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The effect of Self-care educational program on sexual function and quality of life in patients with ischemic heart disease

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ABSTRACT

Sexual activity is a multi-dimensional relationship, which affected by many factors such as psychological, individual and social factor. Sexual education in patients with ischemic heart disease can reduce many of the consequences of it. Therefore, this study was performed to investigate the effect of Self-care education program on sexual function and quality of life in patients with ischemic heart disease. This semi experimental study was performed on 60 patients with ischemic heart disease, in Holy vali asr hospital in Qom, Iran in 2017. Patients were divided into control and intervention groups by Randomize sampling. Self-care education was provided through CD. Data collection was done through using the "demographic and clinical data questionnaire", "Seattle Angina questionnaire", and "Arizona Sexual Experiences Scale". Questionnaires were completed in both groups, Before and at least one month after education,. Data were analyzed using central indexes, mann-whitney test and Wilcoxon Test. The average age of intervention and control participants were 58.1±5.8 and 57.66±4.5, respectively. Quality of life and sexual function, before and after education, in the intervention group had a significant difference. But the quality of life and sexual function, before and after the education, in control groups were not significantly. The results show that sexual educational programs as film for cardiac patients can improve sexual function and quality of life of these patients. Therefore; it is recommended that nurses must pay attention to education concerning the sexual function and quality of life in patients with Ischemic heart.

Key words: Sexual Function, Quality of Life, Ischemic Heart Disease, Iran

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INTRODUCTION

Ischemic heart disease is recognized as the leading cause of mortality and disability in the world.(1)

Cardiovascular disorders were the cause of less than 10% of mortality rates in the world in the early 20th century. These disorders were also attributed to half of mortality rates in developed countries and 25% of mortality rates in developing countries in the late 20th century. (2) Mortality rates due to this disease are also increasing in Iran where 90000 people die of this disorder every year.(3) Disability from IHD causes physical and psychological disorders that influence quality of life of patients.(4-6) many patient fail to recover their full potential,

especially their sexual activity.(7) Vascular changes, old age, drug-induced dysfunction cause physiological disorders during sexual activity in patients with cardiovascular diseases.(4, 8-15) Psychological disorders such as depression, anxiety, stress, fear of re-infarction and death can also disrupt sexual activity.(8, 10, 16, 17) Decreased sexual desire and sexual disability, lack of orgasm, less number and quality of sexual activity cause changes in self-perception. Patients also worry about regaining their sexual activity. This also causes anxiety and stress in marital relationships.(18-20) Although the risk of myocardial infarction and sudden death during sexual activity is less than 1%, studies have shown that frequency of sexual activity of coronary patients is reduced by 40% to 70%.(4, 8, 9, 21, 22) Confusion and fear of sexual activity in patients with cardiovascular diseases force the couple to avoid sex and get angry at their state of health.(22-28)

Nurses can reduce sexual problems and improve the quality of life through sexual education, counseling and rehab programs.(29) Vassiliadou showed that nurses agreed to sexual education but only 3% to 6% of the patients experienced sexual counseling.(8, 9, 30) Studies have shown that shortage of time and information of the treatment team, negative attitude and negligence of sex, severity of the disease and exacerbation of anxiety of the patient during hospitalizations do not allow sexual education.(8, 9, 31, 32) Social and cultural differences in sexual issues also do not allow or decrease delivery of sexual education to cardiovascular patients in Iran.(7, 29) Little information on this area reduces normal capabilities, hinders creativity and deprives patients of sexual activity. Patients also fail to regain their sexual activity. They feel insecure and anxious. They are afraid and concerned about sex. Decrease in marital satisfaction, incidence of depression, physical and mental disorders in patients and their families are also the consequences of ignorance of sexual education for cardiovascular patients.(9, 24, 29) Rahimian showed that group therapy helped the patients to benefit from their experiences, motivated them to benefit from the treatment, reduced marital stress and changes lifestyle.(33) Bagheri showed that group counseling reduced anxiety, stress and depression and enhanced quality of life.(34) However, Tofighian showed no significant difference in scores of quality of life in intervention and control groups after individual counseling.(35) Limited studies were conducted on sexual problems of cardiovascular patients with sexual education at admission, during hospitalization and at discharge from the hospital. Given the high prevalence of ischemic heart disease, ignorance of sexual problems and the importance of sexual activity in quality of life and cultural context of Iranian people, the author attempted to examine the effect of educational videos on sexual function and quality of life in people with IHD in order to help the treatment team to improve the quality of life of the patients. Then, he designed and provided a self-care pamphlet without the need for qualified staff regarding shortage of time and low-cost, accessible and suitable tools for sexual educational at discharge from the hospital.

