

The Effect of Self-Care Behaviors on Rehospitalization Rate Among Patients with Heart Failure in Jordan Guided by Orem's Self-Care Theory

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Abstract

Objective:

This study aims to achieve several objectives including discover of sociodemographic and clinical factors affecting self care behaviors among heart failure patients in Jordan, Identify of self-care behaviors taught by most Jordanian HF patients and people who have learned HF self-care behaviors. Furthermore explore of self-care behaviors among Jordanian heart failure patients.

Method: Data was gathered from 120 inpatients suffering from in two hospitals in Jordan Descriptive approach was followed in our study. experimental design was used to estimate the influence of self-care health education behaviors for self-care based on Orem's theory of self-care for heart failure patients.

results This study found that commitment in the self-care behaviors of Jordanian heart failure patients is weak. (M = 29.94). The results showed that the most common self-care behavior was drug use as prescribed, diet, and fluids restriction, where as the least common self-care behaviors were weight control and access to the flu vaccine every year.

It was explored that self care behaviors closely related with the existence of comorbidities ($t = 5.782, p = 0.000$), per capita income ($F = 9.947, p = 0.000$), level of education ($F = 3.516, p = 0.017$) and intensity, of symptom ($F = 5.095, p = 0.008$). closely related was found between self care behaviors level and hospitalization Rate rate ($r = 0.19, p = 0.038$). doctors were the more medical staff who taught self care behaviors to Jordanian heart failure patients (39.7 %) vs. 25.9% for nurse..

Keywords: Heart Failure, Orem's Theory, Intervention, Education, Jordan.

Introduction

Heart failure is a common, chronic disease of the heart in which it does not pump blood as it should, This disease is characterized by high rehospitalization rate, high cost of treatment fees, and morbidity, mortality rates^{4,6} Self-care behaviour is one of the preferable ways to prevent the disease exacerbation. A lot of researches and studies overall the world have considered that the adopting of self-care behaviors to be the most effective non-pharmacological strategies for HF patients.^{7,8} Orem presented self-care definition where he define it as the human regulatory function of individuals to maintain health and development that relies on self-care collection, self-care requirements and self-care agency to determine work requirements and reduce procedures from people who service from nursing. (Parker, 2005)³³. Aghakhani, N. (2017). (2017)¹ defined HF self-care behaviors as the behaviors that patients behave to care for themselves to enhance health and wellbeing, it includes behaviors such as commitment in taking medicines as prescribed by doctors, keeping diet, doing exercises, asking for help when symptoms show and weighing every day. Jaarsma T, S. A. (2003)⁹ defined self-care behaviors of HF as the recognition of a alteration in signs or symptoms, estimation of the change, implementation of self-care therapy strategy, and evaluation of the effectiveness of the therapy implemented. in spite of advanced treatment for HF is available, To more clarity and simplify. (Jaarsma T. Abu-saad H. Dracup K. Halfens. (2000)¹⁰ classified Self-care activities into two main categories maintenance and management activities, regarding symptoms, the evaluation of symptoms, the presentation of symptoms and the evaluation of treatment. The main objective of self-care management is to respond to and control the symptoms of HF before complications occur. (1)

Methodology

in our research Descriptive approach were used to achieve research goals. A non-experimental design was utilized to evaluate the influence of a health educational self-care behaviors based on Orem's Theory of self-care of heart failure patients. The main purpose of this study was to describe self-care behaviors among Jordanian patients with HF.

