Pharmacophore

ISSN-2229-5402

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

Pharmacophore
an International Journal
ISSN 2229-5402

IMPACT OF PEER-LED EDUCATION AND LECTURE METHOD ON THE SELF-CARE IN PATIENTS WITH HEART FAILURE

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ARTICLE INFO

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

Keywords: *Peer-led education, Patient, lecture, self-care, heart failure.*

ABSTRACT

Background: Heart failure is one of the most common chronic diseases that are associated with a reduction in self-care and quality of life. Considering the positive role of education in developing and improving the quality of life, introducing appropriate educational method for these patients is important. This study was performed with the aim of determining the impact of peer-led education and lecture method on the self-care in patients with heart failure.
Methods: In this quasi-experimental study during 2016, 88 patients with heart failure of Firouzgar and Rasool Akram hospitals affiliated to Iran University of Medical Sciences are randomly divided into two groups of individual and peer education (44 participants in each group). After preparing a peer group, a training session was conducted by peer educators during one month. Data collection tools were included demographic information forms and European self-care questionnaire for patients with heart failure (12- items), which was completed by both the groups before and two months after the intervention. Data were analyzed by SPSS version 16 using descriptive and inferential statistics.
Findings: The results showed that there was no statistically significant relationship between variables, including educational level (p= 0.147), place of residence (p= 0.278), job (p= 0.145) and number of previous hospitalization (p= 0.06) and self-care, so they were not interfering. There was no statistically significant relationship between the mean scores of self-care before the intervention in the control and the intervention groups. Two months after the intervention, the mean of total self-care in both groups was 38.27 ± 3.85 and 18.25 ±2.98 and the mean differences were significant.
Conclusion: The results showed that both educational methods lead to improved self-care in patients, but peer-led education can have a better impact on self-care in patients with heart failure.

To Cite This Article: Masroor Roudsari Daryadokht, Rahimian Elham, Leila Janani, (2017), "Impact of Peer-led Education and lecture method on the self-care in patients with heart failure", ***Pharmacophore, 8(6S),*** *e-1173418.*

Introduction

Over the past two decades, there have been many advances in the treatment of cardiac patients, but the prevalence of heart failure is increasing, so that nearly 15 million people in the world are affected by this disease (1). Heart failure is a chronic medical condition that, despite existing therapies, involves various aspects of a patient's life (2). The prevalence of this disease is estimated to be between 0.4 to 2 and 0.16 to 2.3 percent in the general population and the population over 75 years old, respectively (3). This syndrome affects 1-2% of people aged 50-59 and more than 10% of people over the age of 70, is the most common cause of hospitalization for people over the age of 50 years, and the second leading cause of referral to the doctor in the United States (4). In 1980, the World Health Organization began activities to assess the quality of life that led to the development of a project to assess the quality of life and health care and currently 25 centers around the world are working

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in this field. Since heart failure affects the quality of life of patients to varying degrees, it is essential to consider that improving the quality of life of these patients to be as the main goals of treatment interventions. Quality of life is a concept related to the nursing and nurses have always tried to improve the quality of life of patients by providing health services and participating in nursing research in the field of quality of life (5). According to Orem, self-care is a learned regulatory function in humans based on the ability of individuals to exercise self-care of their own. Self-care is defined as a strategy to adapt to life events and tensions and is considered as one of the important aspects of treatment in patients with heart failure (6). Learning self-care behaviors can lead a person to maintain good health and well-being and increase his/her ability to self-care and adaptation to disease .Using the best self-care approach can reduce the risk of hospitalization, the cost of health care services and death, and the costs of the family and slow down the progression of the disease

The self-care plan in chronic heart failure focuses more on: nutrition, drug regimen, fitness between activity and rest, daily weight control, and achieving the best interventions and effective treatment when faced with an exacerbation phase of the disease (7).

Educating in patients with chronic heart failure includes information on signs and symptoms of the disease, changes in lifestyle and adherence to the treatment regimen (8). Many causes leading to exacerbation of heart failure can be prevented through education. Considering the positive role of education in improving quality of life, it is important to find an appropriate educational method for improving the quality of life of these patients (9).

Patient education is a process that provides learning opportunities for patients and families on the disease, treatment, coping mechanisms and enhance skills. The purpose of patient education is to achieve behavioral changes through the provision of appropriate knowledge (10).

Peer-led education is different from other methods of education that means the exchange of information, attitude and behavior by those who are not trained specifically, but have shared experiences. Peer-led education is a useful method that helps with increased motivation and readiness for treatment and reduces the regression to high-risk behaviors (11). Peer-led education is a continuous approach in which peers with the patient establish a friendlier and longer-lasting relationship than the medical staff, and their information is shared. This educational method can improve social and psychological problems in patients, in addition to therapeutic problems, and peer can act as a mediator between patient and medical staff. In peer-led education, due to the peer and patient's membership in one group, the sense of empathy and social identity are higher and promote knowledge. Recently, this approach has been used for educating in many cases such as arthritis, other cardiovascular diseases, AIDS, breast cancer and burns (9).

