https://doi.org/10.22034/hmrj.2022.323748.1041

Original Article

Evaluation of Mental Health in Patients with Heart Failure at Golestan Teaching Hospital in Ahvaz, Southwestern Iran

Behnam Gholizadeh[1,2], Ehsan Moradi-Joo[3,4], Siamak Baghaei[5], Fatemeh Javaherforoosh Zadeh[2], Hosssein Raisi[6], Seyed Salaheddin Nabavi[1,2*]

[1] Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[2] Department of Pain Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
[3] Abadan University of Medical Sciences, Abadan, Iran
[4] Department of Management and Medical Information Sciences, Kerman University of Medical Sciences, Kerman, Iran
[5] Department of Internal Medicine, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran
[6] Shahid Chamran University of Ahvaz, Ahvaz, Iran

Received: 08 January 2022
Revised: 27 March 2022
Accepted: 27 March 2022

Keywords: Mental health, Heart failure, Golestan Hospital, Ahvaz

***Correspondence:** Seyed Salaheddin Nabavi
Affiliation: Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran
Email: nabavi-ss@ajums.

Abstract

Introduction
Heart failure (HF) affects mental health in all patients. This study aimed to evaluate mental health in HF patients in teaching hospitals in Ahvaz.

Methods
The present descriptive-analytical study was performed on 220 patients admitted to the cardiac ward of Golestan Hospital in Ahvaz in 2021. Sampling was not performed due to the limited statistical population. Data was collected using a mental health questionnaire after determining their validity and reliability. The data was analyzed by SPSS 22 software using variance, t-test, and Pearson correlation coefficient analysis at a significance level of 0.05.

Results
Men and women were significantly different in dimensions of general health and physical pain ($P < 0.05$). There were also significant differences between men and women in dimensions of depression and anxiety, with women showing lower mental health in both dimensions ($P < 0.05$).

Conclusion
Mental health problems in HF patients necessitate conducting qualitative research on ways to improve the mental health of these patients. Besides, comparative studies on these patients are necessary before and after implementing nursing models to care for and support HF patients.

1. Introduction

Cardiovascular diseases and related complications are some of the most important causes of death in industrialized and developing countries, including Iran [1], where studies reported a prevalence of 2.32% for cardiovascular diseases [2]. Heart failure (HF) is the common final consequence of all heart disorders [3]. The prevalence of this disease has increased, firstly, due to high life expectancy leading to an elevation in chronic diseases (e.g., chronic HF) and, secondly, because of progress in the treatment of heart disease [4]. A report by the American Heart Association indicates that HF causes about 3.7% of all deaths from cardiovascular diseases. By 2030, more than 3.23 million people are predicted to die annually because of cardiovascular diseases [5], and the prevalence of HF is expected to rise by 25% [6].

HF is often referred to as congestive heart failure (CHF), i.e., the inability of the heart to pump sufficient blood to meet the needs of tissues for oxygen and nutrients [7]. The disease symptoms

and the consequent complications gradually cause limitations in the routine lives of patients, thereby affecting their QoL [8]. Among heart diseases, HF equally overshadows patients' mental, social, and psychological health and, consequently, their perception of health, in addition to the physical consequences. An elevated lifetime of HF patients, along with the profound effects of this disease on their individual and social life and their families, as well as its chronic, progressive, and irreversible nature, are among the most important reasons for the decline in QoL of these patients. Most studies reported that the quality of life in patients with HF is lower than that of other chronic diseases [9-13].

QoL is an indicator of physical and social activities, and mental health is considered one of the essential components of health. In all cases, HF affects the mental health and, consequently, the QoL of patients to varying degrees. The concept of QoL, mental health, and related factors in HF patients has been studied scarcely in Iran. Consequently, this group of patients has been less studied by psychological interventions. Therefore, this study aimed to evaluate mental health in patients with HF at Golestan Teaching Hospital in Ahvaz.

2. Method

The present descriptive-analytical study was performed on 220 HF patients admitted to the cardiovascular ward of Golestan Hospital in Ahvaz in 2021. The study population consisted of all HF patients hospitalized in the cardiovascular ward of Golestan Hospital in Ahvaz. Sampling was not performed due to the limited statistical population. Inclusion criteria were a definitive diagnosis of HF (HF diagnosis in the patient's medical record), an interval of at least six months before diagnosing patients hospitalized again for medical reasons, fluency in Persian, lack of mental retardation, and age over 18 years. Data was collected using three demographic and GHQ-28 mental health questionnaires.

