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Hopelessness, Health Behaviors, and Quality of Life in Patients with Chronic Heart Failure

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Abstract

Aim: This study was conducted to determine the level of hopelessness, health behaviors, and quality of life of the patients with chronic heart failure under the age of 65 years and the correlation of these factors.

Methods: This descriptive and cross-sectional study was carried out with 143 patients in the Cardiology Clinics of a tertiary hospital and a public hospital. Data were collected using "Patient Information Form," "Beck's Hopelessness Scale," Heart Failure Health Behaviors Scale, and Minnesota Living with Heart Failure Questionnaire. Parametric and nonparametric tests as well as mean, standard deviation, and percentages were used to evaluate the data.

Results: The mean age of the patients was 57.8 ± 8.31 years and 70.6% of them were males, 32.2% of them were treated with the diagnosis of heart failure for 10 years and more. The total scores of the patients on the scales were 6.90 ± 4.66 for hopelessness, 99 ± 12.26 for health behaviors, and 42.75 ± 21.69 for quality of life. A positive correlation was found between hopelessness and quality of life ($P < .05$). The patients' quality of life varied depending on gender, New York Heart Association functional classification, and hospitalization within the last year ($P < .05$).

Conclusion: As the level of hopelessness of the participants increases, the quality of life decreases. Certain socio-demographic and disease characteristics of the patients influence the health behavior, the level of hopelessness, and the quality of life. As a result, it is recommended that in order to increase the quality of life, the patients should be followed up regularly of the psychosocial well-being, the necessary interventions should be planned accordingly, and patient education on the importance of self-care and health behaviors in the management of the disease should be organized.

Keywords: Health behavior, heart failure, hopelessness, nursing, quality of life

Introduction

Cardiovascular diseases (CVD) are among the major health problems in developed and developing countries and the leading cause of death globally.[1] One of the major reasons for CVD to have high mortality and morbidity is heart failure (HF).[2]

Heart failure (HF) is the syndrome characterized by increased intracardiac pressure or reduced cardiac output associated with systolic or diastolic dysfunction of the heart, with symptoms such as shortness of breath, fatigue, lack of appetite, and edema.[3,4] In the world, approximately 64.3 million adults live with HF.[5] In Turkey, approximately 2 million adults have HF with a prevalence of 2.9%.[6] The incidence of HF is increasing with the increase in age, and it is more common in men than in women.[6,7] The prevalence of HF is approximately 1% for those under 55 and more than 10% for those aged 70 and over.[7]

In the management of HF, the monitoring of symptoms and self-care behaviors that involve lifestyle changes is vital, in addition to pharmacological treatment. When self-care behaviors are not performed sufficiently, the severity of symptoms associated with HF increases. This situation can affect the patients' independence and the levels of psychosocial well-being thus reducing the quality of life and leading to hopelessness.[8-10]

Hopelessness, which is a major sign of depression, is defined as lack of positive expectations for the future and exhibiting a pessimistic attitude.[9,11] The studies showed that the level of hopelessness in the patients with HF was high.[9,10] Moreover, it is indicated

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that hopelessness is caused by both HF and the causes of its emergence.[8,10,12] It is reported that patients with HF experience depression associated with hopelessness,[8-10,12,13] which makes it difficult to comply with the expected health behaviors and affects the functional capacity, the severity of the symptoms of the disease, the frequency of hospital admission, and quality of life.[14,15]

Quality of life is the "state of well-being" involving the individual's satisfaction with life.[16,17] Studies show that regarding HF, frequency and severity of symptoms, limitations of function, high level of hopelessness, and poor health-related self-care behaviors have a negative effect on the quality of life. [15,18,19]

