Nursing Practice Today

Nurs Pract Today. 2016; 3(2): 51-56.

Original Article

Evaluating the quality of life in hospitalized patients with heart failure at hospitals affiliated to Kerman University of Medical Sciences, Iran, during 2012

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ARTICLE INFO

Received 14 January 2016
Revised 23 March 2016
Accepted 2 April 2016
Published 2 June 2016

Available online at:
http://npt.tums.ac.ir

Key words:
quality of life;
heart failure;
Kerman

ABSTRACT

Background & Aim: Heart failure is the final common pathway for all cardiovascular disease, a major health problem worldwide that affects patient satisfaction and quality of life. This study aimed to assess the quality of life and its dimensions (physical health, mental health, public health, and environmental health) in patients with heart failure has taken place.

Methods & Materials: This cross-sectional study on 200 patients with heart failure admitted to hospitals in Kerman University of Medical Sciences, Iran, in 2013 has been made. Data from the demographic data questionnaires and the World Health Organization Quality of Life Questionnaire-BREF Iranian species were collected, and data analysis software SPSS version 20 and using descriptive statistics and independent t-test, ANOVA and Spearman correlation coefficient was used.

Results: In this study, 83% of patients had a moderate quality of life. The quality of life with education (P = 0.002), quality of life with marital status (P = 0.036) and mental dimension with age (P = 0.045 and r = -0.142) was statistically significant relationship, but between quality of life and other aspects not show a significant relationship with gender and family size.

Conclusion: Quality of life in patients with heart failure who participated in this study was moderate. Therefore health care providers to improve the quality of life for this group to design and implement appropriate interventions.

Introduction

Heart failure is a general illness which is defined as a disorder in ventricles' function in pumping blood appropriate to the metabolic needs of the body (1). This disease is considered as the common final destination between all the vascular disorders, despite all the modern advancements in medicine and drugs, and is also considered one of the main problems of the health system which would impose heavy costs on the system (2). Cardiovascular diseases are the main cause of death in the world and would cause 17 million deaths annually (1). In America, about 6 million people are suffering from heart failure and 550,000 cases would be added to this number every year (3). There are more than 1 million patients with heart failure in Iran (2), and studies have shown that 25% of patients hospitalized at cardiology wards have heart failure (4). Symptoms of heart failure are shortness of breath, dizziness, angina pectoris, edema, and ascites that could lead to activity intolerance and changes in patient's lifestyle that would affect their satisfaction and quality of life (5).

In fact, the concept of quality of life is beyond physical health and is an important index which its measurement in different health studies as one of the important independent consequences, is necessary (6). The definition of quality of life by the

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Please cite this article in press as: Afsharipour Z, Khademiyeh M, Arab M, Soltani-Nezhad N. Evaluating the quality of life in hospitalized patients with heart failure at hospitals affiliated to Kerman University of Medical Sciences, Iran, during 2012. *Nurs Pract Today. 2016; 3(2): 51-56*

World Health Organization (WHO) is individual's perception of their living conditions, culture, society's values, standards, expectations, and priorities (7). Some studies have shown that cardiovascular diseases as an independent factor would affect patients' quality of life significantly (8).

Heart failure is a major health problem around the world which annually would impose heavy costs on health systems for taking care of these patients, and a great part of these costs are caused by increased rate of disease's relapse, readmission to hospitals and using intensive cares (2, 9). Although this disease could occur at any age, its onset and prevalence are directly related with age; in a way that in America 1% of people over 50 and about 10% of people over 80 are suffering from heart failure (10). Since heart failure would affect all the aspects of life including physical, mental and social conditions, therefore every effort toward improving the quality of life in these patients is valuable (1). The concept of quality of life is related to nursing which tries to improve patients' quality of life by providing medical services and participating in nursing studies (5). In fact, quality of life is important to improve the survival of patients with progressive and chronic diseases (11). According to the statistics, in Iran and around the world, low quality of life in these patients would lead to hospitalization and death (7). However, cardiovascular disease is considered as one of the most preventable non-communicable diseases (12). Dissatisfaction with quality of life among patients with heart failure in Kerman and also not paying attention to making efforts toward improving the quality of life of these patients and health personnel would lead to their continuous visits and readmission to hospitals. Therefore, this study was aimed to evaluate the quality of life in hospitalized patients with heart failure at hospitals affiliated to Kerman University of Medical Sciences, Iran, during 2012.

