**Pharmacophore**

ISSN-2229-5402

Journal home page: http://www.pharmacophorejournal.com


# SELF-CARE AND ITS RELATIONSHIP WITH QUALITY OF LIFE IN THE IRANIAN OLDER ADULTS WITH HEART FAILURE

**Saba Abdolmaleki[1], Alireza Mohajjel Aghdam*[2], Hadi Hassankhani[3], Mohamadreza Taban Sadeghi[4]**

1. ***MS in Nursing Education, School of Nursing and Midwifery, Tabriz University of Medical Sciences***
2. ***MS in Nursing Education, Faculty Member, School of Nursing and Midwifery, Tabriz University of Medical Sciences***
3. ***PhD, Associate Professor, School of Nursing and Midwifery, Tabriz University of Medical Sciences***
4. ***Associate Professor, Cardiovascular Research Center, Tabriz University of Medical Sciences***

**ARTICLE INFO**

**Received:**
03th Jun 2017
**Accepted:**
29th Nov 2017
**Available online:**
14th Dec 2017

***Keywords:*** *Self-Care, Quality Of Life, Heart Failure*

**ABSTRACT**

Aim: Heart failure is a chronic and progressive disease of the older adults in the world. The costs of the treatment of the patients are a burden on society. One way to reduce the costs is self-care. Moreover, one of the goals of the treatment in chronic patients is to improve their quality of life (QOL). The aim of this study was to investigate relationship between the self-care and QOL of Iranian older adults with heart failure. Material and Method: This study was a descriptive correlational study. The desired sample size was calculated considering the previous studies (r = 0.3) and using G*Power 3.1 software, which was obtained equal to 90 participants. However, a sample size of 120 participants was finalized considering the 20%-probability of loss. Sampling was based on convenience sampling method. The participants answered three questionnaires included demographic questions, Self-Care of Heart Failure Index (SCHFI) and Minnesota Living with Heart Failure Questionnaire (MLHF). Finally, data were entered in SPSS16 software and were analyzed by Pearson correlation. Results: Mean scores obtained in three subscales of self-care (maintenance, management, self-confidence) were 28.58 ± 11.54, 53.12 ± 23.41, 51.98 ± 15.88, respectively. The QOL score was achieved 53.27 ± 18.09. Physical and emotional QOL for the patients had an inverse and significant relationship with their self-confidence. The overall QOL had a positive and significant relationship with maintaining self-care. Discussion: Self-care of older adults with heart failure was less than desirable in all three subscales of self-care. As the results indicate the relationship between self-care and QOL as well as some demographic and clinical characteristics of these patients, using methods for improving self-care can be associated with improved QOL.



**To Cite This Article:** Saba Abdolmaleki, Alireza Mohajjel Aghdam, Hadi Hassankhani, Mohamadreza Taban Sadeghi, (2017), "self-care and its relationship with quality of life in the iranian older adults with heart failure", ***Pharmacophore, 8(6S),*** *e-1173343.*

## Introduction

Heart failure is a chronic and progressive disease. Fifteen million Europeans and 5.7 million Americans suffer from it [1]. With the worldwide increase in life expectancy, the incidence of heart failure is increasing in people over 65 years [2]. On the other hand, the population of older adults has been growing in the world. In the US, it is predicted that the number will reach to 15.9% by 2020 [3]. In Iran, older adults have formed 8.24% of the population in the 2011 census. With 7.1% of the 65-year and older population, East-Azerbaijan province is the fourth province that has the largest older adults in the country [4].

**Corresponding Author: Alireza Mohajjel Aghdam, MS in Nursing Education, Faculty Member, School of Nursing and Midwifery, Tabriz University of Medical Sciences, email: mohajjela@tbzmed.ac.ir**

The cost of hospitalization for the heart failure patients has an additional economic burden for society [5]. Health care can be associated with reduced mortality in the patients. An important part of the care is self-care [6]. Self-care for patients with heart failure includes diagnosis of worsening symptoms of heart failure, monitoring weight, low-salt diet, exercise, adherence to medication, and implementing treatment plans to act the right response by the patient at the time of worsening symptoms [6, 7].

Heart failure in addition to the direct and indirect costs has always been associated with low quality of life (QOL) [8] so that the QOL for these patients is lower compared to physical and mental health patients and even compared to other cardiovascular patients [9].