Heart failure is a chronic disease, coping with disease symptoms, and long-term treatment can complicate individuals' adaptation processes and disrupt their psychological health. This also prevents them from taking the necessary responsibilities in performing self-care behaviors and causes poor quality of life.[8-10,14,15] For this reason, successful management of HF requires patients and their families to adapt to lifestyle changes.[15] Nurses have a great role and responsibility in adopting their new lifestyle. The nurses should reduce the patient's medication needs and disease symptoms, prevent repeated hospitalization, improve the quality of life, and enable patients to perform their daily life activities as independently as possible. To do this, nurses should provide psychosocial support by determining the level of psychosocial well-being of individuals and organizing training for patients and their families in order to adopt a healthy lifestyle and self-care behaviors such as compliance with treatment, physical exercise and rest, appropriate nutrition.[20,21]

Although there are numerous studies about the correlation of hopelessness, health behaviors, and quality of life in all adults or individuals over 65 years of age with HF in the literature, there is no study with individuals at the age of 65 and below. Generally, it mainly affects older people, but it can also be seen in individuals under the age of 65.[3,6] Also the average age of incidence of HF in Turkey is 60 years, according to Western societies faced with nearly 10 years earlier HF in Turkey.[22,23] Therefore, HF is also important in individuals at the age of 65 and below. In this study, it is aimed to determine the correlation of hopelessness, health behaviors, and quality of life in the patients with chronic HF under age of 65.

Material and Methods

The Aim and Type of Research

This study was designed as a descriptive and cross-sectional study and aimed to determine the level of hopelessness, health behaviors, and quality of life of the patients with chronic HF under the age of 65 years and the correlation of these factors.

Time and Place of the Study

This study was conducted in the Cardiology Clinics of a tertiary hospital and a public hospital between December 2016 and June 2017 in Edirne.

The Universe and the Sample of the Study

To achieve 80% power, the minimum sample size was determined to be 134 by using G-power analysis for correlation, with an α value of 0.05 and an effect size of 0.3.[24] It involved 151 patients with chronic HF who applied to the hospital and were selected by the cardiologist, according to the inclusion and exclusion criteria. Inclusion criteria were informed consent to participate in the study, being at the age of 18-65, having no communicational problem, not having been diagnosed with a psychiatric disorder by a psychiatrist, not having been clinically diagnosed with a mental disease by a neurologist, and being included in class I, II, and III according to New York Heart Association (NYHA) functional classification. Eight patients who refused to fill out the questionnaire forms and did not volunteer for participating in the study were excluded. All patients included in the study (143 individuals) were informed about the aim of the study, and their informed consent for participation was obtained. Data were collected by the use of the face-to-face interview method. Each interview lasted for about 30 minutes.

Measures

The data of the study were collected using the "Patient Information Form," "Beck Hopelessness Scale," "Heart Failure Health Behaviors Scale," and "Minnesota Living with Heart Failure Questionnaire."

Patient Information Form

It was developed by the researchers after the literature rev iew.[8-10,14-16,18,19,25-27] It consisted of socio-demographic characteristics such as age, gender, educational status, marital status, and disease characteristics such as time of diagnosis with HF, NYHA functional classification, and hospital admission due to HF in last year. New York Heart Association functional classification, developed by New York Heart Association, is a classification system frequently used in determining the severity of HF. It consists of 4 classes, which express the symptoms of HF and the exercise capacity of the patients (class I: no physical capacity limitation, class II: mild limitation of physical activity, class III: significant limitation of physical activity, and class IV: not being able to continue any physical activity without discomfort).[28]

Beck Hopelessness Scale

This scale, used to evaluate the individual's state of hope and hopelessness about the future, was developed by Beck et al.[29] Tests for the reliability and validity of this scale in Turkey were performed by Durak and Palabıyıkoglu.[11] The scale has a 3-factor structure, which are "feelings about the future," "loss of motivation," and "hope." It has 20 items each of which includes the responses of yes or no. For each item, 1 point is given for an expected answer, and 0 points for an unexpected answer. The total score that is possible to obtain on the scale ranges from 0 to 20. A higher score means a higher level of hopelessness. Cronbach's alpha was found to be 0.93 by Beck et al.[29] 0.85 by Durak and Palabıyıkoglu,[11] and this study.

