

The Effectiveness of Psychosexual Education Program on Psychological Dimensions of Sexual Function and Its Quality in Cardiac Rehabilitation Patients

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Abstract

Objectives: The study aimed to assess the efficacy of a psychosexual education program (PSEP) on the psychological dimensions of sexual function and its quality in cardiac rehabilitation (CR) patients. **Methods:** In this randomized clinical trial, 43 male patients undergoing coronary artery bypass graft were selected randomly and then divided into case ($n = 23$) or control groups ($n = 20$). The research instruments consist of multidimensional sexual questionnaire and Sexual Quality of Life Questionnaire. Levin's PSEP (two 1-hour sessions) is presented as an intervention program. Data were analyzed through multivariate analysis of covariance to control the baseline scores. **Results:** Approximately 84% of patients (cases: 87% and controls: 80%) completed the final assessment. The results indicated that PSEP is significantly effective in the enhancement of sexual assertiveness ($P = 0.034$) and reduction of fear about intercourse ($P = 0.007$). There were no significant differences between two groups in other variables ($P > 0.05$). **Conclusion:** The results of the study indicated that PSEP is effective in the promotion of sexual assertiveness and fear of intercourse among CR patients. As the resumption of sexual function is one of the most important components in the psychosocial improvement of patients, it seems that this intervention should be included as a priority among educational programs in Iranian CRs.

Keywords: Cardiovascular disease, psychosexual education, rehabilitation

INTRODUCTION

Cardiac rehabilitation (CR), which includes comprehensive medical evaluation, exercise, education, and modification of risk factors, is one of the most important courses of action after a cardiac event or surgery and can reduce complications from the disease. Despite this, in recent decades, progress in CR has not been significant compared to the progress in treatments.^[1] In particular, it has limitations in some fields such as sexual rehabilitation. It is obvious that cardiac patients, especially people undergoing coronary artery bypass graft (CABG), have various complications after cardiac procedures. One of these complications is malfunction and decreased sexual function in 40% of patients.^[2] Patients with coronary artery disease complain about sexual malfunction 200% more than their healthy peers;^[3] this is often induced by psychological factors such as fear of a further cardiac event in addition to

physiological factors.^[2] After a cardiac event, these patients are confused about the effect of sexual activity on their cardiac condition.^[4] Although death occurs rarely among cardiac patients during intercourse and its risk is very low, most patients avoid intercourse because they are afraid about sudden cardiac death or myocardial infarction, dyspnea, anxiety, angina, fatigue, change in sexual desire, depression, decreased sexual enjoyment, impotency, partner's worry or anxiety, and feelings of guilt.^[5]

The World Health Organization defines sexual malfunction as various forms which mean that an individual is not able to

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participate in a desired sexual relationship and it is discussed as a major problem affecting the quality of life in the health field.^[6] In Iran, the incidences of sexual malfunction among cardiac patients before surgery and 12 weeks later have been reported as 20.1% and 76.4%, respectively.^[7] This situation has led to more attention being paid to sexual rehabilitation among cardiac health professionals,^[8] and sexual consultations are now followed up more actively.^[9-11]

In relation to sexual rehabilitation, Steinke *et al.* suggest that patients with acute and chronic cardiac problems should use sexual consultancy programs.^[12] A study aimed to assess the effect of resynchronization treatment (as a treatment in the field of sexual function) indicated that intervention is effective in the improvement of erection dysfunction, increased sexual enjoyment, and sexual health in heart failure patients.^[13] Researchers studied sexual satisfaction among 280 cardiac patients and the efficacy of an interventional program, and they found that sexual rehabilitation can increase sexual satisfaction in 63% of chronic cardiac patients and 57% of CABG patients.^[3] Steinke found that sexual consultation through video for myocardial infarction patients improved quality of life, patients' knowledge, anxiety, sexual satisfaction, and resuming of sexual function.^[14] Finally, the results of a study indicated that sexual rehabilitation is effective in the resumption of sexual function and the enhancement of quality of sexual function in the aspects of maintenance of erection, sexual satisfaction, prevalence of erection, and sexual enjoyment.^[15] Hence, in the light of the necessity for sexual rehabilitation in the resumption of sexual function among cardiac patients and the lack of these educational programs in developing countries, in addition to the fact that the past studies have focused so little on the psychological dimensions of sexual function, the present study aimed to assess both the efficacy of psychosexual education program (PSEP) on the psychological dimensions of sexual function and its quality among CR patients.

METHODS

Design and context

The present study is a clinical trial with control and case groups. The statistical community consisted of male patients who had referred to CR Department of Imam Ali hospital of Kermanshah city during the summer of 2015.