QOL is the people's culturally and socially perception of their position in life and is defined by their goals, expectations, standards, and concerns [10]. Shojaee et al. indicated the QOL in patients with heart failure, was low in all its dimensions, and the QOL has become more unfavorable by aging [11].

Some studies have shown that the use of self-care behaviors reduces the rate of hospitalizations for heart failure patients [12]. In other studies, the results revealed that self-care measures for patients with heart failure could reduce hospitalizations, but do not have significant effects on mortality and QOL related to the health in the patients [13].

Some studies found that self-care is effective in increasing the QOL of the patients [14]. In another study, the low level of QOL was obtained in heart failure patients, and better QOL was associated with younger age and lower severity levels of heart failure [15].

Grady et al. showed that self-care had no effect on their enhanced QOL after self-care training [8]. About half of the reviewed studies by them report the increased QOL by doing self-care, and they finally proposed the need for further research in this area to show the effectiveness of self-care on QOL [16].

Harley et al. in their study, found the relationship between self-care, the QOL and its components in older adults with heart failure. They proposed that more studies are needed to confirm the results [17]. Given that different results have been obtained regarding QOL and self-care in heart failure patients, particularly older adults, therefore, this study aimed to assess the QOL and self-care in older adults with heart failure and to examine the relationship between the two categories.

**Material and method**

This study was a descriptive correlational study. The study population included all older adults with heart failure from October 2015 to June 2016, who were admitted to Shahid Madani Hospital in Tabriz. The study was done based on convenient sampling method. The desired sample size with the confidence ratio of 95% and power of 80% was calculated considering the previous studies ($r = 0.3$) and using G*Power 3.1 software, which was obtained equal to 90 participants. However, a sample size of 120 participants was finalized considering the 20%-probability of loss. One hundred and twenty questionnaires were distributed, of which 120 questionnaires were collected at the end. On consecutive days, the eligible patients were informed, and after explaining the purpose of the study and taking written and voluntary consent, the questionnaires were answered by the participants.

The inclusion criteria included 65-year age and older, suffering from heart failure, and willingness to participate in the study. Each of the participants who did not wish to continue was excluded from the study. Given the age of the participants and illiteracy of most of them, data collection was done by interviewing all the participating patients. Thus, the questions were read by a researcher for the patient and the patient's response was checked.

Self-care was evaluated using Self-Care of Heart Failure Index (SCHFI). It has three sections of maintenance, management, and confidence. According to the published scoring for the tool, the overall score for each section is between 0 and 100. As the cut-off point, a score equal or greater than 70 expresses proper self-care to judge the accuracy of the care.

In this study, the QOL was examined by the using Minnesota Living with Heart Failure Quality (MLHF) questionnaire. The QOL in the questionnaire consists of three parts: physical factor, emotional factor, and others (including side effects from medication, costing money medical care, etc.). The overall score is between 0-105, and it is between 0-40, 0-25, and 0-40 for the physical factor, emotional factor, and others, respectively. Lower score from the questionnaire indicates the minimal impact of heart failure on the QOL of the afflicted patients.

The validity of the questionnaires have been assessed in terms of the content and face validity. In this way, the questionnaires were submitted to the faculty members of nursing and midwifery school of Tabriz University of Medical Sciences. Following the collection of their comments, the necessary modifications were included in the instrument based on the received feedback. Also, by doing test and retest on 20 patients, reliability was determined in terms of the repeatability (ICC=intraclass correlation) and internal consistency (Cronbach's alpha coefficient). ICC and Cronbach's alpha were obtained 0.88 and 0.96 for SCHFI questionnaire and 0.71and 0.79 for MLHF questionnaire.

Finally, the data were entered in SPSS 16 statistical software and were analyzed using descriptive and inferential statistics (Pearson correlation).

The study was performed after receiving permission from the Institutional Board Review and Ethics Committee of Tabriz University of Medical Sciences.

**Results**

Participants in the study were 120 older adults with heart failure. Mean age of the participants was 74.88 ± 6.84 years and 60% of them were women. The number of hospitalizations varied from zero to 35 times in the patients (Table 1).