MATERIALS AND METHODS

The study was conducted in 2017 by using a semi experimental design. Study population was all the patients with IHD who had been referred in the rehabilitation center of Holy Vali Asr hospital, Qom, Iran. Sample size was calculated with the hypothesis test formula and by using the results of a local study (μ_1 =60, μ_2=72, δ =15, $\alpha = 0.05$, β= 0.1). It was 27 patients but for more confident a randomized sample of 30 patients in each group with IHD was drawn(3).

$$n = \frac{2s^2(Z_{1-\alpha} + z_{1-\beta})^2}{(\mu_1 - \mu_2)^2} = n = \frac{2 \times 15^2(1/64 + 1/28)^2}{(60 - 72)^2} = 27$$

The inclusion criteria were being married, giving informed consent for participation, having Iranian nationality, not having any known mental problems, being able to answer researchers' questions and speak Persian, and having a definitive diagnosis of ischemic heart disease by the physician. Patients who wanted to withdraw from the study, were re-hospitalized, or faced death after discharge and before completing the study questionnaire were excluded.

Study data were collected by using a clinical and demographic questionnaire (on participants' age, gender, education, employment, use of cardiac medications and history of other underlying diseases), the Seattle Angina questionnaire (SAQ) and Arizona Sexual Experiences Scale (ASEX).

The SAQ is a 19-item and 5sub-scale standardized questionnaire for evaluating quality of life in heart disease patient. 5sub-scale is physical limitation

(item 1 to 9), Angina stability (item 10), Angina frequency (item 11 to 12), Treatment satisfaction (item 13 to 16), limitation (item 1 to 9), and Disease perception (item 17 to 19). Items are scored on a four-point Likert scale on which 0 is equal to 'severity limitation' and 4 is equal to 'no limetation'. In negative items are scored reversely. The total score of the SAQ ranges from 0 to 100. Scores higher than 51 shows higher quality of life. The reliability and the validity of the Persian SAQ were evaluated by Taheri et al. They reported a Coronbach's alpha of 0.85 for the questionnaire.(36) In addition, Cronbach's alpha coefficient in this research was obtained 0.87.

The ASEX is a 5-item standardized questionnaire for evaluating sexual function. Five items of sexual function include sexual desire, stimulation, vaginal slip in a woman, erection in a man, ability to reach orgasm and satisfaction with orgasm. Items are scored on a six-point Likert scale on which 1 is equal to 'Very easy' and 6 is equal to 'never'. The total score of the ASEX ranges from 5 to 30. Scores higher than 18 shows lower sexual function. The reliability and the validity of the Persian SAQ were evaluated by pezeshki et al.(37) They reported a Coronbach's alpha of 0.83 for the questionnaire. In addition, Cronbach's alpha coefficient in this research was obtained 0.89.

After receiving the necessary permissions and approvals, we referred to the study setting and identified eligible subjects. The researcher randomly selected patients and Allocated to two equal groups of intervention and control group. The study continued until the sample size reached the desired level. The aim and the methods of the study were explained to them and informed consent was obtained. Then, study subjects were invited to complete the demographic questionnaire, SAQ and ASEX. During the first week of the beginning of the rahabilation, researcher presented sexual education program with oral explanation and video presentation, in the test group within 60 minutes. Discussions was about heart disease, the risk of heart disease during sexual activity, the onset of sex after IHD, the precautions before it, the use of drugs and their complications, the importance of choosing the place, correct position, changing the vital signs and warning signs during sexual activity. After end of the rehabilitation period, the questionnaires were completed again by both groups. In fact, on two questionnaires completed at least one month.

Two months afterward, subjects were invited to the study setting for completing the RDAS and SMSS. For subjects who were unable to read or write, questionnaires were filled by using the interview technique. Patients names were coded for being kept secret, and patients could leave this study if they don't like to continue cooperation.

This study was conducted based on the Declaration of Helsinki. We informed patients about the aim and the flow of the study and asked them to provide informed consent. Due to the great sensitivity of sexual issues and for preventing potential measurement biases, the questionnaires were administered and filled by same-gender questioners.