Inclusion and exclusion criteria

Inclusion criteria include registration in CR program, male gender, married status, absence of abuse of opioid substances, aged 35–70 years, absence of taking antipsychotic medicines, and tendency for participation. Probably, opioid abuse,^[16,17] elderly age,^[18] and antipsychotic medications^[19] can influence the sexual function which has departed due to the present cardiac condition. Hence, the mentioned criteria were suggested as inclusion criteria. The exclusion criteria include lack of willingness to continue the sessions and absence for one session.

Participants

At first, 61 persons were invited to participate in the research. Despite this, 12 persons were unwilling to participate and six patients did not fulfill the inclusion criteria. Hence, the cases were 43 male patients (case group: 23 and control group: 20) who were selected based on the inclusion criteria and divided randomly into two groups. Regarding the use of PASS software and the comparative test between two groups in the significant level as 0.95, the statistical power of 90%, preassumption about the lack of significant difference between two groups and standard deviation as 3, the minimum sample size was estimated at 20 cases for each group. However, three patients from the case group and four persons from the control group did not complete the sessions, and they were excluded from the research [Figure 1].

Data collection

In this research, questionnaires were provided by the psychologist after case selection based on the inclusion criteria. Then, the researcher explained about how to complete them. A Multidimensional Sexual Questionnaire (MSQ) and Sexual Quality of Life Questionnaire were used at pre- and post-intervention as the research instruments. The participants completed preintervention questionnaires after they had signed the consent paper and they were assured that all information would remain anonymous. These forms were filled in individually by patients but for illiterate patients the psychologist read the items out in a private room and recorded their answers. Patients were divided randomly into two groups then the clinical psychologist from the CR department conducted the PSEP during two 1-h sessions for the case group in the CR Department of Imam Ali hospital of Kermanshah City. Due to the patients' gender, the education was conducted by a male. These sessions took place once a month in addition to the routine postcardiac education for the case group, while the control group received only the routine education and they did not participate in any session related to sexual consultation. Finally, the final evaluation was performed 1 week after the sessions [Figure 1].

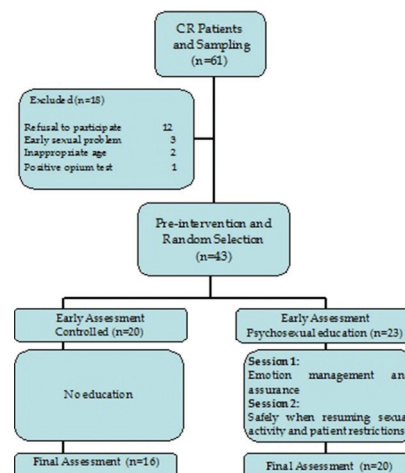


Figure 1: Diagram of patient selection and content of treatment sessions

Instrument

Multidimensional Sexual Questionnaire

This 60-item questionnaire was designed by Snell *et al.*^[20] This questionnaire has 12 subscales that include sexual esteem (items: 1, 13, 25, 37, 49), sexual preoccupation (2, 14, 26, 38, 50), internal sexual control (3, 15, 27, 39, 51), sexual consciousness (4, 16, 28, 40, 52), sexual motivation (5, 17, 29, 41, 53), sexual anxiety (6, 18, 30, 42, 54), sexual assertiveness (7, 19, 31, 43, 55), sexual depression (8, 20, 32, 44, 56), external sexual control (9, 21, 33, 45, 57), sexual supervision (10, 22, 34, 46, 58), fear about sexual relations (11, 23, 35, 47, 59), and sexual satisfaction (12, 24, 36, 48, 60). The mentioned dimensions evaluate the psychological dimension of sexual function. Each of these items scored as never (0), rarely (1), sometimes (2), medium level (3), and great (4), although the items of 19-31-47-59 scored reversely. The researchers^[20] reported the validity of the subscales through factorial analysis between 0.71 and 0.94. Kazemi *et al.* in Iran reported the validity of all subscales 0.67–0.85. They reported the content validity through the Kendall coefficient and Pearson coefficient as 0.44 and 0.53, respectively. They found the internal consistency of each subscale as sexual esteem (0.72), sexual preoccupation (0.81), internal sexual control (0.72), sexual consciousness (0.73), sexual motivation (0.69), sexual anxiety (0.85), sexual assertiveness (0.80), sexual depression (0.75), external sexual control (0.67), sexual supervision (0.70), fear about sexual relations (0.82), and sexual satisfaction (0.78). Due to cultural restrictions, we omitted items on the sexual supervision subscale and 11 subscales were completed by patients.^[21]