Lecture education is a method in which individualized education is provided by the trainer. In this way, the trainer can provide a lot of content to the audience in a short time. This type of training is based on the speaker's expressive skill (Dunbar et al., 2013). The lecture method is a cost-effective way to educate a large number of audiences, although it does not guarantee the impact of teaching (12).

Regarding the fact that heart failure as a chronic and disabling disease in early stages affects self-efficacy aspects of patients, at the time of referral to the treatment centers, they are trained preliminary by the medical staff; but considering the chronic nature of the disease and the patient's need for knowledge about appropriate health behaviors in more advanced stages of the disease, providing an effective educational method to these patients is very important. Therefore, this study was designed to "compare the effects of two educational methods of peer-led and lecture on the self-care in patients with chronic heart failure".

Methods

This quasi-experimental study was conducted to investigate the e effects of two educational methods of peer-led and lecture on the self-care in patients with chronic heart failure in Rasool Akram and Firoozgar hospitals affiliated to the Iran University of Medical Sciences in 2016.

In this study, 88 eligible patients with heart failure were randomly divided into two groups of individual and peer education (44 participants in each group). The inclusion criteria included: no history of participation in educational programs in heart failure during the past six months, having literacy in reading and writing, ability to speak Persian, lack of cognitive and physical disability, lack of medical education, and the possibility of making telephone calls to the patients or their family members.

Data collection tool

Data collection tools included two questionnaires: 1- demographic (age, sex, marital status, education level, job, duration of disease and experience of participation in training programs in the field of heart failure) and 2- The European self-care questionnaire for patients with

heart failure (12 items) that its reliability and validity has been confirmed in Iran (5). The content validity index of the self-care questionnaire was reviewed and approved by 10 faculty members for the relevance, clarity and veracity of the items. The reliability of this instrument was achieved through internal consistency (Cronbach's alpha coefficient=0.80). The questionnaire consists of 12 questions and the answers to the questions of the questionnaire are scored based on the Likert scale, so the lower score indicates a better status in the self-care.

Peer selection

By determining the sample size through statistical criteria, the researcher selected the sample participants from eligible individuals, and based on the self-care questionnaire; two peer-qualified participants who their score was higher than that of other

peers were selected. The inclusion criteria for peer group included the desire to participate in peer-based research, having an EF less than 40% based on echocardiography, a history of chronic heart failure for more than one year, and a moderate to high self-care score through a Self-care questionnaire.

Among the eligible peers, two were selected with the highest score and trained for one and a half hours using appropriate audiovisual equipment based on educational needs. After the selection of peers, the training of patients was done by them, training sessions continued on the basis of the experiences of peers and the researcher, in all cases based on the text books, adjusted or completed the necessary issues so that the peers could transfer the educational items to the patients during the training sessions.

In order to ensure the readiness of peers and the equality of their training method, the researcher examined their educational process using a researcher-made checklist. In exploring the educational behaviors of peers, the use of appropriate audiovisual equipment was also evaluated. The total score of the checklist was twenty points, and if the peer gained a score of over fifteen, he/she would be qualified to train patients and allowed him/her to be taught to patients in the peer group.

Intervention

After determining the peer education and lecture method groups, the intervention was conducted. In the lecture group, after ensuring the readiness of the patient and providing a comfortable and calm environment, the researcher explained the purpose of the training session. Then the training, including the items in the booklet, was carried out by the researcher using a lecture method in terms of learning level of the subjects for a period of 30-45 minutes in one session. In the peer group, after ensuring the patient's readiness and providing a comfortable and calm environment, teaching the items in the booklet based on the experiences of peers was conducted in 30-45 minutes in one session by both peers in a group. At the end of each session, a Group FAQ was made and after the completion of the training, the booklet was available to all patients participating in the study. The content of the sessions was the same in both peer and lecture groups.

Ethical considerations

For the ethical considerations, after receiving permission from the deputy of research management of the Iran University of Medical Sciences, informed consent was obtained from all patients and they were assured that their information will remain confidential with the option to withdraw from the study at any time. This study is recorded in the Research Ethics Committee of the Iran University of Medical Sciences (ID: IR.IUMS.REC1395.9211196212).

Data analysis

The data were analyzed by SPSS software version 22 using descriptive and inferential statistical tests included Independent t-test, Mann-Whitney, Wilcoxon, Chi-square and Fisher exact methods and p values less than 0.05 were considered significant.