The mental health questionnaire consists of 28 questions in four subtests of physical symptoms (questions 1-7), anxiety (questions 8-14), social dysfunction (questions 15-21), and depression (questions 22-28), on which subjects mark their answers based on a 4-point scale from zero to 3. The scores in each subscale vary from zero to 21, and the total score ranges from zero to 84. In this scale, an increase in the score is associated with mental health deterioration, and if the total score is > 23, the patient will have mental health problems [14]. These two questionnaires are standardized tools with confirmed validity and reliability of the Persian version in various studies [15]. Molavi confirmed its validity with r = 0.91 and reported a reliability of 0.90 using Cronbach's alpha coefficient [16]. The data was analyzed with SPSS 22 software using descriptive statistics and analysis of variance (ANOVA), t-test, and Pearson correlation coefficient at a significance level of 0.05.

3. Results

The distribution of frequency percentage of demographic characteristics for the subjects showed that 45% and 55% of the population were males and females, respectively. Married, single, and deceased spouses comprised 75%, 12%, and 13% of the participants. Also, 63% and 37% of the subjects were dropouts and had under graduate

Table 1. Mean and Standard Deviation of Dimensions of Mental Health

Variables	Dimension	Mean (Standard Deviation)
Mental Health	Physical Symptoms	6.2 ±3.2
	Anxiety	6.1 ±4.5
	Social Performance	6.9 ±3.9
	Depression	5.9 ±4.6

Table 2. Correlation Between Gender and Mental Health Dimensions

Variable	Dimension	Gender		P-Value
		Female	Man	
		Mean (Standard Deviation)	Mean (Standard Deviation)	
Mental Health	Physical Symptoms	3.3 ±4.3	3.4 ±7.3	**0.34**
	Anxiety	4.3 ±35.3	5.1 ±4.3	**0.001***
	Social Performance	3.1 ±2.6	4.4 ±3.6	**0.65**
	Depression	4.4 ±1.1	7.1 ±7.1	**0.000***

degrees, respectively. Participants with and without a history of hospitalization were 44% and 66%, respectively, and 64% and 36% had incomes below and above two million tomans, respectively. The dimensions of mental health (mean ± standard deviation) are shown in Table 1.

According to Table 1, the mean total mental health score was 25.1 ± 16.2 in four dimensions, with social functioning and depression having the lowest (6.9 ± 3.9) and highest (5.9 ± 4.6) mean scores, respectively. The correlation between gender and the dimensions of mental health is shown in Table 2.

Table 2 shows a significant difference regarding depression and anxiety between men and women. Thus, women had lower mental health in both dimensions ($P < 0.05$).

4. Discussion

The present study's findings showed that women comprised most of the studied patients, which is not in line with those of most studies [17-19], but it is consistent with a few limited studies in which the frequency of females was higher [13, 20]. Although HF is relatively less common in women, at least half of the cases occur in women because they have a longer life expectancy [21].

Based on the current research findings, statistically, significant relationships were observed between the four dimensions of general health, mental problems, physical pain, and the mental health of QoL and gender. Female subjects had lower general health and physical pain than men, while men suffered from more mental problems and mental health, contrary to the results of Sharif [22] and Elahi [23]. Besides, there was a statistically significant relationship between depression and gender. Thus, men experienced more depression and anxiety, corresponding to the result of Non [24]. In the present study, male patients showed higher physical symptoms and social dysfunction than their female counterparts, which might play an essential role in the incidence of their anxiety and depression. On the other hand, Stromberg concluded that life stresses and deprivation of emotional support put women with HF at a greater risk of declined QoL compared to men. Women were reported to show lower vitality and physical function than men, and this difference became more pronounced after one year of follow-up, as they suffered from problems such as sleep disorders, emotional problems, decreased energy and strength, and illness compared to men [25].

The current research findings revealed no significant correlations between mental health and QoL with hospitalization frequency, marital status, and education levels. However, Cline suggests that a hospitalization frequency of more

than two times weakens the mental status of patients due to unfavorable conditions such as social isolation and disability [26]. Shojaei [27], Rahnavard [13], and Johansson [28] also found a significant inverse relationship between QoL and hospitalization frequency. Patients with low QoL have more chances of recurrent hospitalizations as they experience multiple and more severe symptoms over time, making hospitalization even more necessary [28].

5. Conclusion

According to the mean total mental health score, these patients had a low level of mental health. The mental health problems in HF patients necessitate conducting qualitative research on ways to improve the mental health of these patients. Besides, comparative studies on these patients are necessary before and after implementing nursing models to care for and support HF patients.

Funding

This article was funded by Ahvaz Jundishapur University of Medical Sciences with code ID IR.AJUMS.REC.1399.583.

Conflicts of interests

The authors declare that there is no conflict of interest in this study.

Acknowledgment

We hereby thank the staff of Golestan Hospital for their cooperation and participation in collecting the data of the research project approved by the Vice-Chancellor for Research and Technology of Ahvaz Jundishapur University of Medical Sciences.

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