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The effect of self-care education on knowledge and function of patients with heart failure hospitalized in Kerman city hospitals in (2017)

Laleh Loghmani[1], Mahmood Beheshti Monfared[2]

ABSTRACT

Introduction: In patients with heart failure, increasing awareness and performance (function) should be the primary focus of care and treatment. The most common intra-hospital death for patients with heart problems is heart failure. Recent research has shown that improving the quality of treatment can reduce the risk of mortality due to heart failure. However, the knowledge and function of patients with heart failure are often lower than normal.

Materials and Methods: This research is an experimental study that was carried out in pre-test and post-test form in two groups of control and case in hospitalized patients in Kerman city hospitals. To this end, 150 patients with heart failure were selected according to the characteristics of the studied units and were randomly assigned into control and case groups. The units were examined in two stages, one month before and after education, using questionnaires to determine the educational needs and the performance evaluation checklist by the use of SPSSS. Then, the data were analyzed using statistical methods.

Findings: The findings of this study showed that self-care education, regarding p=0.000 was effective on cardiac patients' awareness and function and a significant difference was seen before and after education. Among demographic variables, only patients with a history of admission and exercise had better care than others.

Discussion: Education for patients with heart failure increases their awareness and function, and as a result, they would have a better care of themselves, and the recurrence of illness and re-admission, and the cost of treatments and the absence of work and the emergence of economic and social problems will be prevented.

Keywords: self-care education, heart failure, awareness, function

INTRODUCTION

Cardiovascular diseases are the most common cause of mortality in many societies today. The mortality rate due to these diseases is twice as much as death from cancer (2).

The end point of most heart (cardiac) problems is heart failure. Cardiovascular diseases over many years have led to many deaths compared to other diseases, such as cancer. So that, of the 580,000 deaths in 1990, a large number of them were due to heart diseases, most of them over the age of 55 years. Carlsson et al. (2001) state that heart failure as the primary diagnosis is more than 800,000 per year, which in particular is more common in the elderly. So that, one in 10,000 people over the age of 75 suffers from this disease (2). More than 4.9 million Americans suffer from heart failure. Every year 400 to 500 thousands new cases are detected (3). Recent research has shown that improving the quality of treatment can reduce the mortality from heart failure. The statistics show that in the last two decades, the rate of hospitalization for heart failure in the United States has increased by 250%., with has reached from 377 thousand to 970 thousand. 50% of these patients are readmitted to the hospital during the first six months after discharge, each with a cost of nearly $ 8,000 per patient (2), which is about $ 21 to $ 50 billion annually. It is estimated that the cost of care for these patients is about three times the cost of care for cancer patients and twice the MI (4).

[1] PhD Nursing, Assistant Professor Bam Medical Science University Bam Iran
[2] MD. Cardiovascular Surgeon Shahid Beheshti Medical Science University, Tehran, Iran.

Correspondence: Laleh Loghmani
Bam Medical Science University, Bam, Iran.

E-mail: Mlloghmani1384@yahoo.com

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Awareness of health behaviors is essential for behavioral change and health promotion of cardiovascular patients, and to identify health behaviors, such as exercise and diet, education and self-sufficiency, as dependent variables to awareness, are effective (5).

If patients be aware of the risk signs and can use different medical care and facilities in a variety of ways, hospitalization will be greatly reduced (6). Meanwhile, the cost of hospitalization and treatment for heart patients is very high. The cost of health care and the lack of income of these people on the one hand, and the inability and early death of these patients, on the other hand, impose irreparable harm to families. Nurses are involved in caring for patients with heart failure in different environments and can take effective steps to improve the quality of life and function of patients. On the other hand, specific strategies to maximize health behaviors that lead to better dietary regimens improve disease in patients with heart failure (7).

One of the best ways to prevent progression and complications of the disease is self-care in patients, which is provided by Orem. Self-care is defined as an active cognitive process in which the patient is responsible for maintaining his health or ill-health. Accepting recommended healthy behaviors such as proper diet, exercise and follow-on recommended dietary regimens is an index of self-care behaviors in the field of self-care. Self-care abilities and self-care behaviors have a positive impact on quality of life in three aspects of the functional ability of the symptoms and the person's psychosocial status and ultimately improve his/her healing (8).

Considering the high prevalence of heart failure and other heart diseases that result in heart failure, there are serious consequences for lack of self-care. Also, frequent hospitalizations in the hospital and physical, psychological, and socio-economic impairment caused by it, and problems in the care system lead nurses to persuade the patients to take care of themselves. Awareness of self-care and its disruptive factors in patients with heart failure can provide interventions that meet the needs of these patients for those involved in self-care and treatment (3).

