuals with chronic diseases are largely met by family members (8). The caregiving process often emerges not as a voluntary choice but as an unavoidable obligation, which makes adaptation difficult for caregivers and compels them to assume new responsibilities in daily life (9). Increased patient dependency, continuous care requirements, frequent hospitalizations, and the risk of sudden clinical deterioration impose significant physical, psychological, social, and economic burdens on family members. This caregiving burden disrupts the balance of caregivers' lives and may lead to adverse outcomes such as stress, burnout, anxiety, and depression (8,10). Particularly in HF, family members who must provide continuous support for the management of prominent symptoms may also experience sleep disturbances, role conflicts, and social isolation, which in turn negatively affect their quality of life (10). A study conducted in Türkiye reported that the most significant challenges faced by caregivers of patients with heart disease were financial difficulties; in addition, they experienced psychological strain, social disruption, and were forced to assume additional responsibilities to sustain daily activities (10).

Caregiver burden directly affects the quality of life of caregivers. Numerous studies have demonstrated this effect, emphasizing that an increase in caregiver burden, particularly in the context of chronic diseases, is associated with a decline in quality of life (11–13). A better understanding of the relationship between caregiver burden and quality of life is critically important not only for families but also for the overall well-being of healthcare systems and society (3). Despite these findings in the literature, no study has been identified in Türkiye that specifically examines the relationship between caregiver burden and quality of life among family members caring for patients with HF. Therefore, determining this relationship in caregivers of patients with

HF is important for filling the gap in the literature as well as for guiding appropriate care and treatment planning. In this study, the relationship between caregiver burden and quality of life among family caregivers of patients with HF was examined, and the findings are expected to contribute to the existing body of knowledge.

Research Questions

1. What is the level of caregiver burden among family members caring for patients with HF?

2. What is the level of quality of life among family members caring for patients with HF?

3. Is there a relationship between caregiver burden and quality of life among family members caring for patients with HF?

MATERIAL AND METHODS

Study Design

This study was conducted as a descriptive and cross-sectional investigation to examine the relationship between caregiver burden and quality of life among family members caring for patients with HF.

Population and Sample

Individuals aged 18 years and older who had been providing care for patients diagnosed with HF for at least six months, had no verbal communication problems, and voluntarily agreed to participate were included in the study. The population of the study consisted of family members caring for patients with HF who were hospitalized in cardiology clinics between July 2024 and September 2024. An a priori power analysis was conducted using G*Power version 3.1.9.4. Based on previous studies reporting a moderate association between caregiver burden and quality of life ($r = 0.30$) (14), an exact two-tailed correlation test with $\alpha = 0.05$ and a power of 0.95 indicated a required sample size of 138 participants.

Data Collection Tools

Data were collected using the “Caregiver Descriptive Form”, which includes the demographic and background characteristics of family members caring for patients with HF; the “Zarit Burden Interview” to assess caregiver burden; and the “Family Caregiver Quality of Life Scale in Heart Failure” to evaluate the quality of life of family caregivers.

Caregiver Descriptive Form: The form was developed by the researchers based on a literature review and consists of 17 items, including questions on the sociodemographic characteristics of the patients’ relatives and information related to the patient’s heart failure condition (8,10).

Zarit Burden Interview (ZBI): The scale was developed by Zarit, Reever, and Bach-Peterson in 1980 to measure the burden experienced by caregivers (15). The Turkish adaptation and its validity and reliability study were conducted by İnci and Erdem in 2008 (16). The scale consists of 22 items, each rated on a five-point Likert scale ranging from 0 to 4, with response options of “never,” “rarely,” “sometimes,” “often,” and “almost always.” Total scores range from 0 to 88, with higher scores indicating greater caregiver burden. Burden levels are classified as follows: 0–20 points, very low or no burden; 21–40 points, mild to moderate burden; 41–60 points, moderate to severe burden; and 61–88 points, severe burden. In the Turkish adaptation study, the Cronbach’s alpha coefficient of the scale was 0.95 (16). In the present study, the

Cronbach's alpha coefficient was also calculated as 0.95.

