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The Effect of an Educational Self-Care Program on Knowledge and Performance in Patients with Coronary syndrome

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ABSTRACT

The most important causes for mortality rate and poor quality of life in cardiovascular patients arise from insufficient and inappropriate self-care. This study determines the effect of an educational self- care program on knowledge and performance in patients with Coronary syndrome. This experimental study included 70 patients with Coronary syndrome hospitalized in Qom University hospitals. Patients were randomly assigned to experimental (n=35) and control (n=35) groups. First, background demographic, knowledge and performance data were collected through interview and observation. Then the patients in experiment group received 2 educational sessions each lasting twenty minutes during the hospital stay, and also were given an educational booklet review, while control patients received routine care. Data on all patients' knowledge and performance was again collected at one month after discharge. The knowledge and performance of two groups were compared using Wilcoxon and Mann-Whitney U tests. There was no statistically significant differences between the two groups in self-care knowledge and performance before intervention. One month after discharge, patients from both groups reported better self care knowledge and performance compared with their baseline, but patients from experimental group reported a significantly more increase in self-care knowledge and performance than patients from the control group(increase in knowledge score= 8/40*vs.* 0/57*; z=-5/39, p< 0/001, in performance score=32/13 vs. 0.98; z= -19/49, p <0/001). This study demonstrated that the application of an instructional self-care program raises the awareness and improves the performance of the patients with Coronary syndrome.*

Keywords: Patient Education, self -care, Coronary syndrome, heart diseases,

INTRODUCTION

Cardio-vascular diseases killing more than 12 million people is considered as one of the most common chronic diseases [1] and the mortality reason in the world [2]. It is estimated that due to cardio- vascular diseases, 20% of healthy life years of people will be lost by 2020 [3].in Europe and USA , 1.5% and 1.2% of deaths results from these diseases , respectively [4]. In Iran, the most common mortality is cardio-vascular disease , especially crowner disease , in all age and two sexes so that from 700 to 800 daily death , 317 cases is due to cardio-vascular diseases occurring in people with more than 35 years old [5]. These diseases have several physical, mental and social outcomes. Observing care behaviors with the aim of promoting life quality of people with chronic diseases is very important and patients can effects their comfort, performance ability by acquiring skills of looking after themselves [6]. Results from study showed that 73/3% of patients felt limitation and isolation, 62% gave up hope to future life and accepted that they did not look after themselves, 66.6 % of them had frequently been hospitalized and they said these issues occurred due to lack of knowledge about looking after themselves [7]. Today, the duration of diagnosis, cure and hospitalization days have been decreased by developing the technology. On the other hand, patients don't have enough time to obtain information about their disease during hospitalization and release from hospital is considered as stress event for them [8]. According to a study, 20% of patients having been hospitalized

said that they have received enough information and consultation about their health conditions, while 20% of them was not satisfied their received information and 60% said that information must be presented better [9]. Presenting educational programs, changing life style and methods of offering educational program to patient are issues increasing life style of patients [10]. Teaching patient is important issue whose useful effects has been proved in different researches [11]. Despite of different advantages of teaching the patient toward worthless cost, this important issue does not have desirable condition in clinics so that there is no teaching program or it is very imperfect [9]. Learning self-care can direct person toward maintaining the health and cause the increase of adaptation and the ability of self-care. Following self-care behaviors in people with chronic disease is very important[4]. In a study carried out by Shojaee [12], 26% of samples done self-care very well. So, a condition in which these patients can look for themselves must be provided to increase in one year survival, decrease treatment costs and prolong further hospitalization [13]. Learning self-care considerably causes the increase in satisfaction, the continuation of care, independency in doing daily works, the decrease in tension and the decrease in inability of patients[14].