Regarding the importance of the subject, the researcher has sought to examine the self-care in patients with heart failure, educate patients, and, therefore, increase their function in order to reduce the patient's problems, which ultimately leads to faster recovery and prevention of frequent admissions.

Most patients hospitalized in educational hospitals in Kerman due to hospitalization of hospitals due to low level of knowledge and culture of patients and patients

They are not able to care for themselves. Nurses are not obliged to educate patients. Because of this, patients are not able to continue their care because of the low level of education and the level of literacy and culture. As a result, patients are hospitalized repeatedly and again, and this increases the cost of the family and society for the economic burden. Finding out and getting away from work will make the beds of the hospital more occupied and causing a lot of damage to society.

The hypothesis of this study is that educating and increasing the awareness of cardiac patients increases their self-esteem and decreases the recurrence of the disease.

STUDY METHODOLOGY

This is an experimental study that was carried out in pre-test and post-test form in educational hospitals of Kerman city. After selecting 150 patients, they were randomly divided into two groups of case and control. At first, two groups were provided a questionnaire to determine the knowledge (awareness) and a checklist to determine the patients' function, and their knowledge (awareness) and function were measured. Then, the case group received dietary notes and motion exercises in two sessions for 15 to 20 minutes in groups of four, using lecture method, poster and educational pamphlets. In the second stage, one month later, knowledge and function of the patients were re-evaluated by referring to the patients' home.

A self-care program was designed based on the self-care model of Orem and counseling and cardiologists and nutritionists was designed and after being developed and strengthened for heart patients was conducted for cardiac patients. To collect information, a questionnaire and a checklist were used as follows.
1. The questionnaire on the evaluation of individual characteristics and the identification of educational needs in the area of function and awareness of clients on self-care.
2. The checklist was used to measure the patients' function. Data were gathered by a questionnaire.

The questionnaire has three parts. The first part is demographic information, the second part is related to motor exercises and the third part is related to the diet. This questionnaire is based on the rating scale and is presented as three options, and respondents have expressed their response in varying degrees, including not at all, relatively and completely. The lowest score was given to the option not at all [1], relatively [2] and completely [3], indicating low,

Table 1: *The effect of self-care education on the knowledge and function of cardiac patients according to the history of exercise and history of hospitalization*

Exercise		Before education		After education	
		Have	**Doesn't have**	**Have**	**Doesn't have**
Awareness (knowledge)	M	41.18	36.59	42.43	42.69
	P	0.000	0.000	0.874	0.865
Function	M	32.37	29.05	35.72	35.04
	P	0.004	0.005	0.556	0.549
History of hospitalization					
Awareness (knowledge)	M	38.20	36.65	44.24	39.42
	P	0.184	0.170	0.001	0.002
Function	M	30.44	28.67	35.98	33.65
	P	0.091	0.088	0.026	0.036

Table 2: *The effect of self-care education on awareness (knowledge) and function of heart patients in case and control group*

Variable	Control group		Case Group	
	Before	**After**	**Before**	**After**
Function	30.22	32.56	29.66	36.45
Awareness (knowledge)	39.300	32.86	36.92	47.24

P=0.000   df=123.119   Awareness (Knowledge) t=-5.735
P=0.000   df=85.159   Function   t=11.094

moderate, high awareness and function, respectively. In order to determine the validity of the questionnaire, using the available resources and questionnaires, this questionnaire was provided to the experts and after the final changes, was used for this study. Half-split method was used to examine the reliability and was determined by Spearman correlation coefficient. The questionnaire has a reliability of 91% and, separately, the reliability in the terms of motor exercise was 88% and the diet was 91%. In order to analyze the findings, parametric and inferential statistical methods and nonparametric tests were used.

FINDINGS AND RESULTS

In the data analysis section, the parameters of parameter 1 and parametric bread, correlation coefficient, pearson correlation, paired t-test and mean and standard deviation tests were used.

Based on information from 156 patients with heart failure, the following results were obtained.

Most of the patients were in the age group of 15 to 86 years. The mean age was 55 years, with a standard deviation of 14.52. In terms of sex, 48.8% of the samples were female and 42.4% were men. Also, 26.5% of them were illiterate and 35.3% under the diploma and 51% were high-educated. In terms of education level, 7.1% of them were single and 73.5% married and 11% widow. Among the samples; 74.1% had encouragement from family and 17.6% were not encouraged; 60% had a history of illness and 31.8% had no history of the disease; 24.7% had infarction and 45.3% had angina pains and 36% had history of exercise and 70% had no history of exercise. The results showed that most of the demographic variables had no effect on the patients' function and knowledge (awareness) before and after education, and no significant difference was observed in most of the research variables before and after education. Only in variable of family's encouragement considering p=0.46 and df=44.406, before education, and p=0.001 and df=48.083, after education, a significant statistical difference was found, and also considering p=0.222 and df=50.799 on function before education and p=0.007 and df=40.943 after education a significant statistical difference was found.