Among the items, the highest self-care score was related to eating a low-salt diet, and the lowest self-care score was associated with asking low-salt items when eating out or visiting others, as well as 30 minutes of daily exercise (Table 2)

The scale that reduced the QOL was the difficulties associated with walking and climbing stairs. Patients also chose sexual activities as the least problem of heart failure. Then, difficulty remembering and concentrating subscale played the minimal role in reducing the quality of life of the patient's score, (Table 3).

The mean score for maintenance scale was equal to 28.58 with a standard deviation of 11.54. The confidence interval (CI) for the scores was 95% (26.49, 30.67). The mean score for management scale was 53.12 with a standard deviation of 23.41. The CI for the scores was 95% (48.89, 57.36). The mean score for confidence scale was 51.98 with a standard deviation of 15.88. The CI for the scores was 95% (49.11, 54.86). The QOL of the participants was 53.27 ± 18.09 (Table 4).

Our results indicated that the physical QOL has a significant and negative correlation with the patients' confidence in self-care (Table 5).

**Discussion**

In this study, self-care of the patients was less than desirable in all three subscales. In some studies, only about 6% of the participants had good self-care [18]. The results of some studies showed that about 75% of the participants have a suboptimal self-care [19]. In a study by Forming et al. the cause of many re-hospitalizations for heart failure patients was a failure in self-care [20].

Barnason et al. showed patients had a significant knowledge about heart failure and self-care in heart failure [21]. It can be said that self-care in patients with heart failure has been reported undesirable in most studies. The cause of differences in the results of some research can be the difference in the amount and quality of education of patients about self-care skills and the change in their attitude to recognize the importance and value of self-care and to change behaviors towards self-care. In this study, one of the reasons for poor self-care can be physical and mental health problems associated with aging in older adults [22]. Self-care enables heart failure patients to take responsibility for their health and to enhance the results of the disease [13].

In this study, the highest self-care score is related to eat a low-salt diet, and the lowest self-care score is associated with asking low-salt items when eating out or visiting others, as well as 30 minutes of daily exercise. In a study by Kamrani et al. exercising was introduced as the less followed self-care behaviors by the patients [23]. In a study by Mohammadi et al. the best self-care subscale was using a system (pill box, reminders) to remember medicines timely and observing diet. Daily weighing control was devoted the least amount of attention [18]. These results are almost consistent with the results of the present study. One of the reasons for not asking low-salt diet by the patients, when eating out or visiting others, includes the lack of adequate facilities for ordering special food in many restaurants. Also, due to other physical ailments, most of the older adults are not able to do daily exercise.

Physical and mental QOL score of the studied older adults shows the negative impact of their disease on their lives. Heidarzadeh et al. suggested that more than half of the patients with heart failure have a low QOL [24]. The problem has been reported as one of the characteristics of patients with heart failure [11, 24]. In several studies, the physical QOL of heart failure patients has been reported lower than the other physical and psychological patients, even in comparison to the other cardiovascular diseases [25].

However, Chiaranai et al. concluded heart failure had limited impact on the QOL of the patients, and they had moderate to good QOL. The reason for this paradox can be the difference in the study environment, the difference in disease severity of the studied participants, and other underlying chronic diseases [14]. Moreover, it should be noted that the QOL of people is affected by various factors such as social and family support, health and medical facilities, and cultural situation of them [26].

In this study, the most difficult problem of the studied patients in reducing the QOL was difficulty in walking and climbing stairs. The patients reported the fewest problems in their sexual activity. In the study by Saccomann et al. no relationship was found between QOL and sexual function in the older adults [27]. The result is almost in line with the results of the present study. Speaking of sexuality is considered as a cultural taboo in the Islamic-Iranian community and among the older adults. Due to aging and physiologically loss of sexual desire, the older adults did not consider the sexual issue important and significant and were unaware of its importance and its impact on their QOL. Therefore, they did not speak of it.

According to the obtained data, the QOL of older adults had a significant relationship with heart failure, so that women had a better QOL than men. Bachelor patients also had more desirable QOL than married ones. There was no significant relationship between their aging and QOL. Also, the study showed a significant correlation between the QOL and other items. The items include education and literacy of patient and even the education and literacy of patient's wife, ejection fraction (EF), duration of disease, previous hospitalizations, number of days per hospitalization, and other underlying chronic diseases such as hypertension, diabetes, myocardial infarction, coronary artery diseases and lung disease, as well as taking certain medications such as beta-blockers and digitals.

