


Research Paper

Effect of Cardiac Rehabilitation on Sexual Satisfaction of Patients After Coronary Artery Bypass Graft Surgery




Parand Pourghane<sup>1</sup>, Pegah Amiri Nejad<sup>2</sup>, \*Syeed Mohammad Taghi Razavi Tousi<sup>3</sup>

1. Department of Nursing, School of Nursing and Midwifery, Guilan University of Medical Sciences, Rasht, Iran.
2. School of Medicine, Guilan University of Medical Sciences, Rasht, Iran.
3. Department of Cardiology, Cardiovascular Diseases Research Center, Heshmat Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran.



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**ABSTRACT**

**Background** Providing sexual counseling in cardiac rehabilitation program can improve patients' sexual satisfaction and performance after Coronary Artery Bypass Graft (CABG) surgery.

**Objective** This study aims to determine the effect of cardiac rehabilitation on sexual satisfaction of patients after CABG surgery.

**Materials and Methods** This descriptive-analytical study with a cross-sectional design was conducted on 108 patients with CABG surgery referred to cardiac rehabilitation centers in Rasht and Tehran, Iran in 2017-2018. A demographic form and Larsson's sexual satisfaction questionnaire were used for data collection before and after 10 sessions of cardiac rehabilitation program. The collected data were analyzed in SPSS v. 18 software using paired t-test, Wilcoxon test, and ANCOVA considering a significance level at P<0.05.

**Results** The mean age of participants was 58.60±6.37 years. Their sexual satisfaction score significantly increased after the intervention and there was a statistically significant difference in sexual satisfaction before and after the intervention (P<0.001). The pre-test and post-test sexual satisfaction scores had no significant relationship with age, gender, years of marriage, duration of heart disease, comorbidities, occupational status, educational level, and economic status (P>0.05).

**Conclusion** It is necessary to pay attention to the sexual satisfaction of patients after CABG surgery to improve their sexual function and quality of life by creating an opportunity for them to participate in postoperative cardiac rehabilitation programs.

**Extended Abstract**

**1. Introduction**

Sexual satisfaction is an important factor in marital satisfaction [1] and affects the health and quality of life of couples and is one of the most important indicators of life satisfaction

society, which is consistent with the results of the present study, since their results indicated improved quality of life after rehabilitation [12]. Soroush et al. found no statistically significant difference in sexual satisfaction between the two study groups before and after the educational intervention, and suggested that the educational content and age difference can affect the results [14]. Development of a comprehensive educational program for patients after CABG sur-

**\* Corresponding Author:**

**Syeed Mohammad Taghi Razavi Tousi**

**Address:** Department of Cardiology, Cardiovascular Diseases Research Center, Heshmat Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran.

**Tel:** +98 (13) 42565052

**E-Mail:** razavitosee.smt@gmail.com

[2]. Cardiovascular disease is an important factor affecting the sexual satisfaction of individuals. Sexual dysfunction and decreased sexual activity are common in patients with heart disease, affecting their quality of life and is associated with the development of psychotic disorders leading to reduced life expectancy [3]. Various studies have shown that Coronary Artery Bypass Grafting (CABG) surgery adversely affects all stages of sexual function [4, 5]. Despite efforts, no effective treatment for this disorder has yet been identified. Educational interventions for these patients can be provided on how to perform sexual activity after myocardial infarction [6]. In this regard, it is recommended that issues related to sexuality and marital relations be included as part of the medical care of cardiovascular patients, and give them the necessary information in this regard, and consult with them and their spouses to reduce their stress [7]. Cardiac rehabilitation is a set of activities performed to improve the conditions and quality of life of patients with a heart problem and reduce their individual limitations [8]. One of the cardiac rehabilitation activities is sexual counselling to improve the sexual function of patients [9]. This study aims to investigate the effect of cardiac rehabilitation on patients' sexual satisfaction after CABG surgery to help plan an appropriate program for reducing or eliminating the sexual problems in heart patients.