Heart Failure Health Behaviors Scale

It was developed by Enc in 1998 to determine to what extent the individuals with HF perform care-related health behaviors. The scale involves self-care behaviors such as treatment management, symptom control, physical activity and regulation of nutrition, as well as the control of salt and fluid intake. The scale of 24 items is of 4-point Likert type (1 is "never" and 4 is "regularly"). The total score obtained from the scale ranges between 24 and 96. Low scores indicate that the level of the patient's practice of self-care health behaviors is insufficient. Cronbach's alpha was found to be 0.80 by Enc (1998) and 0.97 in this study.[30]

Minnesota Living with Heart Failure Questionnaire

This scale, developed by Rector and Cohn,[31] is used to assess the impact of the HF and its treatment on the quality of the individual's life.[31] The validity and reliability study of the Turkish version of the scale was conducted per the study of Uzunhasanoglu.[27] The scale is a 6-point Likert scale, consisting of 21 items. The scale scores range between 0 and 105. Lower scores indicate high quality of life. Cronbach's alpha was found to be 0.92 by Rector and Cohn,[31] 0.98 by Uzunhasanoglu,[27] and 0.91 in this study.

Ethical Consideration

The study protocol was approved by the Trakya University School of Medicine Scientific Research Ethics Committee (date of the approval November 09, 2016) (TÜTF-BAEK 2016/244), and written permission was obtained from the institution where the study was to be conducted.

Data Analysis

Analyses were performed with IBM Statistical Package for the Social Sciences for Windows, Version 20.0 (IBM SPSS Corp.; Armonk, NY, USA). Whether the quantitative data are distributed normally or not was assessed by Kolmogorov Smirnov test. Student's *t*-test and Mann–Whitney *U* test were used to compare 2 groups' variables, while one-way analysis of variance test and Kruskal–Wallis tests were used to compare 3 or more groups' variables. The correlation between variables was assessed using Pearson's correlation analysis and Spearman's correlation analysis. The results were expressed as mean, standard deviation, or percentage. $P < .05$ was considered statistically significant.

Results

Sample Characteristics

This study included 143 patients (mean age 57.8 ± 8.31 years) with chronic HF, 70.6% of whom were males, 74.1% were married, and 75.5% were primary school graduates. Of the patients, 32.2% were diagnosed with HF 10 years or more ago, 21.7% were diagnosed with HF more than 1 year ago, 39.2% were in NYHA functional class III, and 70.6% were in hospital admission in last year due to HF diagnosis (Table 1).

Hopelessness

The total Beck Hopelessness Scale (BHS) mean scores of the patients was found to be 6.90 ± 4.66 (Table 2).

The statistical comparison of patients' scores on the scale with their socio-demographic characteristics and the characteristics of their diseases was given in Table 3. The levels of hopelessness of the patients with NYHA I were lower than those of the patients with NYHA III ($P=.031$). The scores for the scale of the patients who were in hospital admission in last year due to HF diagnosis was higher than those of the patients who were not ($P=.030$).

Health Behavior

The total Heart Failure Health Behaviors Scale mean scores of the patients were found to be 65.99 ± 12.26 (Table 2).

The mean score for the scale of the patients who were primary school graduated was lower than the mean score of those who were graduated from high school and above ($P=.014$) (Table 3).

Table 1. Patients' Characteristics (n=143)

Variables	n (%)
Age (year), mean ± SD=57.8 ± 8.31	-
Gender	
Female	42 (29.4)
Male	101 (70.6)
Marital status	
Married	106 (74.1)
Single	37 (25.9)
Level of education	
Primary school	108 (75.5)
Secondary school	18 (12.6)
High school and above	17 (11.9)
Time of diagnosis with HF	
Less than 1 year ago	31 (21.7)
1 to 3 years ago	29 (20.3)
4 to 6 years ago	22 (15.3)
7 to 9 years ago	15 (10.3)
≥10 years ago	46 (32.2)
NYHA functional classification	
Class I	41 (28.6)
Class II	46 32.2)
Class III	56 (39.2)
Hospital admission in last year	
Yes	42 (29.4)
No	101 (70.6)

HF, heart failure; NYHA, New York Heart Association; SD, standard deviation.