Jaarsma et al. concluded that the demographic characteristics are related to the QOL, and the treatment and taking care of heart failure patients should include not only the symptoms of the disease but also the underlying medical conditions of the patients [25].

While some studies showed, aging and gender affect the QOL of heart failure patients, in a way that women and younger patients have a worse QOL [28]. The researchers also reported that the QOL is significantly associated with the severity of heart failure [15, 27]. Iqbal et al. found that social, socioeconomic and clinical variables had a significant effect on the QOL for heart failure patients. Marital status, heart failure class, and socio-economic status had a significant correlation with the QOL [26]. Sawafta et al. suggested that the QOL of heart failure patients was under the influence of gender, job status, and education level. However, their marital status and heart failure class did not have any effect on their QOL [29]. Most of the results are almost in line with the results of this study. However, as most of the participants were illiterate, the relationship between the level of education and QOL of these patients was not valued.

In the present study, the results represented a significant relationship between gender and confidence as men showed more confidence in self-care. In this study, no significant association was seen between age and self-care. Married patients, especially those who live with their spouses and children, had better confidence. Location of the participants (urban or rural) was significantly associated with their maintenance. According to the obtained data in this study, underlying diseases such as hypertension, diabetes, ischemic heart disease were significantly associated with different aspects of self-care. Using some drugs such as ACE blocker, anti-coagulation, and calcium blockers were correlated with various aspects of self-care.

Kamrani et al. did not find a strong correlation between the level of education and self-care behaviors. In their study, self-care was lower in men compared to women, but no significant correlation was found (23]. In the study by Mohammadi et al. self-care had a significant relationship with age, sex, marital status, underlying diseases such as hypertension, pulmonary, and renal diseases, as well as severity of the disease [18]. Lagerlof came to the conclusion that lower level of education, social support, and 65 years and older are associated with better self-care. Some of the reasons can be having experience during illness, receiving the attitude towards the use of self-care, and as a result, attempting to observe it [30].

According to the results, the QOL of older adults with heart failure had a significant and inverse correlation with confidence scale in self-care and had a direct and meaningful relationship with maintenance scale in self-care. Chiaranai et al. achieved the relationship between the QOL and management and confidence. They also stated that physical QOL for these patients was associated with three subscales of self-care [14]. Harley et al. concluded that the QOL of older adults with heart failure was related to confidence subscale, but had no statistically significant association with the other subscales of self-care [17]. It can be said that the effect of several factors on the QOL of patients with heart failure have caused the difference in the results of similar studies in different geographic regions. Among them are the socio-psychological status, economic status, self-efficacy, formal education, differences in severity of disease symptoms, changes related to aging, low health education level, cultural differences, and underlying chronic diseases.

**Conclusion**

Older adults with heart failure had a low level of self-care. Inadequate self-care was associated with the unsatisfactory level of the QOL in the patients. Therefore, using the methods, which increase self-care, will improve the QOL in the patients as well. In the older adults, the type of training for the patients, which is understandable and remembering in the absence of health personnel, can be effective in self-care and improved quality of their lives. Considering the different classes, dialects, and languages in Iran, it is suggested that the training videos with the country's official language as well as other languages are spoken in the country and the expression of sex education in private because of the taboo nature of the subject, especially at this age, should be used to improve the level of knowledge in older adults.

Most patients with heart failure recognize their disease inevitable and due to the external causes. Changing the attitudes of the patients and creating useful and positive view towards self-care can invigorate their training and can bring better results.

**Limitations**

In the present study, only older adults were studied. Therefore, the results cannot be generalized to older adults of nursing homes.

**Table1.** Demographic characteristics of older adults with heart failure participating in the study

| Variable | Number (percent) | Variable | Number (percent) |
|---|---|---|---|
| Age (year) | | Living Place | |
| 65-74 | 60(50.0) | City | 68(56.7) |
| 75-84 | 47(39.2) | Countryside | 39(32.5) |
| Over 85 | 13(10.8) | Suburban | 13(10.8) |
| | | Spouse Job | |
| | | Dead | 34(28.3) |
| Gender | | Clerk | 2(1.7) |
| Woman | 48(40) | Unemployed | 2(1.7) |
| Man | 72(60) | Farmer | 12(10) |
| Marital Status | | Retired | 8(6.7) |
| Single | 34(28.3) | Housewife | 57(47.5) |
| Married | 86(71.7) | Others | 5(4.2) |