We analyzed the data by using the SPSS v. 13.0. Regarding clinical and demographic variables— such as gender, education, history of underlying disease and use of cardiac medications— and mean of sexual function and quality of life were assessed by the Central indexes. Regarding data normality was used kolmogorov smirnov test. The mann-whitney was also employed for comparing the quality of life and sexual function in patients before receiving the educational program between the control and intervention groups and after that. We also performed Wilcoxon Test for comparing the quality of life and sexual function in patients before and after receiving the educational program in the control and intervention groups. P values which were less than 0.05 were considered as significant.

RESULTS

In total, 64 subjects had been hospitalized in the study setting from whom 4 did not meet the inclusion criteria. Consequently, 60 subjects (30 subjects was control and 30 subjects was intervention) entered and completed the study.

66.66% of them were male in every group. The average age of intervention and control participants were 58.1±5.8 and 57.66±4.5, respectively. Nearly 30% of patients in each group had a high education, and 50% of them were employed. Higher than of 50% of them didn't have underlying diseases and drug consumption (table1).

Before of education, the mean score of the quality of life in intervention and control group were 56.14±9.75 and 58.46±11.71, respectively. After of education, the mean score of the quality of life in

intervention and control group were 59.25±10.56 and 59.7±13.33, respectively. Also, before of education, mean score of the sexual function in intervention and control group were 12.46±2.35 and 12.77±1.92, respectively. After of education, mean score of the sexual function in intervention and control group were 11.46±2.37 and 13±1.66, respectively. According to mann-whitney test, the Quality of life and sexual function has no significant difference before the education and after too. Also, there was no difference in the sexual function between the two groups before the education. After education, sexual function in the intervention group was better than control group (table2).

According to Wilcoxon test, quality of life and sexual function, before and after education, in the intervention group had a significant difference. But the quality of life and sexual function, before and after the education, in control groups were not significantly different (table3).

DISCUSSION

The present study aimed to investigate the effect of self-care educational program on sexual function and quality of life in patients with IHD in 2016. The results of this study showed no significant difference in sexual function between the experiment and control groups at pretest. The two groups were matched in terms of sexual function and quality of life at the beginning of the study. The results of this study showed that sexual function in the experiment group was significantly higher than the control group after self-care educational program. This shows that self-care educational program positively influences sexual function in the experiment group. Sexual function significantly differed in the experiment group after educational program but there was no change in sexual function the control group.

Table 1. Study participants' demographic and clinical characteristics

		intervention		control		
		n	%	n	%	**P**
Gender	Male	20	66.66	20	66.66	**0.608**
	Female	10	33.33	10	33.33	
Education	Illiterate	19	63.33	20	66.66	**0.5**
	Literate	11	36.66	10	33.33	
Employment	Unemployed	15	50	14	46.66	**0.5**
	Employed	15	50	16	53.33	
History Of Underlying Disease	Yes	13	43.33	10	33.33	**0.356**
	No	17	56.66	20	66.66	
Use Of Cardiac Medications	Yes	11	36.66	8	26.66	**0.356**
	No	19	63.33	22	73.33	

Table 2: Comparison of quality of life and sexual function before training between the two groups of test and control, and after that

statistic / varible		**intervention** M±SD Median(range)	**control** M±SD Median(range)	z	P-value
Before of **intervention**	Quality of life	56.14 ± 9.75	58.46±11.71	-0.696	0.487
	Sexual function	12.46 ±5.8	**1.92±12.77**	-0.371	0.711
After of **intervention**	Quality of life	10.56±59.25	13.33±59.7	-0.568	0.570
	Sexual function	2.37 ±11	1.66±13	-3.242	0.001