In nursing, learning is dynamic issue and identifying educational needs is considered as the first priority to plan [15]. Teaching must be done on the basis of investigation and identification of educational needs of patients; accordingly, educational needs of patients must be identified on the basis of the patient and the duration of hospitalizing [4]. In fact, educational needs mentioned by patients are important, not what is considered as important from the view of treatment employees[8]. Study of Boyd [16] shows that patients are interested in knowing applied information about their condition, while nurses tend to medical aspects and care, medicines and physiology. Studies show that educational needs are different. In a study done by Nasiri et al [17], patients need to learn about disease, medical diet, food diet and activity. In a study carried out by Mohammadzadeh [18], the most educational needs include medical diet 95%, food diet 92.5%, rest and sexual activity 85.5%, knowing the disease 85%, treatment following 85%. There is significant relation between educational need and age; in people less than 50 years old, the most educational needs include driving, work and sexual issues, while these issues are unimportant for over 80 – year people [15]. The study carried out by Rencalli [19] on 115 patients with heart failure showed that the score average of knowledge of patients two weeks after learning is more than before learning, and this increase in awareness has considerably been high until 2 months after learning so that this high awareness in investigated samples led to improve self-treatment behaviors. The study carried out by Troka [20] which is consistent with the study carried out by Shahrbabli [21] showed that the average of knowledge of patients with heart failure after intervention has been significantly increased than before intervention. The study carried out by Tomita et al [22] showed that experimental group have better score than control group in observing medical diet after performing educational program for patients with heart failure. This difference was significant between two groups. Accordingly, in other study investigating the effect of learning on self-care behaviors in patients with heart failure in Zahedan [Iran] , self-care behaviors of experimental group significantly increased than control group after intervention[23]. According to this issue that there has been no report about the effect of self-care learning in coronary patients up to now or has not been available and according to chronic nature of increasing cardio-vascular patients in Iran, the study aimed at investigating the self-care learning effect on awareness and performance of Coronary patients hospitalized in ISU of educational hospitals of Qom has been carried out in 2015.

MATERIALS AND METHODS

In 2015, this experimental study carried out in two groups in hospitals attaché of Qom University of medical science. The society included patients with coronary referring to hospitals attaché of Qom University of medical science. Standards of entering the study included: over 30-year old people hospitalized in ISU by the heart expert diagnosing coronary syndrome; they are con about the study before of at the time of doing the study. Moreover, patients who did not suffer from chronic disease and were not the member of curative- treating team participated in this study. To identify number of sample by using same studies and coefficient of 95% and 80% of test power and by considering subjects elimination, 35 subjects of patients with coronary syndrome have been selected for each group (experiment and control groups). In this study, sampling was performed gradually and easily. To complete the questionnaire and checklist, researcher referred to studied environments and, among hospitalized patients, assigned one person to experimental group and another one to control group. Data was gathered by questionnaire and checklist. Scientific validity and reliability of tools of gathering data were evaluated by content validity and T-test used in study of Shahrbabaki consistent with research purposes, cases inserted in questionnaire and checklists. After corrected and proved by advisor and supervisor, the tools were proved by using correcting views and points. Used questionnaire consisted of three parts with 69 questions and 48 sentences. The first part had 12 questions related to demographic characteristics of patients such as age, sex, marriage or single, job, duration of suffering from the disease, number of hospitalization, and their view about self-careability, educational record related to disease, sources of obtained information and the presence of helping in home. Second part consists of 57 questions related to

