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Full Length Research Article

Quality of Life in Heart Failure Patients and its Associated Factors

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ARTICLE INFORMATION**ABSTRACT****Corresponding Author:**

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Key words:

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Background: Heart failure (HF) is one of the main causes of hospitalization, disabilities and death worldwide. Patients with heart failure commonly report very poor quality of life because heart failure has a negative impact on all aspects of life particularly symptom burden. Aim: to determine quality of life in heart failure patients and its associated factors. Study Design: a descriptive exploratory design was used. Setting: The study was conducted at Coronary Care Unit in Nasser Heart Institute. Sample: A sample of convenience 50 of adult male and female patients who met the inclusion criteria was included. Tools: (a) Demographic Data and Medical History Questionnaires (b) Minnesota Living Heart Failure Questionnaire (MLHFQ): utilized to assess the Quality of life of patients with heart failure. Results: The result of this study indicates that most participants experienced a poor in the quality of life. There was statistically significant relation between overall patients' quality of life with sociodemographic and medical history as age, gender, etiology of disease and severity. Conclusion: Patients with heart failure experience a high symptom related to disease and treatment has restricted function outcome and negative impact quality of life. Future studies could assessment symptoms and risk factors impact patient outcome. Future interventions program to improve patient outcome in heart failure patients.

Introduction

Heart failure (HF) is a major health problem and progressive clinical syndrome that is often accompanied by restricted physical activity¹. More than 6.2 million people in the United States and more than 23 million worldwide suffer from the disease^{2, 3}, while this number of HF is expected to increase to 1.5 million annually by 2040⁴. Heart failure is caused by conditions that weaken or damage the myocardium and increased incidence of risk factors such as diabetes and hypertension.^{5,6} Hypertension is the leading cause of both men and women.⁷ Long-standing hypertension contributes to coronary artery disease, which is a leading cause of heart attack. Hypertension alone also contributes to heart failure because, when the heart pumps against high pressure for years, the muscles can become less efficient heart that ultimately lead to HF, is associated with high mortality and morbidity.⁸

Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life⁹. It consists of the expectations of an individual or society for a good life. These expectations are guided by the values, goals and socio-cultural context in which an individual lives. It serves as a reference against which an individual or society can measure the different domains of a personal life.¹⁰ Rector measure quality of life as "the patient's perception life activity" related to suffering from heart failure or its treatment on one's health. It consists of physical, psychological and social dimensions of health as assessed by the patient¹¹. HF patients experience various physical, psychosocial, occupational and economic problems that affect

quality of life.^{12,13} Patients with heart failure commonly report very poor quality of life because HF has a negative impact on all aspects of life particularly the burden of symptoms may restrict person's ability to perform usual activities.¹⁴ Physical and psychological limitations caused by the presence of symptoms such as shortness of breathing, fatigue, depression, anxiety, edema of legs and arms due to the chronic disease especially cardiovascular diseases and therapeutic processes lead to lower the quality of life (QOL) compared with other patients with chronic illnesses.^{15,16} Recent studies reported that CHF patients associated with undermining physical symptoms, resulting in a markedly decreased quality of life¹⁷. Although patients had a moderate level of dependence because of heart failure symptoms, they indicated negative impact quality of life, interfering with daily activities and low self-care¹⁸. The aims of this study is to determine quality of life in heart failure patients and its associated factors.

Research questions:

1. What is quality of life among the studied patients with heart failure?
2. What are the factors that are affecting quality of life among the studied heart failure patients?

Materials and Methods:**Study design:**

A descriptive research design was used in carrying out this study.

Sample and Setting:

A sample of convenience of 50 male and female aged 18 years old and more who were admitted to outpatient clinic and cardiology department in Cardiac Nasser Institute, Egypt, diagnosed with congestive heart failure(CHF)were eligible for the inclusion criteria. Participants were excluded from the current study if they had any current are unable to verbally communicate and with other organ failure was excluded.

Data collection tools:

The following instruments consisted of two parts:

Part I. Demographic Data and Medical History Questionnaires:

The first part included demographic variables such as sex, age, educational status, occupation, live accommodation, and marital status. The medical information, this part was formulated to assess the patient's health history as, stage and co-morbidity associated with treatment and place of treatment and causes of HF.

Part II. Minnesota Living Heart Failure Questionnaire (MLHFQ):

This part was utilized to assess Quality of life for patients with HF. The MLHFQ questionnaire comprises of 21 items based on 6-point Likert Scales, investigating from 0 (none) to 5 (very much). It consists of physical dimension (8 items, range 0–40), emotional dimension (5 items, range 0–25) and overall 8 items of the total 21. The total score (range 0–105) and higher values of scores indicate poorer quality of life⁽¹⁹⁾.

Ethical Consideration:

The aim of the study was explained to patients and a written/oral consent will be obtained before to participate in the study, ensuring the confidentiality of the collected information and the patient was responsible to withdrawal at any time of study.