Sexual Quality of Life Questionnaire

This scale consists of two different forms for men (11 items) and women (18 items). Each item is scored in a Likert format as completely agree (score 1) to complete disagree (score 6). The total scores for men and women are 11–66 and 18–108, respectively. This questionnaire has no subscale and the higher scores suggest higher quality of sexual life. Alvandi *et al.* in Iran found Cronbach's alpha as 0.86 for the men's form.^[22]

Intervention

This PSEP was derived from Levin's sexual rehabilitation guidebook.^[2] In the first session, the relation between sexual function and cardiac diseases, especially after surgery, was assessed. In the first part of this session, the evidenced-based statistics were presented for the patients and they were assured about the confidentiality of the study. The second part of this session aimed to assess the negative emotions and feelings related to fear, anxiety, and depression to increase patients' knowledge through a presentation of the negative effect of these emotions on their sexual function. The second session aimed to educate about a safe sexual relationship and the general introductions were concerned with the resumption of safe sexual function. Also in this session, correct position during intercourse was explained. For example, it is suggested that patient's weight or their partners should not be on the patient's chest and patients should act less during intercourse

and their partners should be more active. In the second part, the patients' limitations for intercourse and cardiac risk factors before, during, and after intercourse were explained and the needed warnings were given. At the end of session, patients' questions were answered.

Statistical analysis

Data analyzed by descriptive statistics (mean, standard deviation, and percentage) and SPSS ver. 20.0 for Windows (IBM SPSS, Armonk, NY, USA) software through multivariate analysis of covariance (MANCOVA) test for control of the effect of baseline scores on final findings. Regarding randomized division into two groups, there were no significant differences between the two groups in demographic and clinical variables, so control of these variables was not necessary. Before the main analysis, the statistical assumptions of MANCOVA were confirmed and the significant level was established as $P < 0.05$.

RESULTS

All patients in this research were CABG patients. About 84% of patients (87% of case group and 80% of controls) completed the final evaluation. Table 1 indicates the demographic data and risk factors at baseline. As seen, there are no significant differences between the two groups in any variables.

The results of Table 2 indicate the changes in each of the psychosexual components. Based on the results, the PSEP is significantly effective in the enhancement of sexual assertiveness ($P = 0.034$) and reducing fear about sexual relations ($P = 0.007$). There are no significant differences between two groups in other components ($P > 0.05$).

DISCUSSION

When considering the physiological and psychological effects of cardiac disease on patients' sexual quality of life after a cardiac event or process,^[23] the resumption of sexual function is considered to be one of the major factors in psychosocial improvement in patients.^[7,12] Therefore, the present study aimed to assess the efficacy of PSEP on psychological dimensions of sexual function and its quality in CR patients.

As shown in previous studies,^[3,13-15] the results of the present study indicated that PSEP is effective for improvement of some psychological dimensions of sexual function, such as sexual assertiveness and fear about sexual relations. Psychosexual consultation can reduce patients' anxiety and worry through increasing their knowledge which leads to the resumption of safe sexual function.^[14] After a cardiac event or process, patients usually are confused about the resumption of safe sexual function. Due to the fact that cardiologists forbid patients from severe physical activity, patients' sexual assertiveness decreased. Fear about the recurrence of a cardiac event leads to decreased intercourse through decreased sexual assertiveness.^[24] In this condition, patients and their partners

Table 1: Comparison of demographic and clinical factors between the groups

Variable	Case group (n=23)	Control group (n=20)	Test	P-value*
Age (mean±SD)	52.3±6.3	54.0±8.7	-0.716	0.478 ^a
Educational level (%)				
Junior school	1 (4.4)	0	3.575	0.311 ^b
Prediploma	10 (43.5)	14 (70.0)		
Diploma	7 (30.4)	3 (15.0)		
University	5 (21.7)	3 (15.0)		
Occupation (%)				
Blue collar	12 (52.2)	11 (55.0)	3.122	0.210 ^b
White collar	8 (34.8)	3 (15.0)		
Retired	3 (13.0)	6 (30.0)		
Cardiac risk factors (%)				
Diabetes	4 (17.4)	2 (10.0)	0.487	0.485 ^b
Hypertension	4 (17.4)	4 (20.0)	0.048	0.826 ^b
Hyperlipidemia	6 (26.1)	7 (35.0)	0.403	0.526 ^b
Smoking	10 (43.5)	5 (25.0)	1.608	0.205 ^b
BMI >25	10 (43.5)	12 (60.0)	0.660	0.513 ^b
Cardiac risk (%)				
Low	10 (43.5)	7 (35.0)	4.280	0.118 ^b
Moderate	3 (13.0)	8 (40.0)		
High	10 (43.5)	5 (25.0)		