Findings

The majority of participants included 31 (70.5%) in the control group and 26 (59.1%) in the intervention group were male; 41 (93.2%) in the control group and 43 (59.1%) in the intervention group were married; 40 (90.9%) in the control group and 32 (72.7%) in the intervention group were urban resident. The majority of participants in the control group, 37 (84.1%) had no educational background and 25 (58.1%) had a history of education in the intervention group.

The mean age in the control and intervention groups was 65.54 ± 9.56 and 68.25 ± 8.08 years, respectively, and the mean duration of the disease in the control and intervention groups was 7.37 ± 4.12 and 7.12 ± 3.51 years.

The results showed that there was no statistically significant relationship between variables, including educational level (p= 0.147), place of residence (p= 0.278), job (p= 0.145) and number of previous hospitalization (p= 0.06) and self-care, so they were not interfering. The mean of self-care score before the intervention was not statistically significant (p= 679), but after the intervention, this difference was significant and was lower in the intervention group (p<0.001). Paired t-test also showed that in the control group, the mean of self-care score before and two months after the intervention was statistically significant and decreased (p <0.001). (Table 1)

Table 1: Self-care score in two groups of intervention and control before, after and two months after educational intervention - 2016

Group / Self-care	Control	Intervention	Statistical test
	Mean ± SD	Mean ± SD	
Before intervention	42.59 ± 3.61	43.11 ± 7.52	t=0.415 p= 0.679
Two months after intervention	38.27 ± 3.85	18.25 ±2.98	t=27.230 p <0.001
Paired t-test results	t=31.826df=43 p <0.001	t=21.221 df=43 p <0.001	

Discussion

The purpose of this study was to investigate the effect of peer-led education and lecture method on the self-care in patients with heart failure. Findings showed that peer-led education has a significant relationship with the improvement of the self-care in patients with heart failure.

The statistical test showed that the mean of self-care score in the two groups was not statistically significant before the intervention, but after the intervention, this difference was significant and less in the intervention group. Paired t-test showed that in the control group, the mean of self-care score before and two months after the intervention was statistically significant and decreased. In the intervention group, the mean self-care score two months after the intervention significantly decreased. Self-care score changes were also significant in the two groups and the decrease score in the intervention group was higher. Zaman Zadeh et al. (13) concluded that the level of self-care behaviors in the intervention group after the educational-supportive interventions in all three domains were significantly strengthened compared to the control group (in the first, second, third months after the intervention). A study by Srisuk et al. In 2014 showed that a family-centered educational program can have a positive impact on the promotion of family members' knowledge and self-care ability of patients with chronic heart failure and their quality of life. Buck et al. (14) in a systematic review study have come to the conclusion that informal caregivers play an important role in self-care for heart failure patients, but further studies are needed on the impact of informal caregivers on self-care programs for these patients. The results of this review study indicate the need to study the impact of peer-led education on self-care behaviors and self-efficacy in patients with heart failure. A study by Boyde et al. (12) showed that by applying the educational interventions, patients' knowledge about chronic heart failure was significantly increased and proper self-care behaviors could be promoted in these patients. A systematic review study by Kasimir et al. (15) in Australia entitled "The effectiveness of patient-centered, self-care education in adults with heart failure on knowledge, self-care behaviors, quality of life and referrals" showed that patient-centered, self-care education can increase patient's knowledge and awareness and improve their quality of life and social behaviors. Patients in whom greater efficacy was observed had the lowest referrals to the healthcare centers during one year. A study by Shojaa Fard et al. (6) entitled "Investigating the effect of education on the self-care behaviors and its benefits and barriers in patients with heart failure in Tehran" showed that after the intervention, the level of self-care behaviors and perceived benefits in the intervention group significantly increased and perceived barriers decreased significantly. The study by Heydari et al. (17) entitled "the effect of peer-led education on quality of life in patients with heart failure" showed that peer-led education, more than other routine educational methods, improves the patients" quality of life. The result of a study by Metgilein et al. (17) entitled "the impact of self-care education program on knowledge and performance of patients with heart failure" showed that there was no significant difference before the intervention between the intervention and control groups in terms of the patients' knowledge and performance in all aspects, while the mean scores after the intervention was significantly different in the two groups. Comparison of changes in
scores showed that knowledge and practice score changes in the intervention group were significantly more than the control group, which indicates the effect of the self-care education program for the intervention group.

Among the limitations of this study are the following: acquiring the information from other educational resources by participants, the failure to consider the same education by peers and the mental states of the participants in the acceptance of the educational content at the time of conducting classes.

Conclusion

The results of this study showed that peer-led education method more than lecture results in increasing the mean self-efficacy score immediately and one month after the intervention. Therefore, using the experiences of peers as an educational method for self-care improvement of patients is recommended.

Acknowledgement

This study is part of the thesis of master's degree in nursing at Iran University of Medical Sciences. The authors would like to acknowledge all of heart failure patients for participating in this study.

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