Family Caregiver Quality of Life Scale in Heart Failure (FCQoL-HF): The scale was developed by Nauser et al. in 2011 to assess the quality of life of family members caring for patients with HF (17). The scale consists of 16 items and includes four subdimensions: physical (items 1, 5, 8, and 9), psychological (items 2, 3, 4, and 6), social (items 7, 10, 11, and 12), and spiritual well-being (items 13, 14, 15, and 16). It is scored using a seven-point Likert scale, with some items reverse-coded. Scores for each subdimension range from 4 to 20, and the total score ranges from 16 to 80. Higher scores indicate better quality of life. The Turkish adaptation, validity, and reliability study was conducted by Dülgeroğlu in 2017 (18). In the original scale, the Cronbach's alpha coefficient was 0.89, while it was 0.82 in the Turkish adaptation (17,18). In the present study, the Cronbach's alpha coefficient was calculated as 0.93.

Data Collection

The data for this study were collected between July 2024 and September 2024 using face-to-face interviews. The researchers administered the survey questions to the participants and recorded their responses appropriately. Each interview lasted approximately 15 minutes.

Statistical Analysis

Data were analyzed using SPSS 2022 (Statistical Package for the Social Sciences). Descriptive statistics, including frequencies and percentages, were used to evaluate the findings. The normality of the variables was assessed by considering skewness and kurtosis values. Parametric tests were applied for variables showing a normal distribution. The Independent Samples t-test was used to compare the means of two independent groups, and One-Way ANOVA was employed for comparisons involving three or more groups. When significant differences were detected by ANOVA, Tukey and Tamhane's T2 post-hoc tests were conducted to determine which groups contributed to the differences. Additionally, a simple linear regression analysis was performed to evaluate the predictive effect of ZBI scores on FCQoL-HF scores. A p-value of <0.05 was considered statistically significant in all analyses.

Ethical Considerations

Prior to the commencement of the study, approval was obtained from the Non-Interventional Clinical Research Ethics Committee of a university (Decision No: 2024/069, Meeting No: 143). Institutional permission was also obtained from the relevant institution (Approval No: E-11289099-050.04-244910032). Permission was obtained from the original authors for the scales used in the study. The study was conducted in accordance with the principles of the Declaration of Helsinki. Verbal and written informed consent was obtained from all participants prior to their involvement in the research.

RESULTS

The mean age of the participants was 48.88 ± 14.67 years, and 72.5% were female. Among the caregivers, 44.9% had completed primary education, 76.8% were married, and 81.2% had children. 58% of the caregivers reported no health problems, 78.3% were not employed, and 50.7% had a monthly income below their expenses. 54.3% percent of the patients were cared for by their children, and 90.6% of the

caregivers had not received any education regarding HF. The duration since HF diagnosis was less than one year for 40.6% of the patients. Regarding caregiving, the mean daily care time was 18.23 ± 8.17 hours, and the mean total caregiving duration was 27.29 ± 47.03 months. Among the caregivers, 54.3% reported experiencing difficulties while providing care, and 65.2% indicated that their family and social life were affected. Additionally, 75.4% received support in caregiving, and 96.4% reported feeling happy while providing care (Table 1).

Table 1. Distribution of caregivers' sociodemographic characteristics (n=138).