purposes of research and it includes three parts: 6 questions about general information of patient about disease, 24 questions related to awareness of medical diet and 27 questions related to awareness of non-medical diet. Respondent mentioned his/her idea about each sentence in three-option scale (yes, no, I don't know). Patient obtained two scores by correct answer, I don't know option has 1 score and incorrect answer has 0 score. Third part consists of 48 sentences related to research purposes and includes 2 parts: 1) medical diet performance of patients consists of 15 sentences,2) non-medical performance of patients consists of 33 sentences scored by 5-level scale: always (4 scores) , often (3 scores, sometimes (2 scores), seldom (1 score) and never (0 score). Also, checklist related to observing ability of patient to control the pulse includes 3 cases marked by researcher in form of yes and no , and correct answer has 1 score and there is no score for incorrect one. After obtaining letter of introduction and coordinating with hospital and related branches authorities and obtaining the agreement of patients, researcher gradually selects a person for experimental group and one person for control group among hospitalized patients. After recognizing qualified subjects , the researcher evaluates knowledge and performance of patient about disease nature , medical diet and non-medical diet through completing questionnaire in interview and the ability of patient to control the pulse through observing by the permission and presentation of necessary explanation and preparing the patient in calm environment when the patient has the appropriately mental and physical condition. Then, educational program implements. In the study, the educational program means a compiled educational program being combination of individual education, question and respond, discussion, showing a film, training and educational pamphlet. This program hold during 2 sessions being 15 to 20 minutes in calm environment when patient was hospitalized and had appropriate physical and mental conditions to increase the information of patients about desired fields and provide active participation and behavior repetition for learner. Also, the methods of correcting behavior and positive reinforcement for self-care have been used in performance domain. Used educational substances include issues about heart anatomy and physiology, disease nature, drug consumption, necessary care about drugs, observing diet, activity and rest, stress control, lack of smoking and referring to doctor; related educational pamphlets are given to them to follow self-care. Content of this program has been compiled on the basis of the newest papers and books and consultation with authority professors. To identify the effect of educational program on awareness and performance of patients, a month after education of experimental and control groups, the researcher evaluates knowledge and performance of each patient by interview and observation in calm environment and appropriate physical and mental conditions in heart clinic. At the end of course of study, control group has been given a necessary educations with presenting educational pamphlet to observing moral remarks. To carry out the research carefully, all stages of interventions and evaluations were done by researcher. Absolute and relative frequencies of demographic variables were calculated. According to scores mentioned in gathering data section, minimum of score was 0 , maximum of score includes: 12 in awareness of disease nature, 48 in awareness of medical diet, 54 in non-medical diet , 60 in medical performance, 132 in non-medical performance and 3 in controlling the pulse correctly. Data is analysed by SPSS software and the test of Wilcoxon signed-rank test and Mann-Whitney test were used. In all self-care stages before and after inside-group intervention, the score of awareness and performance statistically was evaluated by Wilcoxon signed-rank test and Mann-Whitney test was used between groups. Independent T and Chi-square test were used to compare studied demographic variables in two groups. In all tests, $P<0.05$ are considered as significant.

RESULTS

In this research, all questionnaires and checklists were completed. First, similarity demographic variables related to two groups (experimental and control) was investigated. Age mean in control group 13/11±60/59 and intervention group, 60/65 ±10/35 and independent t-test showed that 24/3 % (n=17) of studied subjects were men in intervention group and 28/6 %(n=20) in control group. From the view point of married condition, 37/1% (n=26) and 47/7% (n=33) subjects of control group were married. Majority of studied samples were housewife in experimental group (17%< n=12) and control group (20%, n= 14). Majority of studied samples have been hospitalised less than 2 times in experimental group (40%, n=28) and control group (41%,n=29). Affliction duration has been less than 10 months in both control group (33%, n=23) and experimental one (21%, n=15). In experimental group (41%, n=29) and control group (45%, n=32), subjects were already informed of disease by nurses; 10 % of subjects (n= 7) in experimental group and 11% of subjects in control group (n=8) obtained information by their doctor. In both experimental group (n=16, 30%) and control group (n=20, 28/6%), Majority of studied samples believed that they cared for themselves. It is noticeable that K square test did not show the statistically significant difference between two groups in al above cases. Mean and standard deviation on scores of awareness in different area of self-care and its changes in terms of studied groups have been presented in table 1. The mean of changes of total awareness score of self-care in control group has equaled to 0/57± 1/14 and Wilcoxon signed-rank test and Mann-Whitney test showed that these changes statistically were significant (0.004). In experimental group, its changes has equaled to 8/40±9/39 and above test showed that this inside-group effect was significant ($P<0.001$). In continue, table 2 shows the data analysis, mean, standard deviation of scores of patients' performance in different fields of self-care in terms of investigated times and their changes (by separating studied groups) and this table shows that the mean of self-

care performance scores have been increased about 32/13±16/12 in experimental group(P<0.001) and the improving self-care performance of control group significantly was more than experimental one.

