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Effect of Self-care Education on Patient’s Knowledge and Performance with Heart Failure

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Abstract

Heart failure is a common disease with a poor prognosis. The major causes of mortality and reduced quality of life of patients with heart failure, rooted in their poor performance, this study conducted to determine the effect of education on knowledge and self-care behaviors of patients with heart failure and included 80 patients were randomly assigned to experimental (n=40) and control (n=40) groups. First, demographic, knowledge and performance data were collected by interview and observation. Then, the case group experienced an educational program but control patients received routine care. One month after discharge from two groups took the final test. The level of knowledge and performance was poor before intervention and there was no significant difference between two groups. While the mean scores in control group and case group were significantly different after the intervention. The comparison of changes in the case group was significantly more than the control group that represents the positive effect education.

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Keywords: Education, self-care, knowledge, performance, heart failure;

1. Introduction

Heart failure and its complications is one of the major causes of mortality in industrialized and developing countries as well as Iran (Alavi et al., 2008). Heart failure is a chronic and growing problem that is currently the most common reason for hospitalization of people older than 60 years old (Wu et al., 2008) and (Halfen, 2007). This disease often makes changes in their lifestyle and reduces the quality of their life (Joy et al., 2009) and (Tomita et al., 2009).This important issue creates health, social and financial problems for patients. It seems that training self-care significantly increased their satisfaction and leads to continuity of care, independency in daily activities and reduces stress and ultimately reduced disability in patients with heart failure (Mangolian and Mohammadzadeh 2009), (Rockwell and Riegel 2001) and (Krumholz et al., 2000).This study aimed to determine the effect of self-care knowledge and practice of patients with heart failure in hospitals of Kerman University.

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2. Methods

In this experimental study with two groups and two-steps of before and after intervention, researcher examined the effect of the independent variable (self-care education program) on the dependent variables (knowledge and practice). Subjects in this study were patients admitted to university hospitals of Kerman with a diagnosis of heart failure who were selected based on the criteria: All patients diagnosed with heart failure and hospitalized and treated for their cardiac disease; they had full consciousness and their conditions were not acute; subjects had not previously received any kind of formal training related to this research; they have not been suffering from chronic and other debilitating diseases; None of the patients was not of the health care team members and were aged 40 years and above, because it is more common in this age. To determine the number of samples using similar studies and a coefficient of %95 and %80 power 40 patients with heart failure were randomly selected for case and control groups. Data collection was done by interview and observation via questionnaire and check list. In this study content validity of the method was used to determine the scientific reliability of the questionnaire. To determine the reliability of the check list, researcher used the correlation between observers. Researcher measured demographic, awareness and performance data of the samples of two groups. Then the experimental patients received 4 educational sessions of 15 to 20 minutes during the hospital stay, an educational booklet review was also given to them, but control patients received routine care. After one month of training in case and control group, the researcher again measured each patient’s awareness and performance through interviews and observation. At the end of the study the control group was provided with educational pamphlets which the necessary training was given. Finally, the data were analyzed by SPSS software. For this purpose, demographic information about patients was analyzed by calculating the relative frequency. To make identical scores, the scores achieved in each topic were calculated on the basis of 100, and knowledge and performance in three classes of good level (100-75), medium (75-50) and poor (<50) were classified, and the scores were judged by the non-parametric Wilcoxon rank test and Mann-Whitney. To investigate the relationship between the studied variables in two group t tests and chi-square were used. Also to study the correlation in research Pearson’s correlation test was used. For all tests, p values less than 0.05 were considered significant.

3. Results

First, a demographic data about control and case group was controlled through matching in a way that the average age in the control group was 63.3±11.6 years and in case group was 66.3±11.5 years and above, because it is more common in this age. To determine the number of samples using similar studies and other debilitating diseases; None of the patients was not of the health care team members and were aged 40 years and above, because it is more common in this age. To determine the number of samples using similar studies and a coefficient of %95 and %80 power 40 patients with heart failure were randomly selected for case and control groups. Data collection was done by interview and observation via questionnaire and check list. In this study content validity of the method was used to determine the scientific reliability of the questionnaire. To determine the reliability of the check list, researcher used the correlation between observers. Researcher measured demographic, awareness and performance data of the samples of two groups. Then the experimental patients received 4 educational sessions of 15 to 20 minutes during the hospital stay, an educational booklet review was also given to them, but control patients received routine care. After one month of training in case and control group, the researcher again measured each patient’s awareness and performance through interviews and observation. At the end of the study the control group was provided with educational pamphlets which the necessary training was given. Finally, the data were analyzed by SPSS software. For this purpose, demographic information about patients was analyzed by calculating the relative frequency. To make identical scores, the scores achieved in each topic were calculated on the basis of 100, and knowledge and performance in three classes of good level (100-75), medium (75-50) and poor (<50) were classified, and the scores were judged by the non-parametric Wilcoxon rank test and Mann-Whitney. To investigate the relationship between the studied variables in two group t tests and chi-square were used. Also to study the correlation in research Pearson’s correlation test was used. For all tests, p values less than 0.05 were considered significant.