Variables (n=138)	n	%
Age (X̄±SS: 48,88±14,67)		
18-39 years	35	25,4
40-59 years	63	45,6
60 years and older	40	29,0
Gender		
Female	100	72,5
Male	38	27,5
Education Level		
Illiterate	5	3,6
Literate	19	13,8
Primary School	62	44,9
High School and above	52	37,7
Marital Status		
Married	106	76,8
Single	32	23,2
Parental Status		
Yes	112	81,2
No	26	18,8
Presence of Health Problems		
Yes	58	42,0
No	80	58,0
Employment Status		
Employed	30	21,7
Unemployed	108	78,3
Monthly Income Level		
Income < Expenses	70	50,7
Income = Expenses	56	40,6
Income > Expenses	12	8,7
Relationship to Patient		
Spouse	44	31,9
Child	75	54,3
Parent/Sibling	10	7,2
Grandchild/Niece/Nephew/Daughter-in-law	9	6,5
Participation in HF-related Training		
Yes	13	9,4
No	125	90,6
Duration of HF Diagnosis in Care Recipient (X̄±SD: 61.42±79.66 months)		
Less than 1 year	56	40,6
1–3 years	35	25,4
More than 3 years	47	34,1
Daily Care Duration (X̄±SD: 18.23±8.17 hours)		
1-8 hours	18	13,0
9-23 hours	31	22,5
All day	89	64,5
Total Care Duration (X̄±SD: 27.29±47.03 months)		
Less than 1 year	67	48,6
1–3 years	36	26,1
More than 3 years	35	25,4
Difficulty Experienced in Caregiving		
Yes	75	54,3
No	63	45,7
Impact of Caregiving on Family and Social Life		
Yes	90	65,2
No	48	34,8
Receiving Assistance in Caregiving		
Yes	104	75,4
No	34	24,6
Happiness Derived from Caregiving		
Yes	133	96,4
No	5	3,6

When comparing the descriptive characteristics of caregivers with scale scores, significant differences were found between marital status and having children and FCQoL-HF scores ($p < 0.05$) (Table 2). Accordingly, single caregivers and those with children demonstrated higher quality of life. Additionally, significant differences were observed between age, daily caregiving duration, employment status, monthly income, difficulties experienced during caregiving, and the impact of caregiving on family/social life with both ZBI and FCQoL-HF scores ($p < 0.05$) (Table 2). Participants aged 18–39 years exhibited lower caregiver burden and higher quality of life compared to those aged 40–59 years. Caregivers providing care for 1–8 hours daily reported lower caregiver burden and higher quality of life compared to those providing care for 9–23 hours. Employed caregivers, those who did not experience difficulties while caregiving, and those who reported no impact on their family/social life demonstrated lower caregiver burden and higher quality of life. Furthermore, with respect to income level, caregivers whose monthly income was below their expenses had the highest caregiver burden and lower quality of life compared to those whose income was equal to their expenses.

Table 2. Comparison of Caregivers' Sociodemographic Characteristics with ZBI and FCQoL-HF Mean Scores (n=138).

Characteristics	ZBI	Test and p values	FCQOL-HF	Test and p values
Age				
18–39 years (a)	32,14±22,25	F: 3,419	61,85±14,42	F: 5,067
40–59 years (b)	41,33±20,46	**p<0,05**	52,33±14,88	**p<0,05**
60 years and older (c)	32,25±18,65	**Diff.: a<b**	55,72±12,79	**Diff.: a>b**
Marital Status				
Married	38,00±21,37	t:1,687	54,27±14,64	t:-2,163
Single	30,96±18,03	p:0,09	60,56±13,61	**p<0,05**
Parental Status				
Yes	28,56±20,33	t:1,776	60,80±13,19	t:-2,097
No	38,53±20,49	p:0,08	54,32±14,72	**p<0,05**
Employment Status				
Employed	52,55±19,28	t:-2,362	63,25±23,76	t:2,178
Unemployed	60,43±18,57	**p<0,05**	55,14±16,82	**p<0,05**
Monthly Income Level				
Income < Expenses	42,32±20,99	F:6,778	51,95±15,19	F:5,136
Income = Expenses	31,30±17,97	**p<0,005**	59,98±12,41	**p<0,05**
Income > Expenses	25,25±22,69	**Diff.: a>b,c**	57,91±15,82	**Diff.: a>b**
Duration of HF Diagnosis in Care Recipient				
Less than 1 year (a) 1–3 years (b)	42,51±21,16	F:4,528	52,50±15,19	F:5,136
More than 3 years (c)	33,80±20,78	**p<0,05**	59,98±12,41	**p<0,05**
	30,95±18,76	**Diff.: a>b,c**	57,91±15,82	**Diff.: a>b**
Daily Care Duration				
1-8 hours (a)	20,83±16,55	F:8,056	63,77±14,85	F:5,136
9-23 hours (b)	44,32±20,77	**p<0,001**	52,70±14,42	**p<0,05**
All day (c)	36,74±20,03	**Diff.: a<b,c**	55,15±14,20	**Diff.: a<b**
Difficulty Experienced in Caregiving				
Yes	46,85±18,28	t:7,721	48,30±12,75	t:-7,815
No	23,88±16,29	**p<0,001**	64,57±11,45	**p<0,001**
Impact of Caregiving on Family and Social Life				
Yes	45,44±17,76	t:8,739	49,98±12,83	t:-7,490
No	19,35±14,48	**p<0,001**	66,50±11,32	**p<0,001**