Table 1. Mean and standard deviation of awareness scores in different area of self-care and its changes in term of studied subjects

Between group test (Mann Witni)		control					intervention					Awareness area
p	z	Inside-group test		Inside-group changes	after	before	Inside group test		Inside – group changes	After intervention	Before intervention	
		p	z				p	z				
0/001	-2/28	0/02	-2/33	0/20±0/47	±1/317	6/3±1/13	<0/001	-2/80	1/05±1/99	7/71±1/67	6/65 1±/43	Information about disease
<0/001	-4/47	0/75	-0/31	0/05±0/96	±1/9424	±1/9024	<0/001	-3/36	2/42±3/73	26/40±3/38	23/97±2/47	Medical diet
<0/001	-4/27	0/01	-2/48	0/31±0/71	±2/7435	±2/8535	<0/001	-3/85	4/91±9/06	39/20±8/97	34/28±3/08	Non-medical diet
<0/001	-5/39	/0040	-2/87	0/57±1/14	±3/7165	±3/5564	<0/001	-4/86	8/40/±9/39	73/31±9/87	64/91±3/66	Total score

Table 2. Mean and standard deviation of performance scores in different area of self-care and its changes in terms of studied subjects.

Between-group test(Mann-Wittni)		control					intervention					Awareness area
p	z	Inside group test		Inside—group changes	after	before	Inside group test		Inside group changes	After intervention	Before intervention	
		p	Z				p	z				
<0/001	-6/54	0/01	-2/53	0/22±0/5	35/7±6/70	35/5±6/8	0/005	-5/06	26±7/3	47/7±5/28	35/48±6/7	Medical diet
<0/001	-6/20	0/001	-3/19	0/71±1/4	76/3±6/72	75/6±6/7	0/001	-5/01	18±8/1	92/6±6/57	74/6±7/51	Non-medical diet
<0/001	-6/75	0/15	-1/14	0/05±0/3	0/37±0/84	0/31±0/8	<0/001	-4/83	1/9±1/1	2/42±0/88	0/48±0/78	Ability of controlling pulse
<0/001	49/19-	<0/001	-86/6	11/1±98	26/1±48/1	111/1±2	<0/001	-5/07	6±13/3	7/1±8/14	16±56/1	Total score

DISCUSSION

In this study, the effect of self-care learning on awareness and performance of patients with coronary disease has been investigated in hospitals attaché to Qom University of medical science in 2015. This research showed that self-care learning program caused awareness and performance patients with chronic coronary syndrome to promote. Teaching is an interactive process leading to learn and is set of activities helping people learn new knowledge or do new skill. Self-care is activity that people considerably do to continue the life, have healthy performance, continues development and good feeling. Also, findings from the study showed that the score mean of awareness and performance of disease and medical and non-medical diets has been considerably increased in experimental group than control one. Mentioned findings are towards researches carried out by same studies. To prove above findings, results from research done on 80 patients with heart failure by Shahrbabaki showed that score mean of awareness and performance of patients considerably increased after a month of learning. The research on 115 patients with heart failure carried out by Rencali et al showed that the awareness of patients considerably increased two weeks after learning and this increase has been high until 12 months after learning so that this high awareness in studied samples led to improve self-care behaviors. In other study, an learning intervention about non-medical diet of patients with heart-congestion failure accompanied with 90% increase in awareness of studied samples and researchers believe that this awareness increase has been the motivation to observe self-care because rehospitalisation and mortality in patients of experimental group have considerably decreased. In this study, total awareness mean of self-care has significantly increased in experimental group compared with control group. Several studies showed the effect of learning on awareness of patients; study carried out by Daryasari(1) (one of these research) showed that awareness caused the increase in self-care ability. The study done by Goli(2) showed that increasing in awareness level caused the decrease in body mass through increasing body movement, which affects the decrease of heart attack (coronary thrombosis). Zafari (24) writes that face to face teaching leads to improve knowledge, attitude and belief of people toward chronic coronary syndrome causing its signs to be delayed. The study done by Tarawa is in line with this study. Changing the behavior and life style was the most important purpose of this study. This study showed that learning causes leads to increase the awareness and change self-care performance of patients. Sivoshi (25) writes: although learning the self-care behaviors has less effect on performance of depressed patients with heart failure, appropriate learning leads to change these behaviors. Also, changing behavior is evident in study done by Roncalli (19) so that self-care behaviors have increased in experimental group in 1 to 3 months after performing the learning program and has improved life quality. The study carried out by Shahrbabaki (21) and Goli (2) was in line with this study. The study carried out by Daryasari (1) showed the average and weal level of awareness and performance of patients, which increased after learning. Results from this study was in line with their research. According to study carried out by Shafie-Poor (26), correct self-care decreases rehospitalisation and recurrence of disease; this issue increases the life quality and decreases the life costs. According to above issues, learning with focusing on self-care provides patients with the best condition