Instrumentation

Social and demographic characteristics were collected through questionnaire consists of questions relating to patient age, sex, educational attainment, weight and HF family history

Setting and participants

this study depended on sample of heart failure patients diagnosed according to reports issued by PRINCE RASHED HOSPITAL where the medical official reports in 2019 indicated that 850 heart failure patients attend to cardiology clinic n 2019 attend to cardiology and They are all over the age of 18 years old They come to the clinic for a regular check-up at the public healthcare centers. Among the all-heart failure patients, a sample of patients with stable condition was selected and they were given general information about the study such as the study it's objectives, it's motivations and its reasons, these patients were carefully picked through the inclusion and exclusion criteria; -

Sample

The study was conducted on a sample consisting of Jordanian patients with heart diseases and receiving treatment in the hospital, the total number of this sample is One hundred and twenty patients, but unfortunately just 60 patients completed of instruments of this study, seven patients were excluded from this study because they could not complete the instrument and therefore their data was not obtained. The sample size was estimated according to Cohen (1992)87 formula that power equal to ,80 level of significant ,05 and medium effect size. The result of power analyses of variance (ANOVA) test should that the required sample size was 52 participants, but over sampling was intended to 120 to get more significant result,

collected data contains written approval and democratic data and completion of self-care of the heart failure index. Both participants were interviewed face-to-face by nurses to check the calendar record taking into account the current knowledge, experience and heart failure status of patients.

Also, pre-post intrusive design was utilized to gauge the results after the heart failure self-care to success program (HFS 25) in this self-care program for heart failure patients, Bryant and Himawan (2019) utilized clinical practice guidance for program content (evaluation and weight skills) and case theory for heart failure and self-care to guide implementation (execution guidance). This self-care program was piloted in a home call and outpatient cardiology practice to report a decrease in heart failure at the hospital and improve self-care behavior.

The executive summary of the guidelines was demonstrated to the participants and a free copy of the images was provided to each participant. The health education session concentrated on such information as the definition and symptoms of heart failure, medications, strategies to prevent the worsening of HF symptoms and recommendations on dietary changes, exercise and smoking cessation.

Statistical analysis.

Given the critical importance of extracting accurate and implementable results for study, a strong statistical software platform should be used. The version 16 of statistical package for the social science SPSS was utilized to analyze the data, Descriptive statistics (mean, standard deviation, frequencies and percentages) have been used to analyze all demographics participants, Description of self-care behaviors in heart failure patients and determine of self-care behaviors taught to Jordanian heart failure patients and people who have learned about these behaviors. some statistical relation correlation coefficients were used to describe the relationship between social, demographic, and clinical variables and self-care behaviors such as Pearson's correlation, t testing, and ANOVA testing. All tests were analyzed at a large level of Alpha.

Results

The study sample included 60 heart failure Jordanian patients. The study sample which it is 53.08 years, while the number of females is 27, which constitutes 45 % of the total sample, while the number of males was 33, with a percentage of 55, where the findings based on marital status displayed that 91.7% of sample which form 55 patients were married, on other side formed 44 patients that form 73.3% of the sample live in urban areas, the findings also revealed that minority of sample (3 patients) were living alone where as 95% of the sample (57 patients) were living with others, according to educational level the findings of study showed that 18 patients of 60 had university degree at percentage of 30% whereas 42 patients had high school degree at percentage of 70%.

When classifying the sample according to employment status, the results showed that 30 patients had a job, while 20 patients were retired and 10 patients were unemployed. Whereas when categorizing working patients according to the field in which they work, the results showed that 21 patients of 30 workers in the government sector at percentage of 35% where just 9 of employed patients' private sector which represented at percentage of 15%

another classification of sample was used which is patients' income range where the findings revealed that 43 patients at percentage of 71.7%, have income at range of 300 and 500 JD, where 3 patients at percentage of 5% get less than 300 Jordanian dinar.

results also showed that 45 patients suffering from other chronic diseases at percentage of 75% whereas 15 patients at percentage of 25 % dos not suffering from other chronic deseased except heart failure.

5 patients at percentage of 8.3% suffering from Diabetes Mellitus (DM), 10 patients suffering from Hypertension (HTN) at percentage of 16.7%.

