Effect of Education On Knowledge And Practice Of Patients With Coronary Heart Syndrome

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Abstracts: Background & Objective: Due to the fact that the major cause of mortality and diminished quality of life of cardiac patients, has its roots in self-care performance is incorrect and insufficient knowledge of the causes of these problems. Objective is to determine the effect of education on knowledge and performance coronary syndrome patients in hospitals of Qom University of Medical Sciences, was performed. Methodology: In an experimental study, 70 patients with coronary syndrome admitted in hospitals of Qom University of Medical Sciences easy and gradual sampling were selected and divided into two groups. First, knowledge and performance of each patient in your care, using questionnaires, checklists and interviews were observed, Then, each patient in the intervention group completed an educational program consists of two 20-minute sessions with a presentation and question and answer pamphlet individually received. Comparison of knowledge and practice groups through Wilcoxon and Mann-Whitney nonparametric statistical tests were performed. Results: Rating coronary syndrome patients in all areas of knowledge and practice self-care, pre-training between the two groups, was not significant. While the scores after education in the intervention and control groups was significant. So that comparisons showed that awareness changes (8.4 ± 9.39) and performance (32.12 ± 16.32) in the intervention group were significantly more aware of the changes (0.57 ± 1.14) and performance (0.98 ± 1.11) in the control group that represents the effect of the intervention group. Conclusion: The use of self-care educational program designed on the knowledge and practice of coronary syndrome patients in the sample studied was effective and education is one of the suitable methods and to promote self-care. [Heidari M, NJIRM 2016; 7(3): 86 - 91]

Key Words: Education, self-care, performance, coronary syndrome.

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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 behaviours with the aim of promoting life quality of people with chronic diseases is very important and patients can affect their comfort, performance ability by acquiring skills of looking after themselves.[2] 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.[6] 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.[7] Presenting educational programs, changing life style and methods of offering educational program to patient are issues increasing life style of patients.[8]

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 behaviours in people with chronic disease is very important.[4] In a study carried out by Shojaee et al. 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.[10]

In nursing, learning is dynamic issue and identifying educational needs is considered as the first priority to plan. In fact, educational needs mentioned by patients are important, not what is considered as important from the view of treatment employees.[6,11] In a study done by

Nasiri et al, patients need to learn about disease, medical diet, food diet and activity.[12] In a study carried out by Mohammadzadeh, 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%.[13] 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.[11] The study aimed at investigating the self-care learning effect on awareness and performance of coronary heart syndrome patients hospitalized in Cardiac Care Unit (CCU) of educational hospitals of Qom has been carried out in 2015.

Material and Methods: After approval from the Ethics Committee of the Islamic Azad University, this experimental study carried out in two groups in hospitals attaché of Qom University of medical science in 2015. 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 CCU 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-care ability, 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 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 programmed 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 behaviour repetition for learner. Also, the methods of correcting behaviour 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 mis-analysed by SPSS/16 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 hospitalized 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 Chi-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 equalled 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 equalled 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		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	0.2±0.47	6.57±1.31	6.37±1.13	≤0.001	-2.8	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	23.17±1.9	23.11±1.9	<≤0.001	-3.36	2.42±3.37	26.4±3.38	23.97±2.47	Medical diet
≤0.001	-4.28	0.01	-2.48	0.31±0.71	34.62±2.74	34.31±2.85	≤0.001	-3.85	4.91±9.06	39.2±8.97	34.28±3.08	Non-medical diet
≤0.001	-5.39	0.004	-2.87	0.57±1.14	64.37±3.71	63.8±3.55	≤0.001	-4.86	8.4±9.39	73.31±9.87	46.91±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		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	0.10	-2.53	0.22±0.49	35.74±6.7	35.51±6.8	0.005	-5.06	12.25±7.33	47.74±5.28	35.48±6.79	Medical diet
≤0.001	-6.2	0.001	-3.19	0.71±1.38	76.37±6.72	75.65±6.74	0.001	-5.01	17.94±8.03	92.64±6.57	74.6±7.51	Non-medical diet
≤0.001	-6.75	0.15	-1.14	.05±0.23	0.37±0.84	0.31±0.83	≤0.001	-4.83	1.13±1.94	2.42±0.88	0.48±0.78	Ability of controlling pulse
≤0.001	-49.19	≤0.001	-6.06	11.1±0.98	26.14±112.48	111.17±10.4	≤0.001	-5.07	5.16±13.32	7.12±8.14	16±110.56	Total score

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 behaviours 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 behaviours. 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 behaviours. 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.

Discussion: This research showed that self-care teaching programed 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. In other study, a 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 hospitalization 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 showed that awareness caused the increase in self-care ability.[1] The study done by Goli 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).[2]

Zafari-Nobari 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.[14] The study done by Tarawa is in line with this study. Changing the behaviour 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. The study carried out by Daryasari et al. and Shojaee et al. showed the average and weal level of awareness and performance of patients, which increased after learning.[1,10] Results from this study was in line with their research. 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. Nowidin et al. found that there is strong relation among self-care behaviors and improving health condition and life quality.[15] 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 behavioural 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.

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

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