and less possible effects on their life, and awareness of present abilities can lead to be hopeful to future, increase the self-confidence, lack of isolation and increase the life quality Labrunée (27).According to these studies, it seems that teaching to patient and institutionalizing it by repeating and controlling in familiar environment like as home can be a factor of promoting performance of juvenile delinquents. According to total performance of studied unites, performance of experimental group significantly improved than control group. The researcher believes that promoting the performance results from holding systematic and simple sessions and such learning improves health condition of patient. Serjani found that there is strong relation among self-care behaviors and improving health condition and life quality. According to the main purposes of the research; that is, investigating the effect of self-care learning on awareness and performance of patients with coronary syndrome, findings from the research showed that the score mean in experimental group significantly increased after learning in comparison with control group. Although, there were significant changes, difference mean of two groups was compared and showed that the average of changes in experimental group significantly have been higher than control group. According to above issues, it can be concluded that behavioral changes can be made in patients by motivating patients(results from the study showed this issue) and changing awareness and performance of patients has been considered -even without intervention. In different researches, researchers concluded that hospitalizing and motivating after participating in the study is the factor to increase the awareness and performance of patients in experimental group. It seems that the important purpose of learning is to create the correctly and permanently health care behaviors and it is valuable for patient to continue this care. If activities related to self-care is performed by active teaching methods, knowing attitudes and opinions of patient, providing appropriate environment for patient, it can play important and effective role in promoting health care behaviors. On the other hand, presenting understandable topics based on individual needs and using individual teaching with question in a few sessions can be useful to reach better outcomes; above all, can be effective to continue health care behaviors. According to above issues, it seems that teaching focusing on self-care can provide patients with better condition and less possible effects on their life, and awareness of present abilities can increase hope to future, self-confidence and life quality and decrease the isolation.
In caring out the research, researcher faced with problems such as noise in environment and physical and mental conditions affecting teaching and observing the mentioned points of teaching. Learning program is tried to be performed in calm area and appropriate physical and mental condition. But, some individual differences of patients affected the responding the questions and teachablity and observing taught points which are not controllable and are considered as limitations of study. According to effect of learning program on awareness and performance of patients with coronary syndrome, it is suggested that authorities and planners of medical science use new methods during short-term sessions in the hospitalization time. Also, performing condition of this program is provided by holding teaching courses during the service and providing facilities of implementing learning program and possibility of its performing in bedside and during hospitalization. It is suggested that Consultation centers are established in heart clinic in order to the patient can contact this center to guide and solve problem and learn self-care. Finally, it is suggested that the effect of same programs on frequency of hospitalization, curative costs is investigated for patients with heart failure and other chronic diseases by following from 1 to 3 years.

CONCLUSION

Self-care has influenced awareness and performance of patients with coronary syndrome and can be considered as pattern to begin the nursing interventions itself care teaching. It seems that results from the study will be important in the field of education, management and nursing research.

REFERENCES

[1] Daryasari,Q, et al. (2011). Investigation of self-care ability of patients with heart failure. ICU nursing journal, 4thperiod, 203-208.
[2] Goli, F, et al. (2013). Indices of weighting body in patients with chronic Myocardia heart attack and their relation with some risk factors of cardio-vascular disease". Journal of cardio-vascular nursing,2end period, 1rstNO, 2013.
[3] Eshvandi, KH, et al. (2013). Learning effect based on self-care pattern of Orem on self-care ability of patients with heart defibrillator cultivable". Journal of midwifery and nursing school of Tehran university of medical science (Hayat),19 period, 47-55.
[4] Khodadadizadeh, A, et al. (2009). Awareness level of self-care principles in patients with chronic coronary syndrome reffering to Ali-ibn –Abitaleb curative institute, Rafsanjan, Iran,2009. Quarterly journal of midwifery-nursing and paramedical skills university, Rafsanjan, fifth year, first and second NO.
[5] Nikan,M, et al. (2013). Self-care behaviors in patients after heart failure. Jamenegar midwifery and nursing, 23th year, 70th NO, 63-70.
[6] Mohammad Hassani,M. (2010)." Self-care ability on the basis of Orem theory in patients with coronary disease" ICU nursing journal, 3rd period, second NO, 87-91.