Quality of Life

The mean total score of the patients was found to be 42.75 ± 21.69 for Minnesota Living with Heart Failure Questionnaire (MLHFQ) (Table 2).

In this study, it was determined that there is a significant difference between the patients' quality of life and their genders ($P < .001$). The mean scores for quality of life of the patients with NYHA III were found to be higher than those of the patients with NYHA I ($P < .001$) and NYHA II ($P < .001$).

Table 2. Total BHS, HFHBS, and MLHFQ Mean Scores of Patients

Scales	Mean ± SD
BHS	6.90 ± 4.66
HFHBS	65.99 ± 12.26
MLHFQ	42.75 ± 21.69

BHS, Beck Hopelessness Scale; HFHBS, Heart Failure Health Behaviors Scale; MLHFQ, Minnesota Living with Heart Failure Questionnaire; SD, standard deviation.

Table 3. Comparison of Patients' Characteristics with Their Total Mean Score on BHS, HFHBS, and MLHFQ

	BHS		HFHBS		MLHFQ	
	Mean ± SD	Test Value	Mean ± SD	Test Value	Mean ± SD	Test Value
Gender						
Female	5.95 ± 4.33	$Z=-1.448$; $P=.148$	64.14 ± 13.37	$t=-1.160$; $P=.248$	52.46 ± 18.54	$t=3.599$; $P<.001$
Male	7.30 ± 4.75		66.75 ± 11.76		38.71 ± 21.69	
Marital status						
Married	6.62 ± 4.62	$Z=-1.230$; $P=.219$	66.68 ± 12.44	$t=1.145$; $P=.254$	42.46 ± 22.24	$t=-0.273$; $P=.786$
Single	7.70 ± 4.75		64.00 ± 11.65		43.59 ± 20.27	
Level of education						
Primary school[a]	6.64 ± 4.48	$\chi^2=1.130$; $P=.597$	64.65 ± 12.42	$F=4.177$; $P=.017$, a<c	43.33 ± 21.00	$F=1.343$; $P=.265$
Secondary school[b]	8.22 ± 5.60		66.78 ± 11.65		35.50 ± 20.54	
High school and above[c]	7.18 ± 4.73		73.65 ± 9.13		46.76 ± 26.37	
Time of diagnosed with HF						
Less than 1 year ago	6.03 ± 4.08	$\chi^2=2.546$; $P=.636$	65.77 ± 11.96	$F=0.586$; $P=.673$	39.70 ± 20.31	$F=1.873$; $P=.119$
1 to 3 years ago	6.52 ± 4.63		65.83 ± 10.97		39.34 ± 24.61	
4 to 6 years ago	7.73 ± 4.57		62.77 ± 14.72		37.09 ± 24.61	
7 to 9 years ago	6.40 ± 4.60		68.27 ± 9.83		43.20 ± 19.91	
≥10 years ago	7.50 ± 5.14		67.02 ± 12.84		49.52 ± 20.60	
NYHA functional classification						
Class I[d]	5.27 ± 3.86	$\chi^2=6.976$; $P=.031$, a<c	65.83 ± 11.13	$F=0.597$; $P=.552$	23.31 ± 14.38	$F=57.059$; $P<.001$, c >a,b
Class II[e]	7.24 ± 4.40		64.59 ± 12.02		40.63 ± 17.45	
Class III[f]	7.82 ± 5.14		67.25 ± 13.28		58.73 ± 16.40	
Hospital admission in last year						
Yes	7.41 ± 4.67	$Z=-2.175$; $P=.030$	66.03 ± 12.79	$t=0.066$; $P=.948$	47.11 ± 20.70	$t=3.915$; $P<.001$
No	5.69 ± 4.46		65.88 ± 11.02		32.26 ± 20.58	