| Life Style | | Spouse Education | |
|---|---|---|---|
| Alone | 17(14.2) | Dead | 34(28.3) |
| With Wife | 34(28.3) | Illiterate | 52(43.3) |
| With Wife and Children | 52(43.3) | Primary | 15(12.5) |
| With Children | 17(14.2) | High-school | 6(5) |
| Level of Education | | Diploma | 11(9.2) |
| Illiterate | 68(56.7) | Associate Degree | 1(0.8) |
| Primary | 35(29.2) | Master Degree and Higher | 1(0.8) |
| High-school | 4(3.3) | Disease Duration (year) | |
| Diploma | 10(8.3) | 1-9 | 76(63.3) |
| Associate Degree | 1(0.8) | 10-19 | 25(20.8) |
| Bachelor Degree | 2(1.7) | 20-29 | 9(7.5) |
| Occupation | | 30-39 | 5(4.2) |
| Clerk | 2(1.7) | 40-49 | 4(3.3) |
| Unemployed | 15(12.5) | 50-59 | 1(0.8) |
| Farmer | 17(14.2) | History of Hospitalization | |
| Retired | 23(19.2) | Not Have | 10(8.3) |
| Housewife | 44(36.7) | Have | 110(91.7) |
| Others | 19(15.8) | Smoking Experience | |
| Income Sufficiency | | Not Have | 76(63.3) |
| Income Is Lower Than Expense | 77(64.2) | Have | 44(36.7) |
| Equal | 39(32.5) | Alcohol Experience | |
| Income Is Higher Than Expense | 4(3.3) | Not Have | 117(97.5) |
| | | Have | 3(2.5) |
| | | Drug Abuse Experience | |
| | | Not Have | 113(94.2) |
| | | Have | 7(5.8) |

**Table 2.** The participants' responses to the Self-Care of Heart Failure Index

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Never or rarely | Sometimes | Frequently | Always or daily |
| 1. Weigh yourself? | | | 67(55.8) | 45(37.5) | 7(5.8) | 1(0.8) |
| 2. Check your ankles for swelling? | | | 59(49.2) | 29(24.2) | 17(14.2) | 15(12.5) |
| 3. Try to avoid getting sick (e.g., flu shot, avoid ill people)? | | | 31(25.8) | 14(11.7) | 41(34.2) | 34(28.3) |
| 4. Do some physical activity? | | | 40(33.3) | 44(36.7) | 22(18.3) | 14(11.7) |
| 5. Keep your doctor or nurse appointments? | | | 21(17.5) | 73(60.8) | 26(21.7) | 0 |
| 6. Eat a low salt diet? | | | 26(21.7) | 17(14.2) | 34(28.3) | 43(35.8) |
| 7. Exercise for 30 minutes? | | | 103(85.8) | 10(8.3) | 1(0.8) | 6(5) |
| 8. Forget to take one of your medicines? | | | 44(36.7) | 48(40) | 22(18.3) | 6(5) |
| 9. Ask for low salt items when eating out or visiting others? | | | 118(98.3) | 0 | 2(1.7) | 0 |
| 10. Use a system (pill box, reminders) to help you remember your medicines? | | | 99(82.5) | 4(3.3) | 7(5.8) | 10(8.3) |
| | Have not had these | I did not recognize it | Not Quickly | Somewhat Quickly | Quickly | Very Quickly |
| 11. How quickly did you recognize it as a symptom of heart failure? | | 13(10.8) | 22(18.3) | 19(15.8) | 43(35.8) | 23(19.2) |
| | | | Not Likely | Somewhat Likely | Likely | Very Likely |
| 12. Reduce the salt in your diet | | | 40(33.3) | 22(18.3) | 28(23.3) | 30(25) |
| 13. Reduce your fluid intake | | | 44(36.7) | 21(17.5) | 34(28.) | 21(17.5) |
| 14. Take an extra water pill | | | 45(37.5) | 18(15) | 34(28.3) | 21(17.5) |
| 15. Call your doctor or nurse for guidance | | | 27(22.5) | 32(26.7) | 23(19.2) | 38(31.7) |