*P<0.05 is significant difference between case and control groups for each component. ^at-test performed for continuous variables; ^bChi-square test performed for nominal and categorical variables. BMI: Body mass index, SD: Standard deviation

Table 2: Results of the multivariate analysis of covariance analysis to determine the effectiveness of the intervention

Psychosexual components	Case group (n=20)		Control group (n=16)		P	η
	Preintervention	Postintervention	Preintervention	Postintervention		
Sexual esteem	13.35±5.50	13.30±4.77	15.55±4.10	17.19±2.90	0.487	0.022
Sexual preoccupation	13.78±3.84	11.25±5.95	13.10±3.84	10.19±3.92	0.527	0.018
Internal sexual control	13.04±4.69	15.85±3.06	14.75±2.47	16.06±0.2.14	0.772	0.004
Sexual consciousness	17.69±2.83	19.45±1.14	18.20±1.99	19.44±1.26	0.985	0.001
Sexual motivation	13.09±5.07	15.25±4.23	16.00±3.40	16.00±3.08	0.348	0.040
Sexual anxiety	10.09±5.11	7.30±5.11	12.95±11.44	8.37±3.93	0.975	0.001
Sexual assertiveness	17.87±2.28	19.35±1.22	17.55±3.15	18.50±2.37	0.034	0.189
Sexual depression	7.26±4.36	4.65±3.74	7.60±4.46	6.00±4.63	0.247	0.060
External sexual control	11.61±4.55	8.90±4.97	12.65±4.29	9.50±4.16	0.730	0.006
Fear of sex	9.26±4.80	5.60±3.38	9.55±3.50	8.00±3.50	0.007	0.288
Sexual satisfaction	11.91±4.92	15.10±4.36	14.45±4.13	16.00±3.58	0.923	0.001
Sexual quality of life	37.91±14.55	47.60±14.33	47.95±13.83	50.37±12.01	0.162	0.087

Significant difference between groups for each of the components *P<0.05

try to obtain information about enhanced prevalence and quality of their sexual relations.^[24] It seems that providing PSEP is effective in the enhancement of sexual assertiveness and reducing fear about sexual relations.

Our findings indicated that PSEP had not improved other psychosexual dimensions and sexual quality of life. Due to the intensive and comprehensive presentation of CR which patients receive which covers the various dimensions including physical and exercise aspects, control of risk factors such as modified nutritional habits, management of stress and negative emotions, control of comorbidities (hypertension, diabetes, hyperlipidemia), correct and on-time taking of medicines, and attention to clinical symptoms of chest pain and dyspnea,^[1]

it seems that they cannot also focus on sexual rehabilitation. The increase in input data can impact significantly on some interventions and educations. Hence, it is not to be expected that the intervention will impact on all functional fields positively. On the other hand, according to Goldman *et al.*'s cardiac risk index,^[25] the cardiac risk is divided to 4 classifications include mild, moderate, severe, and very severe, and it seems that patients with mild risk (first classification) benefit from PSEP more than the others.^[24] Considering that only 40% of our cases are in Class 1, the lack of effect in some fields is explainable.

Limitations and recommendations

Literacy or cultural and regional restrictions among CR patients and shame during response-especially in illiterate patients

who must respond to questions verbally-and the shortness of the consultancy sessions are considered to be the limitations of the present study. Also, as more than 95% of the patients at our center are CABG patients, we studied only CABG patients. In addition, it is suggested that diabetes, hypertension, dyslipidemia, and smoking have roles in sexual problems in cardiac patients,^[6,11,26,27] and these risk factors can affect the results. However, due to the limited number of patients who underwent CR in our center, the inclusion of the mentioned risk factors would decrease the case size severely, and the study would not have been possible. Despite randomized division into case and control groups and the lack of significant differences between two groups, it is recommended that studies which are conducted in larger centers include these risk factors, comorbidities, and taking medicines as inclusion criteria. Finally, the education being only two sessions is a limitation, and it is recommended that the future studies increase the number of sessions to 4–8 times. The recommended educational packs with different formats^[12,14,15] can be helpful for health practitioners and patients.

CONCLUSION

The results of the present study indicate that PSEP is effective in the promotion of some psychosexual dimensions such as sexual assertiveness and fear of intercourse among CR patients. As far as the resumption of sexual function is concerned, as it is one of the most important components in psychosocial improvement in patients, it seems that this intervention should be prioritized in the educational programs offered at Iranian CR centers.

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Conflicts of interest

There are no conflicts of interest.

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