According to the number of times patients were hospitalized within the last six month the study results showed that 23 patients at percentage of 38.3% were admitted to the hospital once, whereas 18 patients percentage of 30% were admitted twice, where 10 patients at percentage of 16.7% were admitted three times, and 7 patients at percentage of 11.7% were admitted four times and lastly just 2 patients were admitted more than five times.

majority of the participants at current study had health insurance. at percentage of 98.3% which form 59 patients, 96.7% of them covered by The governmental health insurance, rest is covered by private health insurance.

according to statistical analysis, 34 patients at percentage of 56.7% are smokers, and 40 patients at percentage of 66.7% discovered the heart failure disease since less than a year ago

the results also confirmed that 49 patients at percentage of 81.7% had no weighing scale at their houses so They don't keep track of their weight every day

the findings showed that 56 at percentage of 93.3% patients' resident at areas where health centers are available.

Discussion

(3)

Self Care Behaviors among Jordanian Patients with HF.

The results of this study showed that the of self care behaviors among Jordanian patients with heart failure was considered poor. The man of European Heart Failure Self-Care Behavior Scale EHFSBS score among patients is 29.94 (± 5.374). This result was

consistent with the majority of other related studies in different cultures.^{17,18}

Ammouri (2018)³ found that the total score of the EHFSBS was 32.6 which indicated that the Japanese patients with HF have poor self care behaviors. Furthermore, Jaarsma, T et al (2000)¹¹ found poor self care behaviors among American patients with HF. Jaarsma. (2017)¹² found that 28.1 was the mean of EHFSBS at the initial evaluation for Spanish patients with HF which indicated poor self care behaviors. Ammouri (2018)³ examined health promoting behaviors and its association with sociodemographic factors among Jordanian Adults. A convenience sample of 349 Jordanian adults were used the Arabic version of Health Promotion Lifestyle Profile (HPLP-II) questionnaire. The findings of this study revealed that a small percentage of Jordanian adults participated in health-promoting behaviors.

In the current study, it was found that the most frequent self care behavior was taking medication as prescribed which was consistent with the findings of most studies^{13, 14, 15}. This might be due to the belief of Jordanian patients regarding the importance of pharmacological treatment in managing their health status. Mohammadpour, A. R. (2015)¹⁵ conducted a thesis study in which she found that taking medication was the most symptom management strategies that was used among Jordanian patients after Coronary Artery Bypass Grafting Surgery (CABG)¹⁶. Diet and fluids restriction was the second most frequent behavior that was performed by Jordanian patients with HF which support the results of previous studies^{17,18,19}. Symptoms monitoring and recognition was found to be the third frequent self care behaviors that was performed by Jordanian patients with HF, which was inconsistent with the findings of other studies which found it within the least behaviors that were performed by patients with HF^{16,17}. However, Orem, D. (2001)²⁰ examined the effects of health beliefs on health care seeking decisions of Jordanian patients with myocardial infarction symptoms. They found that 62% of Jordanian patients who complained from MI symptoms decided to seek health care relatively early. The least frequent self care behavior that was reported by Jordanian patients with HF was getting flue vaccine each year which was different to the findings from other studies^{21,22,23} this might be due to the lack of patient education and knowledge of health care providers about the importance of flu vaccine in reducing the risk of respiratory infections and its role in preventing the episodes of disease decompensation, this behavior also found the least behavior that was taught to Jordanian patient with HF. Weight monitoring found to be the second least frequent self care behaviors that performed by Jordanian patients with HF, the current study found that 65% of participants did not have weighing scale to weigh themselves. This finding was consistent with the findings of the most other studies²⁴. Finally, physical activity and the balance between activity and rest was performed by about half of the Jordanian patients with HF who participated in this study, this is consistent with previous studies which found physical activity within the least performed behaviors.²⁵ It was found that few Jordanians were engaged in regular physical activity; About 64% of Jordanians adult were found not vigorously active on a regular basis.

The Relationship between Sociodemographical and Clinical variables with Self Care Behaviors among Patients with HF.