Validity and reliability:

The questionnaires tools were reviewed by five panel of experts in nursing and medicine to ensure its validity. The reliability of the tools was confirmed by alpha Cronbach of 79 % and the items was tested and retested and its items were significantly at ($p=0.00$). Reliability of the instrument was confirmed by a preliminary study on a sample size of 30 subjects and the Cronbach α was found as 0.78.

Pilot study:

A pilot study was carried out 10 % of the study sample to test applicability and legibility of the tool, the patients in the pilot study were excluded of the main sample.

Procedure of Data Collection:

An official permission was obtained from the hospital administrative authority after explaining of the aim of the study. Once permission was obtained, the researchers met the patients to take consent and explain nature of the study. Also tools of sociodemographic data and Minnesota Living Heart Failure Questionnaire (MLHFQ) were collected within 4 months' period starting in December, 2018 and ending in March, 2019 through 6 days/week. The time for each patient interview at lasted approximately 20-30 minutes to fill the questionnaires'.

Statistical analysis:

Data were collected and analyzed using SPSS for Windows, version 20. Descriptive statistics, Chi-2 and Correlations between selected socio demographic variables and quality of life were analyzed using Pearson's correlation, Statistical significance was considered at P-value <0.05 and highly significance at P-value <0.05.

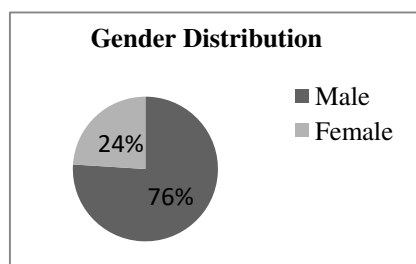
Results:

Fig (1): Gender distribution of Subjects in the Sample

This figure indicates that most of the sample (76%) was male and nearly one third of the sample was female (24%).

Table 1. This table showed that half of sample were age group between 60 to 69 years old. Regarding to their marital status, most of sample (74 %) were married. For the level of education, more than third of patients (48.0%) were having primary education while more than half of female (24%) were illiterate. In relation to type of work, more than half of males (63.3%) and most of females (82.2%) were having jobs that require physical efforts. Approximately, (58%) were from rural areas. The majority of the sample (82%) was lived with their families. Regarding clinical history, about one third were ischemic heart disease and (26%) were cardiomyopathy.

Finally, regarding class of disease more than half (58%) were class II according New York Heart Association presented in table (2).

Table 3. This table shows that quality dimensions lower in each dimension of quality regarding physical (mean=26.32, SD=8.02); emotional (mean=11.20, SD=6.18) and overall score (mean=56.74, SD=20.69).

Figure 2. This figure illustrated that there was statistically significant relation between total QOL score and gender, age, severity of illness and etiology ($p<0.05$ respectively) lead to poor quality of life among patient with heart failure. while no relation between education and quality of life.

Table 1: Sociodemographic Characteristics of the Study (N=50)

Characteristics	N(%)	
Age in Years:		
. < 40	3	6
. 40- 49	5	10
. 50-59	9	18
. 60-69	25	50
. >70	11	22
Mean ± SD	60.20±13.67	
Marital Status:		
. Married	42	84
. Divorce	5	10
. Widow	3	6
Education:		
. Illiterate	16	32
. Primary	6	12
. Secondary	5	10
. High	2	4
Residence:		
. Urban	21	42
. Rural	29	58
Living Accommodation:		
. Family	41	82
. Relatives	8	16
. Alone	0	0

Table 2: Medical Data Characteristics of the Study (N=50)

Characteristics	N	%
Clinical history		
Cardiomyopathy	13	26
Ischemic heart disease	16	32
Valve disease	7	14
Diabetes	6	12
Hypertension	5	10
Others	3	6
Class:		
. I	21	42
. II	29	58
Comorbid disease:		
. Yes	45	90
. No	5	10

Table 3. Distribution of Quality of life of patients

MIHFQ*items	Mean (SD)	Range
Physical dimension	26.32 (8.02)	0-40
Emotionaldimension	11.20 (6.18)	0-25
Total scale	56.74 (20.69)	0-105

* Minnesota Living with Heart Failure Questionnaire

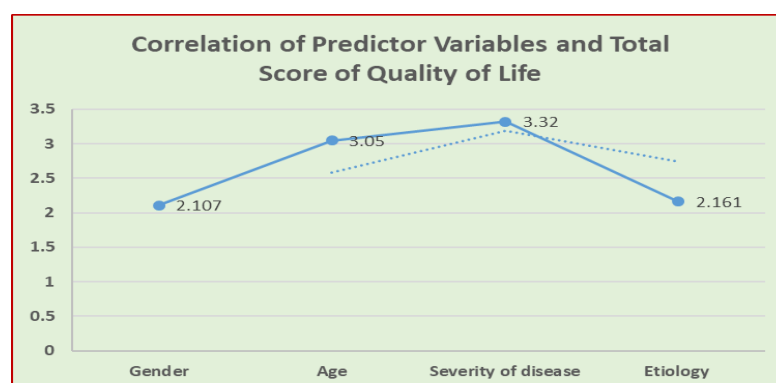


Fig 2. Correlation of predictor variables and Total score of quality of life among patients