| | I did not try anything | Not Sure | Somewhat Sure | Sure | Very Sure |
|---|---|---|---|---|---|
| 16. How sure were you that the remedy helped or did not help? | 1(0.8) | 11(9.2) | 43(35.8) | 30(25) | 35(29.2) |
| | | Not Confident | Somewhat Confident | Very Confident | Extremely Confident |
| 17. Keep yourself free of heart failure symptoms? | | 28(23.3) | 70(58.3) | 18(15) | 4(3.3) |
| 18. Follow the treatment advice you have been given? | | 15(12.5) | 49(40.8) | 41(34.2) | 15(12.5) |
| 19. Evaluate the importance of your symptoms? | | 11(9.2) | 48(40) | 48(40) | 13(10.8) |
| 20. Recognize changes in your health if they occur? | | 3(2.5) | 37(30.8) | 62(51.7) | 18(15) |
| 21. Do something that will relieve your symptoms? | | 25(20.8) | 75(62.5) | 19(15.8) | 1(0.8) |
| 22. Evaluate how well a remedy works? | | 7(5.8) | 42(35) | 61(50.8) | 10(8.3) |

**Table 3.** The participants' responses to Minnesota Living with Heart Failure Quality Questionnaire Items

| | No 0 | Very Little 1 | Little 2 | Rather Much 3 | Much 4 | Very Much 5 | Mean (Standard Deviation) |
|---|---|---|---|---|---|---|---|
| 1. Causing swelling in your ankles or legs? | 46(38.3) | 8(6.7) | 15(12.5) | 32(26.7) | 12(10) | 7(5.8) | 1.81(1.67) |
| 2. Making you sit or lie down to rest during the day? | 18(15) | 12(10) | 32(26.7) | 36(30) | 15(12.5) | 7(5.8) | 2.32(1.39) |
| 3. Making your walking about or climbing stairs difficult? | 4(3.3) | 3(2.5) | 12(10) | 13(10.8) | 42(35) | 46(38.3) | 3.87(1.28) |
| 4. Making your working around the house or yard difficult? | 26(21.7) | 7(5.8) | 21(17.5) | 16(13.3) | 26(21.7) | 24(20) | 2.67(1.81) |
| 5. Making your going places away from home difficult? | 14(11.7) | 5(4.2) | 14(11.7) | 20(16.7) | 27(22.5) | 40(33.3) | 3.34(1.67) |
| 6. Making your sleeping well at night difficult? | 36(30) | 7(5.8) | 19(15.8) | 21(17.5) | 25(20.8) | 12(10) | 2.23(1.77) |
| 7. Making your relating to or doing things with your friends or family difficult? | 29(24.2) | 9(7.5) | 24(20) | 23(19.2) | 24(20) | 11(9.2) | 2.31(1.67) |
| 8. Making your working to earn a living difficult? | 15(12.5) | 10(8.3) | 17(14.2) | 35(29.2) | 23(19.2) | 20(16.7) | 2.84(1.57) |
| 9. Making your recreational pastimes, sports or hobbies difficult? | 20(16.7) | 6(5) | 13(10.8) | 24(20) | 41(34.2) | 16(13.3) | 2.9(1.84) |
| 10. Making your sexual activities difficult? | 95(79.2) | 7(5.8) | 8(6.7) | 9(7.5) | 0 | 1(0.8) | 0.46(1) |
| 11. Making you eat less of the foods you like? | 7(5.8) | 4(3.3) | 9(7.5) | 29(24.2) | 29(24.2) | 42(35) | 3.62(1.41) |
| 12. Making you short of breath? | 7(5.8) | 5(4.2) | 14(11.7) | 20(16.7) | 36(30) | 38(31.7) | 3.56(1.44) |
| 13. Making you tired, fatigued, or low on energy? | 12(10) | 7(5.8) | 12(10) | 21(17.5) | 43(35.8) | 25(20.8) | 3.26(1.54) |
| 14. Making you stay in a hospital? | 9(7.5) | 42(35) | 18(15) | 29(24.2) | 18(15) | 4(3.3) | 2.14(1.33) |
| 15. Costing you money for medical care? | 8(6.7) | 16(13.3) | 27(22.5) | 35(29.2) | 26(21.7) | 8(6.7) | 2.66(1.32) |
| 16. Giving you side effects from treatments? | 40(33.3) | 15(12.5) | 20(16.7) | 26(21.7) | 17(14.2) | 2(1.7) | 1.76(1.53) |
| 17. Making you feel you are a burden to your family or friends? | 32(26.7) | 11(9.2) | 19(15.8) | 22(18.3) | 29(24.2) | 7(5.8) | 2.22(1.68) |
| 18. Making you feel a loss of self-control in your life? | 29(24.2) | 12(10) | 20(16.7) | 20(16.7) | 28(23.3) | 11(9.2) | 2.32(1.7) |
| 19. Making you worry? | 26(21.7) | 12(10) | 5(4.2) | 24(20) | 37(30.8) | 16(13.3) | 2.68(1.78) |
| 20. Making it difficult for you to concentrate or remember things? | 49(40.8) | 25(20.8) | 12(10) | 17(14.2) | 13(10.8) | 4(3.3) | 1.43(1.55) |
| 21. Making you feel depressed? | 27(22.5) | 7(5.8) | 8(6.7) | 22(18.3) | 26(21.7) | 30(25) | 2.85(1.88) |