In this study no significant correlation was found between age and self care behaviors, which similar to the findings of some studies.^{3,4} While in other studies it was correlated significantly, especially being older patient was a predictor for better self care.^{26,27}

No significant differences were found between gender and self care behaviors among Jordanian patients with HF, which is considered congruent with most of related studies that found no significant gender difference among patients with HF.^{27,28}

It was found that about 69% of patients were married and 83% living with others which referred to good social support among Jordanian patients with HF. Despite this marital and living status were not correlated significantly with self care behaviors scores. This finding was inconsistent with the findings of the others studies which found a positive correlation between self care behaviors and social support which include, being married living with someone and family support this might because patients with good social support might be received the necessary health care and help from others when unable to meet his self care demands. ^{20,21-25}

On the other hand, the results showed a significant correlation between educational status and self care behaviors among Jordanian patients with HF, this finding consistent with other studies which considered the educated patients had more knowledge about the importance of self care behaviors and how deal with HF and its complications.^{2,3,4}

Income also was found to be correlated significantly with self care behaviors among Jordanian patients with HF. This can be explained by the fact that patients with high income have the ability to meet their health deviation requests, get healthy diet and can be in contact with high quality health care resources. A study found that Jordanian adults with income level above average (300-499JD) reported more engagement in health promoting behaviors the lower income adults.²⁷

In addition, comorbidities; which mean the presence of more than one chronic diseases in addition to HF, were found to be correlated significantly with the total score of self care behaviors. This means that the more the comorbidities, the poor self care behaviors among Jordanian patients with HF, that is because patients with comorbidities had many health problems that lead to self-care difficulty such as prescription of multiple medication, recommendations for different diets. Symptom confusion, and lack of knowledge related to management of the multiple conditions. In this study, it was found that hypertension (58,3%), Diabetes Mellitus (DM) (57,5%) and Ischemic Heart Diseases (IHD) (34.2%) were the most comorbidities with Jordanian patients with HF.

Poor self care behaviors were correlated significantly with increased severity of symptoms among Jordanian patients with HF. This finding was supported by the findings of Ammouri³ and Dharmarajan, K., & Rich, M. W. (2017)⁶ who found that increased severity of symptoms lead to poor self care behaviors because increase the symptoms of HF as fatigue, dyspnea, chest pain and edema will affect patients performance of these behaviors. (4)

It was found in the current study that poor self care behaviors were correlated significantly with the number of admissions to hospital ,

and about half of Jordanian patients readmitted 3 time and more to hospitals, this mean that Jordanian patients with HF who had poor welcome behaviors experienced more readmissions to hospitals than patients with good self care behaviors because patients with poor self care behaviors or those who unable to perform it for any reason will complain from self care deficit which lead to exacerbation of symptoms and complications which therefore caused in frequent hospitalization.

Conclusion

Despite the importance of self care behaviors in the management of heart failure, self care behaviors among Jordanian patients with HF is considered poor and this lead to negative outcomes as increased in readmission rate. In addition, they performed some behaviors more frequently than others, as taking medications prescribed, diet and fluid restriction. Some factors were found to improve self care behaviors among Jordan patients as high income and educational level, no comorbidities and decrease severity of symptoms. Unexpectedly, nurses did not have a significant role in self care behaviors education to Jordanian patients with HF. Ongoing education and intensive nursing interventions are needed to enhance self care behaviors among those patients.

Limitations and Recommendations

A convenience method was used for selecting the sample of this study that affect the generalizability of the finding among the whole patients with HF in Jordan. Random sample is recommended to enhance the representative of the sample. This study is a descriptive cross-section design, which does not establish causal relationship, does not reflect changes over time and does not reflect the changing process of self care behaviors over the time. Therefore, interventional longitudinal studies are recommended for future studies. A small sample was selected from two hospitals in the north of Jordan; in order to enhance the generalizability of findings, it is recommended to use a large sample from hospitals in all Jordan provinces.

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