*t:Independent Sample t test, **F: One Way ANOVA.

Information regarding scale scores is presented in Table 3. The mean total ZBI score of the caregivers was 36.36 ± 20.79, and the mean total FCQoL-HF score was 55.73 ± 14.60 (Table 3). When ZBI levels were examined, 31.9% of the caregivers were found to have a mild-to-moderate caregiver burden (Table 4).

Table 3. Mean ZBI and FCQoL-HF Scores of Caregivers (n=138).

	Mean±SD*	**Min-Max***
ZBI (Total Scores)	36,36±20,79	1-88
Yaşam Kalitesi (Total Scores)	55,73±14,60	24-80
Physical Well-being Subscale	12,15±4,88	4-20
Psychological Well-being Subscale	13,34±5,34	4-20
Social Well-being Subscale	12,36±4,17	4-20
Spiritual Well-being Subscale	17,87±3,01	6-20

*SD: Standart Deviation, Min: Minimum, Max: Maximum.

Table 4. Caregivers' ZBI Levels (n=138).

Zarit Burden Interview	**n**	**%**
No or Very Low Caregiver Burden (0–20)	36	26,1
Mild-to-Moderate Caregiver Burden (21–40)	44	31,9
Moderate-to-High Caregiver Burden (41–60)	38	27,5
High Caregiver Burden (61–88)	20	14,5

A simple linear regression analysis examining the predictive effect of ZBI scores on FCQoL-HF scores is presented in Table 5. The results indicated that ZBI scores explained 71.5% of the variance in FCQoL-HF scores (R^2 = 0.715). In this context, for each one-point increase in the ZBI score, the FCQoL-HF score decreased by 0.594 points (β = –0.594; p < 0.001) (Table 5).

Table 5. Predictive Value of ZBI on FCQoL-HF (n=138).

Independent Variables	**ß**	**SE**	**Std. ß**	**t**	**p**	**95% Confidence Interval**	
						Lower Bound	**Upper Bound**
Constant	77,336	1,345		57,505	**p<0,001**	74,676	79,995
ZBI	-0,594	0,032	-0,846	18,489	**p<0,001**	-0,658	-0,530
Durbin-Watson=1,648	F=341,825		p<0,001		R^2=0,715		

DISCUSSION

In this section, the findings regarding the levels of caregiver burden and quality of life among family members caring for patients with HF, as well as the relationship between these two parameters, are discussed in the context of the existing literature.

In our study, the caregiver burden among family members was found to be at a mild-to-moderate level. A review of the literature shows that numerous studies examining caregiver burden in family members of patients with HF have reported similar findings to ours. (5,19,20). It is thought that the clinical characteristics of patients with HF play a role in this finding. Indeed, patients with less advanced HF are exposed to fewer symptoms and are able to maintain their self-care processes. Supporting this view, a study conducted by Gök Metin and Helvacı reported that more than half of the

HF patients included in their research were at Stage 1 or 2, and the caregivers exhibited a low level of caregiver burden (9).

In our study, caregivers aged 18–39 and over 60 reported lower caregiver burden compared to those aged 40–59. The literature indicates that younger individuals tend to have better quality of life, which is consistent with our findings (3,5). The lower perceived burden among younger caregivers may be attributed to fewer family and professional responsibilities and greater physical capacity. On the other hand, the finding of lower caregiver burden among individuals over 60 is uncommon in the literature. This may be related to the higher prevalence of HF in older age, leading both the patient and their family to adapt better to the disease process and accept caregiving as a natural part of daily life.