First, a demographic data about control and case group was controlled through matching in a way that the average age in the control group was 63.3±11.6 years and in case group was 66.3±11.52 (n=21) of subjects in case group and 50% (n=20) of them in control group were male. 55% of case group (n =22) and 5.57% (n =23) of control group were married. The majority of subjects in both case groups 5.42%, (n =17) and control group 40%,(n =16) were retired. The majority of subjects in the case group 50%,(n =20) and the control group 5.57%, (n =23) were in the third class of cardiac insufficiency. Mostly in both groups; case (60%, n =24) and controls (70%, n =28) believed that they would be able to take care of themselves, the average duration of heart failure in case group (33.68±33.38) and (37.05±30.48) months in the control group that was not statistically significant. The majority of subjects in case group (5.47%, n =19) and the control group (55%, n =22) did not already get information about their care, and sometimes incomplete information received from their doctor. Knowledge and performance scores about heart failure and its symptoms in control group in first test was 52.1±8.5 and after the test for the second time it changed to 1.86±4.03 which was not statistically significant (p < 0.9). But in the case group the amount of the changes was 26±11.8 (p<0.001). Knowledge about non-drug regimens (e.g. monitor daily weights, exercise regularly, alter dietary patterns) in the initial test in the control group was 65.62±8.1 and in the second test, 66.19±6.26, which was not statistically significant (p=0.2). But the changes in case group happened from 65.13±6.72 to 82.83±5.69 that was significant within the group (p< 0.0001). Awareness about drug regimen in control patients was in the early test 63.32±9.72 and the second test 66.32±9.41 that these changes were statistically significant (p<0.0001). In the case group it was from 63.15±8.69 to 74.85±6.3 that this changes were significant within the group (p=0.0001). General awareness of patients presented in Figure1 and showed that awareness of self-care in the experiential group is 10 times more (18.8 vs. 1.8) and statistically significant (p<0.0001). The changes in drug regimen (take prescribed medications) in two groups were statistically significant (p=0.01). The changes in the performance of control patient on non-drug regimen was 1.07±2.41 that this change was not statistically significant (p <0.4), but in the case group it was 16.51±7.14, which this effect within the group was significant p<0.0001.
MANN-U-WITNEY test also showed that the drug performance in case group was significantly more than control group (p<0.0001). Overall performance of the patients presented in Figure 2, and shows that the rate of change in the case group was significantly more than control group (p<0.0001). Ability to control the pulse rate in the control group showed no change in the first and second test sessions (p <0.9), but increased in the case group for 64±32 (p<0.001).
4. Discussion

This study showed that self-care enhances awareness and performance in patients with heart failure. Experts say training is an interactive process that causes people to acquire new knowledge or help them learn a new skill (Miller et al., 2009) and (Dickstein et al., 2008). Findings of this study showed that the mean scores of knowledge for all topics, significantly in the case group has increased in compare with control group, and after training none of the subjects in the case group was weak. The same study, researchers concluded that training in heart failure patients primarily influence their knowledge about how to take care of themselves. (Martens, 2000). The study results indicate that performance of self-care behaviors in the experienced group is significantly better than the control group, researcher believes that this improved performance is the result of the regular, targeted, simple, and feasible educational sessions. In the direction of the main goals of research, the effect of self-care education on knowledge and performance in patients with heart failure, results showed that the mean scores in the case group after education, was more significant than the control group. Although both groups had significantly changed, so the average difference between the two groups were compared, and showed that changes in the experienced group were significantly more than the control group which indicates the effect of education on the experienced group. The results of a similar study in the Netherlands showed that after one month of self-care education for patients with heart failure, self-care behavior had increased significantly in the control group and the experienced group but improving self-care behavior and survival rate in experienced group was higher than the control group (Jaarsma, 2000) so it should be considered that the main goal in education is creating healthy behaviors which are proper and constant. This continuity of care is valuable for patients (Jessup, 2009) and (Dunbar et al., 2008). It seems that if the self-care activities are accompanied with active teaching methods, they can play an effective role toward promoting optimal healthy behaviors. Therefore, it is possible for patients to provide the best possible condition with minimal effects on their lives (Lennie et al., 2010) and (Hobbs et al., 2002). Regarding the effect of self-care education program on knowledge and practice in patients with heart failure it is offered to the authorities and planners of medical education to train patients using new methods within short sessions during hospitalization.

5. Conclusion

Supporting people with HF in their efforts to manage illness requires an understanding of behavioral change and appropriate strategies (Cline, 1999) and (Jaarsma, 1999). Nurses need to consider what the patient thinks about the recommended change and how involved that person wants to be in self-care (Jessup, 2009) and (Klimm et al., 2009). By using a patient-centered approach that fosters collaboration and empowers the patient to be involved in his or her care, nurses can help ensure that the person with HF makes informed decisions about self-care and assumes responsibility for choices to modify his or her lifestyle behaviors. Patients who are involved in their care are also more confident in their ability to manage their condition (Lorraine and Shinnick, 2008). Self-care education has great effect on knowledge and performance of the heart failure patients. It can be used as a model for nursing interventions in the education of self-care. It seems that the results of research in the areas of education, management and nursing researches will be important.

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