Methods

This research was a descriptive cross-sectional study and its study population was all the patients with heart failure who were hospitalized at critical care unit (CCU) and internal cardiology wards of hospitals affiliated to Kerman University of Medical Sciences during 2012. The sample size was calculated to be 189.21 according to the P that was calculated by Sadeghi Sherme et al. (13) in their study and using the sample size formula. Therefore considering a 5% for sample loss, the sample size was decided to be 200. Data gathering method was targeted sampling. The inclusion criteria were having heart failure as their diagnosis by a specialist recorded in their medical file, being completely conscious and able to cooperate, being able to speak Farsi and being physically ready to answer the questions. The exclusion criteria were having psychological diagnosis in their medical records such as depression, chronic anxiety, schizophrenia, and dementia. Ethics code for this study is k/92/653. All the ethical considerations including taking permission from Research Council, nursing faculty, hospitals and related wards, taking permission from patients and regarding their willingness to participate, and also coding and keeping the information confidential were regarded. Data were gathered in one shift through interviews using the short form of WHO Quality of Life Questionnaire (WHOQOL-BREF) and the study was conducted with no intervention from the researcher.

Data gathering tool included two parts. The first part was demographic characteristics questionnaire including variables of age, sex, marital status (married, single, widowed or divorced), educational level (illiterate, elementary school, high school, and college), number of people under guardianship and living place status. The second part was the Farsi version of the short form of WHOQOL-BREF which was used to evaluate the last 2 weeks. This questionnaire was designed by WHO in 1989 and included 26 questions which evaluated 4 dimensions of physical health, mental health, social communications, and environmental health with 24 questions (each dimension contains 7, 6, 3 and 8 questions, respectively). This questionnaire also contains 2 more questions which do not belong to any of the dimensions and evaluate the general status of health and quality of life. To properly interpret the scores of this questionnaire, the scores of the short form must be converted to the score of full form and then a score from 0 to 100 would be assigned to quality of life in each dimension. After conducting necessary calculations, a score from 4 to 10 would be given to each dimension separately and regarding the lowest score of each dimension, the

total raw scores of each dimension would be multiplied by 4 (14). In this study, score of 4 to 9.5 would indicate low quality of life, 9.5 to 15 indicates moderate quality of life and 15 to 20 indicates high quality of life. In Iran, Nejat et al. (14) have normalized this scale, and the α coefficient of this questionnaire for healthy population in physical health dimension was 0.70, in mental health dimension was 0.73, for social communications was 0.55 and for environmental health was 0.84; the stability coefficient, using test-retest method, after 2 weeks was calculated to be 0.7. Nasiri (15) also reached a Cronbach's α of 0.84 and factor analysis on 26 items of this questionnaire showed that four main subscales of physical, mental, social, and environmental which exist in the main tool also exist in this questionnaire which proves the structural validity of this tool. Data analysis was performed using SPSS (version 20, SPSS Inc., Chicago, IL, USA). Descriptive and inferential statistics were used to analyze the data. Descriptive statistics were to arrange the frequency distribution tables. In descriptive statistics, independent t-test, one-way variance analysis and Spearman's correlation coefficient were used.

Results

About 76.5% of the participants in this study were male, 67.5% were married and 40% had college degrees which most of them (30%) were older than 51. 47.5% of the participants had a family of 3 or 4 and 79% had personal places for living (Table 1).

Results of table 2 show that 82% of the participants had a moderate equality of life, 83% had a moderate physical health, 82% had a moderate mental health, 67% had a moderate social health, and 72% had a moderate environmental health. In general, results showed that the status of quality of life and its dimensions in most of the participants was moderate.

Table 1. Absolute and relative frequency distribution of personal characteristics of hospitalized patients with heart failure at hospitals affiliated to Kerman University of Medical Sciences, Iran, during 2012

Personal characteristics	Frequency N (%)
Sex	
Male	153 (76.5)
Female	47 (23.5)
Total	200 (100)
Age	
Under 21	1 (0.5)
21-30	46 (23)
31-40	43 (21.5)
41-50	50 (25)
Over 51	60 (30)
Total	200 (100)
Educational level	
Illiterate	23 (11.5)
Elementary school	28 (14)
High school	69 (34.5)
College	80 (40)
Total	200 (100)
Marital status	
Single	30 (15)
Married	135 (67.5)
Divorced	15 (7.5)
Widowed	20 (10)
Total	200 (100)
Number of family members	
1-2	38 (19)
3-4	95 (47.5)
5 or more	67 (33.5)
Total	200 (100)
Living place status	
Not owning	42 (21)
Owning	158 (79)
Total	200 (100)

Table 2. Absolute and relative frequency distribution of quality of life condition and its dimensions (physical, mental, social and environmental health) in hospitalized patients with heart failure at hospitals affiliated to Kerman University of Medical Sciences during, Iran, 2012

Condition	Quality of life	Physical health	Mental health	Social health	Environmental health
	N (%)	N (%)	N (%)	N (%)	N (%)
Low	12 (6)	15 (7.5)	7 (3.5)	23 (11.5)	28 (14)
Moderate	167 (83.5)	167 (83.5)	164 (82)	135 (67.5)	145 (72.5)
High	21 (10.5)	18 (9)	29 (14.5)	42 (21)	27 (13.5)
Total	200 (100)	200 (100)	200 (100)	200 (100)	200 (100)