Economic comfort plays an important role in managing chronic diseases and establishing a healthy lifestyle for the patient. Family members caring for patients with HF who do not face economic difficulties in areas such as transportation, communication, access to information, and adequate and balanced nutrition can positively influence the treatment and care process. In our study, caregivers with lower income levels and those who were not employed were found to have a higher caregiver burden. A review of the literature reveals numerous studies supporting our findings (5,9,21). In addition to the demands of managing the disease, the socioeconomic context of the study setting may also have contributed to these results.

Caregivers of patients who had been diagnosed with HF for less than one year were found to have higher caregiver burden, whereas those providing fewer daily care hours reported lower burden. Although no literature was found specifically examining the effect of HF diagnosis duration on caregiver burden, it is thought that the higher burden may be due to the lack of adaptation by both the patient and the caregiver. Our findings regarding daily care hours are consistent with the literature (22). Indeed, having more personal time may contribute to a lower perceived caregiver burden.

In our study, difficulties experienced during caregiving and the impact of caregiving on family and social life were found to increase caregiver burden. Similar findings were reported in a study by Öner and Karabulutlu in 2024 (23). Additionally, Parvizi and Ay noted that difficulties during caregiving are a factor that elevates caregiver burden (24). This may be related to the chronic nature of HF, which requires long-term and continuous care, leading caregivers to place their personal lives secondary and limiting the time they can dedicate to themselves.

n our study, the quality of life of family caregivers was found to be above average. Similarly, a study conducted by Gök Metin and Helvacı, which evaluated the quality of life of caregivers of patients with HF, reported above-average quality of life (7). In a study by Yeşil et al., the quality of life of caregivers of individuals with chronic diseases was also assessed, and caregivers were found to have above-average quality of life (11). he above-average quality of life may be related to caregivers' adaptation to the caregiving process, gaining experience in disease management, and gradually embracing their caregiving roles. Additionally, the routine nature of caregiving over the long term and perceiving responsibilities as part of daily life may have contributed to maintaining a certain level of quality of life.

When examining the quality of life scores of the family caregivers included in our

study (55.73 ± 14.60), it can be stated that caregivers had a moderate level of quality of life. Numerous studies in the literature evaluating the quality of life of caregivers of patients with HF have reported findings consistent with our study (3,25-27). Chronic and long-term care conditions such as HF affect not only the patients but also the caregivers. An increased disease burden is associated with physical, psychological, social, and financial challenges. Caregivers may need to forgo personal life, social interactions, and professional goals. Therefore, the finding that family caregivers reported a moderate level of quality of life can be considered an expected outcome in line with the literature, given the nature of the disease and the challenges inherent in the caregiving process.

In our study, it was found that younger family caregivers had higher quality of life scores compared to older individuals. This age-related difference is consistent with findings reported in the literature (3,27-29). The higher quality of life among younger caregivers may be attributed to better cognitive, psychological, and physical functioning. This allows them to adapt more easily to the challenges of caregiving and to manage physical demands more effectively, while having broader social networks and easier access to social support mechanisms may further positively influence their quality of life.

In our study, it was found that single caregivers and those with children had higher quality of life. These findings reflect the variability observed in the literature. For example, a study by Young et al. on caregivers of older adults reported that single individuals had higher quality of life, whereas another study focusing on chronic illness indicated that married individuals had higher quality of life (26,30). In a different study conducted in Türkiye, marital status was found to have no significant effect on quality of life. These conflicting results may stem from differences in clinical, sociodemographic, and cultural contexts across studies. On the other hand, the finding that caregivers with children had higher quality of life, although contradictory to a study on caregivers of oncology patients, highlights the supportive role of children in chronic disease caregiving (31). Specifically, the emotional, physical, and financial support provided by children to spouses caring for a chronically ill individual can reasonably be expected to positively influence quality of life.