## 2. Materials and Methods

This is a descriptive-analytical study with a cross-sectional design conducted on the patients with CABG referred to rehabilitation centers in Rasht and Tehran, Iran in 2016-2017. Sampling was done by Availability sampling method. The sample size was determined 108 according to Sanctity et al.'s study [10], considering a standard deviation of 5.37 for sexual satisfaction score at 95% confidence level and a test power of 80%. Inclusion criteria were: Willingness to participate in the study, age at least 18 years, no any known psychological problems such as depression according to the patients' reports and medical records, and being married or having a sexual partner. Exclusion criteria were: Severe family conflicts and other family problems, addiction, divorce or threatened divorce at the time of study according to the patients' report, cognitive disorders, and physical or mental disabilities approved by a physician.

A two-part questionnaire was used to collect data. The first part surveys demographic information such as age, gender, and educational level while the second part was Larson's Sexual Satisfaction Questionnaire with 25 questions rated on a 5-choice Likert scale with acceptable validity and reliability. Data were collected before and after cardiac rehabilitation. Collected data were analyzed in SPSS v. 18 software using descriptive statistics and tests such as Kolmogorov-Smirnov test to examine the normality of quantitative data distribution, and paired t-test, Wilcoxon test, and ANCOVA, considering a significance level at  $P < 0.05$ .

## 3. Results

The Mean $\pm$ SD age of patients was 58.60 $\pm$ 66.37 years. Table 1 presents the results of Kolmogorov-Smirnov test. There was no significant correlation between the pre-test and post-test sexual satisfaction score and age ( $r = 0.025$ ,  $P = 0.795$ ). The sexual satisfaction scores before and after the intervention were higher in women than in men, but the observed difference was not statistically significant ( $P = 0.841$ ). Moreover, the pre-test and post-test scores of sexual satisfaction had no significant correlation with the place of residence ( $P = 0.896$ ), employment status ( $P = 0.668$ ), educational ( $P = 0.290$ ), economic status ( $P = 0.161$ ), years of marriage ( $r = 0.107$ ,  $P = 0.707$ ), and duration of heart disease ( $r = 0.018$ ,  $P = 0.018$ ). The sexual satisfaction scores before and after the intervention were greater in people without comorbidities than in people with comorbidities. However, the observed difference was not statistically significant ( $P = 0.407$ ).

## 4. Discussion and Conclusion

The purpose of this study was to determine the effect of cardiac rehabilitation on patients' sexual satisfaction after CABG surgery. The sexual satisfaction of patients after the intervention was at moderate level and higher compared to its baseline level. In none of patients the level of sexual satisfaction was worsened. The results are in line with the results of previous studies [11-14]. In Pourghane et al.'s study conducted on patients' perception of cardiac rehabilitation after CABG surgery, one of the experiences of patients after participation in cardiac rehabilitation programs was "reorganization of life" that included physical fitness achievement, increased life expectancy, and returning to

**Table 1.** Examining the normality of distribution for pre-test and post-test sexual satisfaction scores

Variable	N	Skewness (SD)	Kurtosis (SD)	Shapiro-Wilk Test P- value
Difference between pre-test and post-test sexual satisfaction scores	108	-0.59 (0.233)	-0.33 (0.461)	<0.001

SD = Standard Deviation.

gery is recommended for cardiac rehabilitation to increase their sexual satisfaction.

## **Ethical Considerations**

### **Compliance with ethical guidelines**

This study was approved by the Ethics Committee of the Guilan University of Medical Sciences (Code: IR.GUMS.REC.1397.002). All ethical principles are considered in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them.

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### **Authors' contributions**

Conceptualization, visualization, project administration, and resources: All authors; Methodology, editing & review, investigation and supervision: Parand Pourghane; Original draft preparation: Parand Pourghane and Seyed Mohammad Taghi Razavi Tousi; Data collection, formal analysis: Pegah Amiri Nejad.

### **Conflicts of interest**

The authors declare no conflict of interest.

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