[a,b,c]According to the results of the multiple comparison test (posthoc-test: Tukey HSD test), those indicated with superscripts indicate that there is a significant difference between the groups.
[d,e,f]According to the results of the multiple comparison test (posthoc-test: Dunnett's test), those indicated with superscripts indicate that there is a significant difference between the groups.
Z, Mann Whitney *U* test; χ^2, Kruskall Wallis test; *t*, Student's *t* test; *F*, one-way analysis of variance test; BHS, Beck Hopelessness Scale; HFHBS, Heart Failure Health Behaviors Scale; MLHFQ, Minnesota Living with Heart Failure Questionnaire.

Correlation of Age, Hopelessness, Health Behavior and Quality of Life

Correlation of patients' age and their mean scores from all scales is shown in Table 4. Accordingly, a significant negative correlation was found between the patients' health behaviors and their ages ($r=-0.259$; $P=.002$). In addition, there was a significant positive correlation between the patients' mean score for hopelessness and that of quality of life ($r=0.253$; $P=.002$). No statistically significant correlation was found between the patients' mean scores for hopelessness and health behavior, as well as their mean scores for health behavior and quality of life ($P>.05$).

Discussion

In this descriptive and cross-sectional study, it is aimed to determine the correlation of hopelessness, health behaviors, and quality of life in the patients with chronic HF under the age of 65. The number of studies that determined level of hopelessness of the patients with HF is limited.[9,10,12] Therefore, the discussion of results about level of hopelessness of them was supported by studies on the level of depression.[8,13,17,19,32-34]

A major psychological resource helping individuals with chronic diseases to deal with their conditions is hope.[32] However, the symptoms experienced by the patients diagnosed with HF and the problems that they face at the stage of adaptation to living with their disease can affect their goals in life negatively.[13] This can lead to depression and hopelessness that is a major sign of depression.[12,32] Therefore, it is important supporting the patient physically, psychologically, and socially.[10] Nurses play a key role in providing this support. They are able to provide physical and mental relaxation by optimizing their cardiopulmonary functions, help them discover

Table 4. Correlation of Patients' Age and Their Mean Scores on BHS, HFHBS, and MLHFQ

		Age	BHS	HFHBS	MLHFQ
Age	*r*	-	0.004[a]	−0.259[b]	−0.063[b]
	P	-	0.967	0.002	0.453
BHS	*r*	0.004[a]	-	−0.001[a]	0.253[a]
	P	0.967	-	0.995	0.002
HFHBS	*r*	−0.259[b]	−0.001[a]	-	0.049[b]
	P	0.002	0.995	-	0.562
MLHFQ	*r*	−0.063[b]	0.253[a]	0.049[b]	-
	P	0.453	0.002	0.562	-

[a]Spearman's correlation analysis; [b]Pearson's correlation analysis.
BHS, Beck Hopelessness Scale; HFHBS, Heart Failure Health Behaviors Scale; MLHFQ, Minnesota Living with Heart Failure Questionnaire.

the meaning of life, and support the patients' hope.[26] In the study, the total BHS mean score of the patients was 6.90 ± 4.66, which is below the mean score according to the highest and lowest scores that can be obtained from the scale (value range 0-20). According to this result, it can be said that the hopelessness level of the patients is close to low. The studies conducted on this topic in Turkey showed that the level of hopelessness of the patients was moderate.[9,10,33] Korkmaz[33] found that the total mean score of the patients for scale was 11.4 ± 3.74 and patient group's score was significantly higher than the control group.[33] Kılınc et al[9] stated that the total mean score of the patients for scale was 9.57 ± 2.46 and level of hopelessness was moderate.[9] In the study conducted by Yılmaz and Ergun[10], the total scale score of the patient was 10.33 ± 4.91.[10] In the studies conducted in different countries, it is determined that patients with HF experience a high level of hopelessness and most of them are in depression.[8,13,19] In the literature, it is stated that hopelessness and depression are affected by many factors such as advanced age, the severity of the symptoms, fear of death, social and psychological support systems, satisfaction of the spiritual needs, and independence in performing the daily life activities.[8,10,19] It is thought that the factors which the patients having been diagnosed with a psychiatric disorder by a psychiatrist were not included in the study, the patients' group was formed by the patients at the age of 65 years and below, and that the patients with NYHA IV were excluded, have an effect on the low level of hopelessness of the patients.