In our study, caregivers who were unemployed and had lower monthly income reported lower quality of life. These findings are consistent with the literature (11,26,28). This may be primarily attributed to the financial burdens and social limitations associated with caregiving. Low income can create difficulties in covering the patient's care expenses and may also force caregivers to postpone their own needs, generating a continuous source of financial pressure and stress. Moreover, detachment from professional life may lead caregivers to become socially isolated and lose their professional identity, while simultaneously eliminating a source of income.

Caregivers who provided fewer daily care hours were found to have higher quality of life. Similar findings were reported in a study by Hu et al., which evaluated the quality of life of family caregivers of patients with HF (26). Longer caregiving durations may limit individuals' personal time and restrict them physically, socially, and psychologically, potentially contributing to lower quality of life.

Additionally, caregivers of patients diagnosed with HF for less than one year reported lower quality of life, which is thought to be influenced by the higher caregiver burden observed in this group.

In our study, caregivers who experienced difficulties during caregiving and whose family and social lives were negatively affected had significantly lower quality of life scores. These findings are consistent with other studies conducted in our country focusing on chronic diseases (COPD) and palliative care (32,33). This highlights that caregiving is not merely a task but a multidimensional burden affecting all areas of an individual's life. The challenges associated with the caregiving process may gradually lead caregivers to become socially and personally isolated. Such distancing can negatively impact psychological well-being and overall life satisfaction, resulting in reduced quality of life.

In our study, it was found that as caregiver burden increased, quality of life decreased. Specifically, regression analysis demonstrated that caregiver burden was a strong predictor of quality of life, explaining 71.5% of the variance (ß=-0.594, $p<0.001$). Numerous studies in the literature support this finding (3,11,26,32,34). Among family caregivers of individuals with chronic diseases, an increase in caregiver burden may lead to adverse outcomes such as impaired physical health, emotional exhaustion, and social isolation, which in turn negatively affect quality of life. Therefore, a decrease in quality of life in response to increased caregiver burden can be considered an expected outcome. In light of these findings, treatment and care planning for patients with HF should consider not only the patient but also the family caregiver as a whole. Given the impact of caregiver burden on quality of life, supportive interventions aimed at reducing caregiver burden and enhancing their quality of life should be planned. Such programs can ensure better care for patients while maintaining the well-being of caregivers.

LIMITATIONS

One of the main limitations of this study is that only caregivers of hospitalized patients were included, which restricts the generalizability of the findings. Additionally, the lack of comprehensive information regarding the clinical characteristics of the patients receiving care represents another important limitation. Future studies that take these factors into account may contribute to obtaining more comprehensive and comparable results.

CONCLUSION

In this study, it was determined that family caregivers of patients with HF diagnosis experienced a mild to moderate level of caregiving burden and a moderate level of quality of life. It was found that younger caregivers had a lower caregiving burden and a higher quality of life, while caregivers aged 60 and over reported a relatively lower caregiving burden. Caregivers who were single and those who had children were found to have higher levels of quality of life. In contrast, caregivers who were unemployed, had a low monthly income, or were caring for patients who had been diagnosed with HF for less than a year were found to have higher care burdens and lower quality of life. Furthermore, it was found that a shorter daily caregiving duration was significantly associated with a reduction in the caregiving burden and an increase in quality of life. Caregivers who reported experiencing difficulties in the caregiving

process and whose family and social lives were negatively affected had a higher caregiving burden and lower quality of life.

These findings highlight the need for a holistic approach to treatment and care planning for patients with HF. In this context, it is crucial that nurses actively involve family carers as partners in the care process and regularly assess the carers' burden and quality of life. Nurses should identify caregivers who are low-income, unemployed, providing long-term care, or experiencing difficulties in the care process at an early stage and plan targeted nursing interventions for these groups. Nursing interventions, including education, counselling, stress management, time management, and self-care strategies, can contribute to reducing caregivers' care burden and improving their quality of life. In this regard, it is recommended that caregiver-centred nursing approaches be considered an integral component of HF care and systematically integrated into clinical practice.

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