[7] Jessup M. Guidelines for the Diagnosis and Management of Heart Failure Circulation.119(14):1977-2016.
[8] Imani,A, et al. (2013). Investigatingself-care learning needs in patients hospitalized in ShahidMohammadi hospital in Bandarabbas (2011), journal of preventive cares in nursing and midwifery, third NO,37-39.
[9] Ataee, A, et al. (2012). Effect ofself-care learning on life quality of patients with permanent beating heart. Cardio-vascular nursing journal, first period.
[10] Narabadi,T, et al. (2010). Effect of learning on life style of patients with ischemia disease. Medical science journal, Mazandaran,Iran. 2th period, 79th NO, 72-79.
[11] Tolijamo, M., Hentinen, M.2010. Adherence to self care and social support. Joua Clinical Nursing. PP:618-27.
[12] Shojaee,F,et al. (2009). Self-care behaviors in patients with heart failure, Payesh quarterly journal, 8th year, 4th NO, 36.
[13] Cha ES, Clark PC, Reilly CM, et al. 2012. Educational needs for improving self-care in heart failure patientswith diabetes. Diabetes Educ. 38(5): 673.684.
[14] Connell, M. 2008. Self care is heparin indigent patients with hearth failure. European of Cardiovascular Nursing, 23(3), 223-30.
[15] Rostami,H, et al. (2011). Learning needs of patients with heart attack. Oromieh, Iran. Monthly journal of midwifery and nursing school,9thperiod,third NO, 157-164.
[16] Boyde, M .et al.2009. Learning style and learning needs of heart failure patients European of Cardiovascular Nursing; 8: 316-22.
[17] Nasiri, M,et al. (2008). Investigating learning needs and life quality of patients with chronic myocardia heart attack referring to Imam Sajjad hospital, Ramsar, Iran. Quarterly journal of midwifery and nursing, third NO, p15.
[18] Mohammadzadeh,SH. (1993). Investigation of self-care learning needs in patients with heart congestion failure in hospitals attaché to Tehran University of medical science. M.A thesis of nursing, Tehran University of medical science, midwifery and nursingschool.
[19] Roncalli J, et al. (2009). Improvement of Young an old Patient's Knowledge of Heart Failure after an Educational Session. Clin Med Cardiol; 3:45–52
[20] Torcal J, Pinilla R.(2010). Rationale and design of a randomised controlled trial evaluating the effectiveness of exercise program to improve the quality of life of patients with heart failure. BMC Public Health; 10: 33.
[21] Shahrbabaki,P, et al. (2011). Effect of self-care learning program on awareness and performance of patients with heart failure. Kerman,Iran. Iranian teaching journal in medical science,609-619.
[22] Tomita R, et al. (2009). Effects of multidisciplinary Internet-based program on management of heart failure. J Multidiscip Health. 2: 13-22.
[23] Seraji.et al. 2013. The Effect of Educating Self-Care Behaviors to Patients with Heart Failure in Hospitals of Zahedan. Health Scope. 201-, Summer; 2(1):104-9.
[24] Zafari-Nobari,SH, et al. (2012). Effect of face to face teaching on awareness, attitude and beleifs of patients with chronic coronary syndrome toward heart disease: an intervention research. Cardio-vascular nursing journal, first period, 12.
[25] Sivoshi, S, et al. (2012). Effect of heart rehabilitation on hemodynamic indices of patient under transplant operation of coronary bypass. Cardio-vascularnursing journal, first period,2012.
[26] Shafie-Poor, Vida. Shafie-Poor,Leila. Jafari,Hedayat. (2011). Heart rehabilitation effect on life quality of patients with myocardia heart attack. Research-science journal of Arak,14th year,5th NO, 24-34.