The patients' NYHA classes and hospital admission in last year were found to be effective on their level of hopelessness. The level of depression was higher in the patients who were in hospital admission in last year due to HF diagnosis and those with NYHA III. Fan et al[34] and Sherwood et al[35] report that the level of depression of the patients having been diagnosed with HF is effective on the clinical results and increases the symptoms and severity of the disease, resulting in more frequent hospitalization.[34,35] Also, there are further studies reporting that depression is correlated with NYHA class, which is a marker of the severity of the disease and finding that as the functional capacity decreases, depression becomes more severe.[8,13,19]

In ensuring good management in HF, it is important to regularly practice their self-care-related health behaviors.[36] Studies show that effective self-care behaviors affect the quality of life, rehospitalization related to HF, and mortality.[21,37] For this reason, health care providers should be able to determine the level of participation in self-care behaviors of the patients and identify patients who are at a high risk for poor self-care behaviors. Also, they should be able to plan effective interventions for patients with poor self-care behaviors.[38] In line with the results of the study, the patients' mean score on the health behavior scale was found to be 65.99 ± 12.26, and it was in the middle of the highest and lowest scores that can be obtained from the scale (value range 24-96). This result may indicate that the health behaviors of the patients are insufficient. The level of health behaviors of the patients with HF was moderate in the study by Ozer and Argon[15] and was high in the studies by Peters-Klimm et al[38] and Cené et al.[39] and Zou et al[40] found that the level of self-care behaviors of the patients was low.

The study found that the level of education affects the performance of health behaviors, and the more sufficient performance of health behavior was obtained when the patients' level of education is high school and above. Studies also support that education increases health behaviors and healthy lifestyle behaviors.[15,37] As the education levels of patients increased, the consciousness of patients increased, and thus, they can adopt more positive health behaviors.

An important point in the management of patients with HF is to improve their quality of life, in addition to the levels of hopelessness and health behavior.[19] The patients' mean score on the quality of life scale was 42.75 ± 21.69, and it was close to the average score, according to the highest and lowest scores that can be obtained from the scale (value range 0-105). Accordingly, it is thought that the quality of life of the patients participating in the study is low. Studies also showed that the patients with HF had poor quality of life.[19,25,40] The physical symptoms experienced by the patients such as pain, dyspnea, and fatigue make it difficult for them to perform their daily life activities independently, and this reduces their quality of life.[18,19] In a comprehensive review, it is stated that evidence-based nursing interventions (cardiac rehabilitation, patient and family education, etc.) increase functional capacity improving patient outcomes and affect positively on engagement in HF self-care, thus increasing the quality of life.[21]

The study revealed that the quality of life of the female patients was lower than that of the male patients. The results of other studies in the literature also indicate a lower quality of life in the female patients.[18,19,25] Alaloul et al[18] reported that the female gender had a negative correlation with the level of the physical performance. These results suggest that the female patients experience the symptoms of HF more intensely, thus having a lower level of quality of life.