**Table 4.** Mean scores obtained from the questionnaires

| Clinical Variables | Mean (Confidence Interval 95%) | Standard Deviation |
|---|---|---|
| SCHFI Maintenance score | 28.58(26.49,30.67 ) | 11.54 |
| SCHFI Management score | 53.12(48.89,57.36 ) | 23.41 |
| SCHFI Confidence score | 51.98(49.11,54.86 ) | 15.88 |
| MLHF score | 53.27(50.0,56.54 ) | 18.09 |
| Physical MLHF score | 23.57(22.09,25.06 ) | 8.22 |
| Emotional MLHF score | 11.52(10.35,12.69 ) | 6.45 |

**Table 5.** The relationship between quality of life and self-care in older adults with heart failure

| | | maintenance | management | Confidence |
|---|---|---|---|---|
| Physical MLHF | Pearson Correlation | .147 | -.028 | -.249* |
| | Sig. (2-tailed) | .109 | .765 | .006 |
| | N | 120 | 120 | 120 |
| Emotional MLHF | Pearson Correlation | .144 | -.089* | -.267 |
| | Sig. (2-tailed) | .115 | .336 | .003 |
| | N | 120 | 120 | 120 |
| MLHF | Pearson Correlation | .256** | -.009 | -.230* |
| | Sig. (2-tailed) | .005 | .923 | .011 |
| | N | 120 | 120 | 120 |

**References**

1. Mozaffarian D, Benjamin EJ, Go AS, Arnett DK, Blaha MJ, Cushman M, et al. Heart Disease and Stroke Statistics—2015 Update. A Report from the American Heart Association. Circulation. 2015, 27; 131(4):e29-322
2. Roger VL. Epidemiology of Heart Failure. Circ. Res.2013; 113(6):646-59.
3. Lung NH, Institute B. Morbidity and Mortality: 2012 Chart Book on Cardiovascular, Lung, and Blood Diseases. 2012. Available from: http://www nhlbi nih gov/files/docs/research/2012_ChartBook_508 pdf. 2013
4. Iran National Census of Population and Housing, 2012. Available from https://www.amar.org.ir/english
5. Roger VL, Go AS, Lloyd-Jones DM, Adams RJ, Berry JD, Brown TM, et al. Heart disease and stroke statistics—2011 update a report from the American Heart Association. Circulation. 2011; 123(4):e18-e209.
6. Baker DW, DeWalt DA, Schillinger D, Hawk V, Ruo B, Bibbins-Domingo K, et al. "Teach to goal": theory and design principles of an intervention to improve heart failure self-management skills of patients with low health literacy. J Health Commun. 2011; 16(sup3):73-88.
7. Webber D, Guo Z, and Mann S. Self-care in health: we can define it, but should we also measure it. Self-Care. 2013; 4(5):101-5.
8. Grady KL, De Leon CFM, Kozak AT, Cursio JF, Richardson D, Avery E, et al. Does self-management counseling in patients with heart failure improve quality of life? Findings from the Heart Failure Adherence and Retention Trial (HART). Qual Life Res. 2014; 23(1):31-8.
9. Coelho R, Ramos S, Prata J, Bettencourt P, Ferreira A, Cerqueira-Gomes M. Heart failure and health related quality of life. Clin Pract Epidemiol Ment Health. 2005; 1(1):19.
10. Group W. The World Health Organization quality of life assessment (WHOQOL): position paper from the World Health Organization. Soc Sci Med. 1995; 41(10):1403-9.
11. Shojaei F. Quality of life in patients with heart failure. Hayat. 2008; 14(2):5-13.
12. van der Wal MH, van Veldhuisen DJ, Veeger NJ, Rutten FH, Jaarsma T. Compliance with non-pharmacological recommendations and outcome in heart failure patients. Eur. Heart J. 2010; 31(12):1486-93.
13. Ditewig JB, Blok H, Havers J, van Veenendaal H. Effectiveness of self-management interventions on mortality, hospital readmissions, chronic heart failure hospitalization rate and quality of life in patients with chronic heart failure: a systematic review. Patient Educ Couns. 2010; 78(3):297-315.
14. Chiaranai C SJ, Best A. Self-care and quality of life in patients with heart failure. Thai J Nurs Res. 2010; 13(4):302-17.
15. Pressler SJ, Subramanian U, Kareken D, Perkins SM, Gradus-Pizlo I, Sauve MJ, et al. Cognitive deficits and health-related quality of life in chronic heart failure. J Cardiovasc Nurs. 2010; 25(3):189.
16. Grady KL. Self-care and quality of life outcomes in heart failure patients. J Cardiovasc Nurs. 2008; 23(3):285-92.