Marital status had no effect on patients' awareness (knowledge) and function before and after education. In relation to the history of hospitalization variable, the patients' function before and after education did not have any change.

However, in relation to awareness (knowledge), and with regard to p=0.179 before education and p=0.002 after education, a statistically significant difference is observed.

Also, considering df=154 before education and df=117.365, there was a significant statistical difference. Regarding the exercise variable, the results showed that overall, patients with a history of exercise had better awareness (knowledge) and function than the others, and education had little effect on their awareness (knowledge) and function (**Table 1**).

The most important findings from the results include:

The results showed that there was a significant difference in self-care education in the case group in relation to the awareness (knowledge) variable (considering p=0.000 and df=117.365 before education and p=0.029 and df=154 after

education). The results also showed that self-care education increased the patient's function (p=0.000 and df=a54 before and p=0.588 and df=85.159 after education). According to the above results, the research hypothesis suggests that self-care education increases the function and awareness (knowledge) of patients with heart failure.

DISCUSSION AND CONCLUSION

In the study of the findings, we first discuss the main goals of the research and then address other findings related to demographic characteristics and their relationship with the research objectives. Concerning the purposes of the research, the results showed that self-care education affects the awareness (knowledge) and function of the patients and increases their awareness (knowledge) and function, and there was a significant difference in the awareness (knowledge) and function of the patients before and after the education.

In a study conducted in 1995 by Daryabeygi, it was concluded that all of the units under study before self-care education had incomplete information on about heart failure, but after education their knowledge was increased. Other findings showed that there was no significant relationship between the effect of education and some of the demographic characteristics (9). In another study, Ekman stated that the severity of the disease affects self-care and the more severity of the illness, the increased awareness and self-care. But if the severity of the illness affects the patient's body, it reduces the individual's ability to take care of himself/herself (10). In a study by Mohammadzadeh in 1993, he concluded that the units (subjects) under study had high educational needs in their care. These educational needs were related to treatment and diet, rest, activity and sexual needs, and patients who were not trained in this area had educational needs at a high level (11). Another study conducted by Ghandiyan in 1999 concluded that there is a significant relationship between dietary beliefs about health and age, duration of illness and the number of admissions (2). In a study conducted by Habibullahzadeh in 2001, he concluded that patients who had a good level of knowledge and function had received information from radio and television. Studies have shown the importance of self-care and the role of awareness and understanding of patients from recognizing the symptoms of the disease and its relationship with the promotion of quality of life (13, 14). In a study by Carlson et al. (2003), they found that there is a greater likelihood that more experienced patients may use better self-care treatments than newly diagnosed patients (2). In a study conducted by Nei et al. regarding the level of awareness and its relationship with self-care, it was found that there is a significant difference between self-care and awareness scores, so that those who had more awareness (knowledge), self-care was better done about them (15). In a study conducted by Ortonin et al. in 2002 on the level of awareness and self-care in cardiac patients it was found that there was a significant relationship between the mean total score of knowledge and self-care, which means that the first step in interventions is self- care and having awareness. In this study, there was no relationship between demographic variables and self-care (16). There was no significant difference in demographic variables, awareness and self-care. Only the level of education had a greater impact on self-care, and the higher the level of education, more and better self-care was seen in patients. In this context, in 2001, Rockwell and Mitchell concluded that higher-educated people tend to be more likely to take care of themselves. Patients with more severity of disease also had better self-care. As Conley emphasizes, self-understanding, motivation to being healthy, level of thought and understanding of the disease affect patient's decision to engage in self-care (17). In the case of sex (gender) variable, there was no significant difference between sexes (genders) and knowledge and self-care in patients. But in a study conducted by Evangelista in 2001, it came to the conclusion that the health understanding of women is greater than men and that psychological compatibility and compliance are better in women (18). In the case of the history of hospitalization and its association with awareness (knowledge) and self-care, the study found that patients with a history of illness had better care of themselves. In this regard, Mohammadzadeh concluded that the number of hospitalization and the duration of admission and the level of education in most cases affected educational needs.

Education increases their awareness (knowledge) and function and their ability to care for themselves, and the hypothesis of this research is confirmed.

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