Table 3: Comparison of quality of life and sexual function before and after training in the intervention and control group (Wilcoxon test)												
group	**intervention**						**Control**					
Statistic Variable	Mean	SD	IQR*	range	z	P	Mean	SD	IQR	range	z	P
Sexual function (Before of Intervention)	**12.46**	**2.35**	**3.75**	**7**	**-2.749**	**0.006**	**12.77**	**1.92**	**3**	**6**	**-0.984**	0.325
Sexual function (After of intervention)	**11**	**2.37**	**4**	**8**			**13**	**1.66**	**3**	**5**		
Physical restrictive (Before of Intervention)	**21.26**	**5.72**	**11**	**18**	**-1.348**	**0.178**	**21.78**	**6.89**	**12**	**24**	**-0.157**	0.875
Physical restrictive (After of intervention)	**22**	**7.51**	**9**	**24**			**22.83**	**7.76**	**13**	**26**		
Stability (before of intervention)	**3.8**	**0.92**	**1**	**3**	**0.108**	**0.914**	**4**	**1.05**	**2**	**3**	**-0.261**	0.794
Stability (After of intervention)	**3.8**	**0.76**	**1**	**3**			**4**	**1.05**	**2**	**3**		
Angina frequency (before of intervention)	**9.46**	**1.61**	**3**	**5**	**0.000**	**1**	9.57	**1.47**	**2**	**5**	**-0.108**	0.914
Angina frequency (After of intervention)	**9.35**	**1.57**	**2**	**5**			9.73	**1.55**	**2**	**5**		
Satisfaction of Treatment (before of intervention)	**14.06**	**3.55**	**4**	**13**	**-0.743**	**0.458**	15.07	**2.35**	**4**	**8**	**0.079**	0.937
satisfaction of Treatment (after of intervention)	**13.93**	**3.27**	**2**	**13**			19.46	**15.04**	**3.45**	**57**		
Perception of diseae (before of intervention)	**8.57**	**2.23**	**2**	**9**	**-2.585**	**0.1**	8.64	**2.89**	**1**	**12**	**-0.974**	0.33
Perception of diseae (after of intervention)	**9**	**2.07**	**2**	**9**			9.06	**3.37**	**1**	**13**		
Total quality of life (befor of intervention)	**56.14**	**9.75**	**16**	**31**	**-2.852**	**0.004**	58.46	**11.71**	**12**	**46**	**-0.153**	0.878
Total quality of life (after of intervention)	**59.25**	**10.56**	**18**	**30**			59.7	**13.33**	**6**	**51**		

* Interquartile range

In this regard, Mirmohammad Ali Ye et al. showed that sexual educational improves sexual function in postmenopausal women.(38) Ebrahimipour also showed that sexual educational improves sexual function of women who visited health centers.(39) Karimi and Bagheri also showed that sexual satisfaction improves in the couple after undergoing sexual health educational.(40, 41) Steinke compared audiovisual educational with pamphlet in cardiac patients. The results of this study showed a significant increase in sexual knowledge, a decrease in anxiety, an increase in sexual satisfaction and quality of life in the patients who used audiovisual educational. In the former study, cardiovascular patients using educational videos began their sexual activity three weeks after the incidence of myocardial infarction. It seems that preventing measures for myocardial infarction or control of cardiac symptoms during sexual activity enhance sexual knowledge and improve individual attitude toward sex, which reduce anxiety and improve sexual function in cardiac patients.(42, 43)

The results of this study showed a significant difference in the quality of life in the experiment group after the education compared to before the education. The results of this study are consistent with the results of the studies by Berg(44), Molazem(45), Najafi,(46) and Khayam Nekoee(43). This indicates the positive impact of different types of educational programs on improving the quality of life of cardiac patients. It should be noted that the topics mentioned in the tutorial were cognitive-behavioral education, individual and group psychological counseling and self-care programs in all of the following studies. The effect of sexual educational on the quality of life of patients with cardiac disease was investigated in the present study. It should be noted that myocardial infarction is a stressful event that influences the quality of life of the patients. The patients try to cope with stress through various methods such as searching for information. Thereby, sexual educational communicates with the patients and reduces their anxiety. It can improve the quality of life in this critical situation. This improves the quality of life of each individual, quality of physical, emotional and social activities in the family and society.

Limitations

Limitations of this study was accuracy of research units at the time of answering questions with regard to their psychological state. The questionnaires were completed in a calm and convenient environment to overcome this limitation. The second limitation of this study was difference in cultural beliefs and physiological states of patients. Educational pamphlets and CDs were provided to study at home to overcome this limitation.

CONCLUSION

The results of this study showed that sexual educational programs as film for cardiac patients can enhance sexual function and quality of life of these patients.

Considering the importance of sexual issues in cardiac patients and its consequences and shortage of educational in this regard, nurses need to enhance their counseling role, provide the best solution to solve patient problems and improve their sexual function and quality of life using sexual counseling programs. Sexual educational is recommended in the hospital and should be continued persistently after discharge from the hospital. Sexual educational through CD-ROM allows everyone to benefit from this package regardless of their education and temporal constraints. It is also suggested that follow-up tests be conducted at different intervals after the education

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