Discussion:

Heart failure (HF) constitutes a leading cause of morbidity and mortality worldwide and is associated with severe impairment in functional capacity. Heart failure (HF) is a complex clinical syndrome that results from either functional or structural impairment of ventricles resulting in symptomatic left ventricle dysfunction²⁰. The symptoms of heart failure have a profound impact on quality of life. The finding of present study revealed that most of sample in age group between more than sixty years old. In line with Sousa et al²¹ who stated that the average age of 58.82±12.78 years, ranging between 23 and 86 years. While Kumer and Clark²² mentioning that the heart failure occurs in people over 65 years of age. With regard to gender, the number of male subjects were more than female (76 males and 24 females). This result is in agreement with Cowie et al²³ conducted that coronary disease was the most common in men than women at all ages. In addition, Halatchev et al²⁴ also showed that men are affected more than women by percentage of 60% for men and 45% for women who suffer from heart failure. While Timonet-Andreu et al.²⁵ reported that more than half only had a primary school education or no educational qualifications.

The majority of the current sample (84%) were married and from rural area. This result was in the same line with Dirk et al.²⁶ who found that a higher percentage of heart failure patient were married and from rural. What married or living with a fixed partner, rural areas, and low educational level produced the similar results by Pelegrino and colleagues.²⁷ In this regards, Heweak²⁸ reported that 65% of patient with heart failure were female, 93% were married and from urban areas.

In the current study clinical history, demonstrated the (46%) were ischemic heart disease, (24%) were cardiomyopathy admitted to the hospital. This finding is congruent with that Eid²⁹ which carried out cross sectional study on 100 patients with heart failure reporting (48%) patients with ischemic heart disease (IHD), (28%) patients with dilated cardiomyopathy (DCM) and (24%) patients with hypertensive heart disease who admitted to Assiut University hospital.

Results of the current study showed a statistically lower in the total overall quality scores among patients with HF. This diminished were demonstrated by physical dimension followed clinical manifestation of Heart failure as dyspnea, fatigue, tachycardia, edema lead decrease QOL dimension not only physical aspects, but also emotional dimension that contributing to functional difficulties and quality of life. This result was supported by Fathy³⁰ which concluded that poor quality of regarding effects physical and psychosocial functioning. Jeihooni³¹ who indicated that lower mean score of QoL in patients with chronic disease in the domains of pain, physical function, social and mental activity. Shepherd and While³² also showed the same results. Results of the current study revealed that there statistically correlation between age and total quality of life aspects among the studied patients. sociodemographic characteristics, the present study revealed that there is statistical significance difference among patients between age and the total QOL aspects. This result was consistent with Mousa³³ who reported that age negatively correlated to QOL. This finding disagree with study by Jonaitienè et al³⁴ who indicated that There was no significant correlation between the mean of the sum of EuroQoL 5D-5L questionnaire results and age. Regarding patient gender among the studied heart failure, there was statistically significant

correlation between gender and total patient's QOL. These results supported with Mohammed and colleagues³⁵ found that a statistically significant relation between gender with quality of related to physical and psychological component. In addition, Chu et al³⁶ suggested that gender were predicted factors identified as having an effect on HRQOL.

Considering severity of disease and etiology, there was a statistically significant positive relation between mean of sum overall score of quality of life and severity according New York heart Association and etiology of heart failure among studied sample. In a similar study Demircelik et al³⁷ showed that statistical significant relation between the severity of disease, etiology of heart failure with quality of life outcome ($p < 0.05$). Stamp et al³⁸ also explored that congestive heart failure patients were significant association between with NYHA class II, III and patient's QOL.

Conclusions and recommendations:

The findings of this study suggested that patients with heart failure automatically had negative impacts on the patient's QOL measured by MLHFQ especially in physical and mental aspects and overall scale. The age, gender, severity of disease and etiology are found as statistically relations with mean sum of quality of life. While there was no statistically relation between QOL with, educational level. Further study should about regular assessment of a patients' QOL and health status, predictor such as burden of symptoms, psychological condition and its impact on health outcome. Another further study in large sample and different countries to achieve more generalized results.

Limitation of this study:

Firstly, in this study, our study assessed respondent perception at the specific time. Secondly, the study is limited to convenience sample of heart failure and one location, the findings cannot be generalized.

Conflict of Interests:

The author declares that there is no conflict of interest statement.

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