In this study, it was found that the quality of life of the patients who were in hospital admission in last year due to HF and those with NYHA III was lower. The patients' HF diagnosis-related characteristics are effective on the quality of life,[17,25] and NYHA functional classification is regarded as one of the most significant determinant in the quality of life.[19,25,40] As the symptoms of HF become emerging more frequently and their severity increases, hospitalization becomes more frequent. The severe symptoms of HF interfere with performing daily activities independently, thus reducing the quality of life of the patients. Chen et al[16] and Son et al[19] revealed that the quality of life reduced with the increasing NYHA functional classification.[16,19] Loo et al[25] showed that the quality of life of the patients with NYHA class I is higher than those with classes II and III.[25]

In the literature, the studies conducted in patients having diagnosed with HF and CVD suggest that age significantly affects health behaviors and that the experience in the management of the disease increases with age, resulting in the exhibition of more positive health behavior.[39,40] On the contrary, in the study conducted in Turkey, it is stated that the health behaviors worsen with the increased age.[14] The results of this study are similar to those of the study conducted in Turkey, and the health behavior scores of the patients reduce with the increased age. This can be explained by an impaired mechanism of coping with the disease and treatment process with the increased age, inadequate social support, economic conditions, and increased independence to others.

The results of the correlation analysis demonstrated that as the level of hopelessness of the patients increased, quality of life reduced. In patients with chronic diseases, having an optimistic perspective and looking at the future with hope are essential for quality of life. The studies on the levels of depression and the quality of life of the patients with HF found that depression was one of the main determinants of quality of life and that there was a negative correlation between the level of depression and quality of life.[8,17,19] Karakurt et al[26] also found that there was a negative correlation between the level of hopelessness and quality of life in patients with heart disease.[26] It is reported that the chronic diseases requiring long-term treatment negatively affect the individual's emotional and psycho-social well-being, as a result of which the patients' quality of life reduces.[17-19]

Studies show that hopelessness and depression adversely affect self-care and healthy lifestyle behaviors.[9,41,42] Chang et al[41] pointed out that the inability of the patients with HF to self-care is one of the reasons for the emergence of depression. Implementation of health behaviors expected from the patients results in a reduction of cardiovascular risk factors in the short term, while it contributes to the health outcomes improving the quality of life in the long term.[43] Ozer and Argon[15] and Heo et al[17] found a positive correlation between the quality of life and the health behaviors of the patients. Kessing et al[42] revealed that the self-care behaviors were effective on the quality of life. However, no correlation was found between the health behaviors and their level of hopelessness and quality of life in this study. This implies that psychological factors such as hopelessness are more effective on the quality of life rather than the health behaviors adopted by the patients included in the study.

Limitations of the Study

This study has some limitations. The most significant limitation is that the study is cross-sectional and descriptive, not longitudinal or experimental. The fact that the study data were collected from hospitals in a single city may not adequately represent the general population and other cultures. As the data include self-report measures, the patients might have made bias that may affect the measurement precision, when answering the questionnaire. The patients above the age of 65, the patients with NYHA IV, and the patients having been diagnosed with a neurological and psychiatric disease by a physician were excluded from the study. The number of studies that are determined level of hopelessness of patients with HF is limited. Therefore, the discussion of findings about level of hopelessness of them was supported by studies on the level of depression. Additionally, the absence of cut-off points of the scales constitutes a limitation in the results' evaluation.

Conclusion

The results of the study showed that the patients with a high level of hopelessness had lower quality of life. Certain socio-demographic and disease characteristics were effective on the patients' health behaviors, level of hopelessness, and quality of life. In the light of these results, it is recommended to

- regularly follow the frequency and severity of disease's symptoms of the patients,
- plan required interventions, following up the patients' state of psycho-social well-being regularly for improving their quality of life,
- closely monitor the health behaviors of the patients, especially elderly and having low education level,
- organize training programs tailored to patient characteristics on the importance of self-care and health behaviors in the management of the disease,
- evaluate the effectiveness of the training programs.

In addition, it is considered that the variables such as social and psychological support systems, psychosocial well-being, coping strategies can affect the quality of life, health behaviors, and level of hope of the patients. Therefore, future researches can explore the effects of these variables on the quality of life, health behaviors, and level of hope of the patients.

Ethics Committee Approval: Ethics committee approval was received for this study from the Trakya University School of Medicine Scientific Research Ethics Committee (Date of the approval: November 09, 2016) (TÜTF-BAEK 2016/244).

Informed Consent: Written informed consent was obtained from patients who participated in this study.

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