17. Buck HG, Lee CS, Moser DK, Albert NM, Lennie T, Bentley B, et al. Relationship between self-care and health-related quality of life in older adults with moderate to advanced heart failure. J Cardiovasc Nurs. 2012; 27(1):8-15.
18. Zeighami Mohamadi S, Alhani F, Shakoor M, Farmani P, Mohseni B, Fallah Taherpazir E. Self-care behaviors in patients with systolic heart failure. JNMS. 2015; 2(1):46-54.
19. Sahebi A, Mohammad-Aliha J, Ansari-Ramandi M, Naderi N. Investigation the relationship between self-care and readmission in patients with chronic heart failure. Res Cardiovasc Med. 2015; 4(1).
20. Formiga F, Chivite D, Manito N, Casas S, Llopis F, Pujol R. Hospitalization due to acute heart failure. Role of the precipitating factors. Int. J. Cardiol. 2007; 120(2):237-41.
21. Barnason S, Zimmerman L, Young L. An integrative review of interventions promoting self-care of patients with heart failure. J Clin Nurs. 2012; 21(3-4):448-75.
22. Goodman H, Firouzi A, Banya W, Lau-Walker M, Cowie MR. Illness perception, self-care behaviour and quality of life of heart failure patients: a longitudinal questionnaire survey. Int J Nurs Stud. 2013; 50(7):945-53.
23. Kamrani A-AA, Foroughan M, Taraghi Z, Yazdani J, Kaldi A-r, Ghanei N, et al. Self-care behaviors among older adults with chronic heart failure and related factors. Pak. J. Biol. Sci. 2014; 17(11):1161.
24. Heidarzadeh M HP, Rahimzadeh A, Ghahramanian A, Kolahdouzi pour J, I Y. Quality of life and social support in congestive heart failure patients and healthy people. J Holis Nurs Midwifery. 2013; 23(1):13-21.
25. Jaarsma T, Johansson P, Ågren S, Strömberg A. Quality of life and symptoms of depression in advanced heart failure patients and their partners. Curr Opin Support Palliat Care. 2010; 4(4):233-7.
26. Iqbal J, Francis L, Reid J, Murray S, Denvir M. Quality of life in patients with chronic heart failure and their carers: a 3-year follow-up study assessing hospitalization and mortality. Eur. J. Heart Fail. 2010; 12(9):1002-8.
27. Saccomann ICR, Cintra FA, Gallani MCBJ. Quality of life in older adults with heart failure: assessment with a specific instrument. Acta paul. enferm. 2011; 24(2):179-84.
28. Lesman-Leegte I, Jaarsma T, Sanderman R, Linssen G, Veldhuisen DJ. Depressive symptoms are prominent among older adults hospitalised heart failure patients. Eur. J. Heart Fail. 2006; 8(6):634-40.
29. Sawafta FJ, Chen X. Quality of life of chinese heart failure patients and their family caregivers. Thammasat Int J Sci Tech. 2013; 3(2).
30. Lagerlof T. Factors associated with self-care of heart failure patients 4-6 weeks post discharge: CWRU. 2014.