General comparison of quality of life and its dimensions between men and women in this study showed no significant difference. There was a significant reverse relation between age and mental health (P = 0.045, r = 0.142); quality of life had a significant relation with marital status (P = 0.360), and mental health also had a significant relation with marital status too (P = 0.037). There was no statistically significant relation between quality of life of the single participants and married participants, but the relations were significant in comparing quality of life between single group and widowed group (P = 0.025) and married group and widowed group (P = 0.006). Evaluating the relation between educational level and quality of life (P = 0.002) and its dimensions including mental health (P = 0.001), physical health (P = 0.028), and environmental health (P = 0.046) also revealed significant relations. There was a significant difference between the quality of life in college graduates and illiterate group (P = 0.008), elementary school group (P = 0.003) and high school group (P = 0.005). Statistical tests showed a significant relation between physical health and living at personal house (P = 0.003) and also environmental health and living at personal house (P = 0.041). However, quality of life and its dimensions had no significant relation with age and the number of family members. In other words, younger married college graduates had a higher quality of life.

Discussion

Results of this study showed that quality of life, physical health, mental health, social health, and environmental heath in these patients had a moderate condition. Shojaei (5) evaluated the quality of life in patients with heart failure who referred to teaching hospitals affiliated to Tehran and Iran Universities of Medical Sciences reached similar results and revealed that 66% of patient had a relatively desirable quality of life. However, results of studies by Yousefi et al. (16), Abedi et al. (7) and Rahnavard et al. (17) who used 36-Item Short Form Health Survey questionnaire to evaluate quality of life revealed that heart failure had a negative on quality of life. Zeighmi Mohammadi and Shahparian (18) also in their study which evaluated the correlation between hemoglobin level and quality of life in men with systolic heart failure mentioned that more than half of the patients had a low quality of life. Heidarzadeh et al. (19) in a study that was titled "quality of life and social support in patients with congestive heart failure and healthy population" showed that dislike healthy population, more than half of the patients with congestive heart failure had an undesirable quality of life which had a significant difference with quality of life in healthy population.

General comparison of quality of life and its dimensions between men and women in this study showed no significant difference. The study of Abedi et al. (7) which was conducted on the same subject at outpatient centers of Kerman in 2010, study of Seyam et al. (20) study of Eales et al. (21) and study of Herlitz et al. (22) which had different questionnaires also showed no significant relation between sex and quality of life. Yousefi et al. (16) in a similar study that was titled "evaluating quality of life in hospitalized patients with heart failure at internal and CCU wards of hospitals of Kerman during 2007" mentioned that the mean score of quality of life was significantly lower in women compared to men. It could be said that the difference between results could be due to differences in cultures and also different questionnaires.

According to the results of this study, there was a reverse significant relation between age and mental health meaning that as age increases, mental health decreases. However, Rahnavard et al. (17) found no significant relation between age and quality of life. However, Heidarzadeh et al. (23) in their study that was titled "quality of life in patients with congestive heart failure: comparison to other populations" and also Shojaei (5) found a significant relation between age and quality of life. Since the intensity of heart diseases would increase by aging, it is expected that quality of life would decrease by aging; also younger people are more capable in taking care of themselves and by returning to workplace would improve their mental condition, but older people are mostly retired and stay at home.

In this study, quality of life and mental health had a significant relation with marital status. Quality of life had a significant difference between the single group and widowed group and also married group and widowed group. Heidarzadeh et al. (23) also found similar results and revealed that patients who are married have higher quality of life com-

pared to those who do not have a spouse. However, Rahnavard et al. (17) found no significant relation between marital status and quality of life. Luttik et al. (24) have mentioned that supportive sources in the time of sickness are necessary for survival and adaptation and heart patients who live alone have an undesirable quality of life. It seems that considering the role of spouse in reducing occupational stresses through emotional support and also their help in changing patients' lifestyle, being married could affect patients' quality of life.

The quality of life and its dimensions showed significant differences between patients with different educational levels (except for social health). This study showed that the mean of quality of life and its dimensions in college graduated patients was above moderate which is similar to the results of previous studies. In fact, patients with higher educational levels have a more desirable quality of life (5, 16, 17, 23). It seems that educational level, by causing fundamental changes in knowledge and attitude, would be effective on sickness and health and also other aspects of life (20).

Results of this study showed that quality of life and its dimensions were moderate among heart failure patients. Considering the importance of improving quality of life in patients, gaining information about quality of life, other than helping to have an effective treatment, would also improve supportive programs and rehabilitation measures. Therefore, it is recommended that nurses would study strategies for improving quality of life in these patients especially the elderlies.

Acknowledgments

The researchers would like to sincerely thank all the people who cooperated throughout this study especially the patients who patiently helped us with this study and the Deputy of Research and Technology of Kerman University of Medical Sciences.

Conflict of interest

The authors declare no conflict of interest.

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