Fear of Sexual Intercourse in Patients with Coronary Artery Disease: A Pilot Study of Associated Morbidity

Davoud Kazemi-Saleh, MD,* Bahram Pishgou, MD,* Shervin Assari, MD,† and Seyed Abbass Tavallaii, MD*

*Behavioral Sciences Research Center, Baqiyatallah Medical Sciences University, Tehran, Iran; †Clinical Research Unit, Baqiyatallah Medical Sciences University, Tehran, Iran

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ABSTRACT

Introduction. Sexual fear is a known cause for avoidance of intercourse, especially in patients with chronic conditions.
Aim. Given the significant impact of fear of intercourse on the quality of life, we herein report our pilot results regarding the differences in the demographic, clinical, marital, and psychological characteristics of coronary artery disease (CAD) patients with and without sexual fear.
Methods. In this cross-sectional study conducted in Baqyiatallah Hospital, Tehran, Iran, in 2006, 87 married CAD patients were assessed for the presence of sexual fear. Subjects with and without sexual fear were compared for demographic and clinical data as well as for Hospital Anxiety and Depression Scale (HADS) and Revised-Dyadic Adjustment Scale (R-DAS) scores.
Main Outcome Measure. Demographic and clinical data, sexual fear (Relationship and Sexuality Scale), symptoms of anxiety and depression (HADS), and marital relation quality (R-DAS).
Results. Twenty-nine subjects were reported to have some degrees of fear of sexual intercourse and a lower frequency of sexual intercourse. Age, socioeconomic status, education level, tobacco smoking, and history of myocardial infarction were significantly different between those with and the ones without sexual fear. Body mass index, extent of coronary involvement, chronic obstructive pulmonary disease, hypertension, stroke, hyperlipidemia, history of diabetes, and the use of beta-blockers were not statistically different in the two groups. The subjects with sexual fear reported higher HADS depressive and R-DAS scores but not higher HADS anxiety scores.
Conclusion. Among different nonmodifiable and modifiable correlates of fear of sexual intercourse in CAD patients, marital relationship and depressive symptoms should be highlighted in future interventional studies with the aim of allaying such fears. **Kazemi-Saleh D, Pishgou B, Assari S, and Tavallaii SA. Fear of sexual intercourse in patients with coronary artery disease: A pilot study of associated morbidity. J Sex Med 2007;4:1619–1625.**

Key Words. Sexual Fear; Coronary Artery Disease; Marital Adjustment; Psychological Morbidity

Introduction

Although sexual fear is known to beget the avoidance of intercourse [1] and has been reported in Crohn's disease [2], stroke [3], chronic obstructive pulmonary disease (COPD) [4], and surgical procedures [5], as well as in post-heart transplantation patients [1], pregnant women [6], and those afflicted with urinary incontinence [7] and anatomical genital disorders and gynecologic malignancies [8,9], it still remains the least explored sexual problem in the sexual medicine [5].

There may be a host of reasons for sexual fear, but first and foremost, it is the patient's concern about the possible negative impact of intercourse on his or her health status that is the main culprit [10]. Such feelings of unease tend to stem from fearing the exacerbation of hypertension (HTN) in HTN patients [11]; fearing relapse, anguish, lack of excitation, and impotence in stroke victims [3,12,13]; fearing dyspnea and reduced exercise tolerance in COPD sufferers [4]; fearing death in heart transplantation patients [1]; and fearing failure, infarction, or even sudden death in CAD and myocardial infarction (MI) patients [10,14].

In the case of CAD and MI patients, sexual concerns have been reported to be prevalent, triggering a reduction in intercourse frequency [14–16]. What gives rise to sexual fear in this group of patients is perhaps the experience of chest symptoms during intercourse [15,17]. Nonetheless, there is strong evidence that coital activity can be pursued without untoward side effects in CAD patients [18], and that the risk of having severe complications during sexual activity for CAD patients is far less than that many other patients and their partners would expect [10] because the energy expenditure during coitus for long-married couples is equivalent to that of climbing stairs or other well-tolerated exercise [4,18]. Indeed, in less than 1% of MI patients, sexual activity is a likely contributor to the onset of MI [10]. This risk may even be further trimmed down by regular exercise [4]. Given that sexual activity is safe [19,20], but a decline in sexual activity in CAD patients may downgrade their quality of life [21], having a good understanding of the factors associated with sexual fear may not only help detect the causes of sexual fear but also prove beneficial to improving the sexual activity of these patients.

Aim

The present study on CAD patients sought to compare demographic and clinical data, psychological symptoms, and marital relation quality between those with and the ones without fear of coital activity.

Methods

This pilot analytical cross-sectional study recruited 87 subjects with CAD (defined by a ≥50% stenosis of at least 1 major coronary artery) who were selected by a consecutive sampling from the outpatient cardiology clinic of Baqyiatallah Hospital, Tehran, Iran in 2006. The inclusion criteria were stable angina, age higher than 40, and marriage for at least 12 months prior to this study. Patients with a history of MI in the previous 6 months (based on patient report and confirmed by medical records); history of cardiac intervention or coronary revascularization; and evidence of such cardiac problems as arrhythmia, cardiomyopathy, left ventricular dysfunction, and disturbed functional class were excluded from the study.

Informed consent was obtained from each patient, and the patients were assured that their personal information would be kept confidential. The study was approved by the Ethics Committee of Baqyiatallah University of Medical Sciences, Tehran, Iran.

Main Outcome Measure

Patients with significant coronary artery stenosis underwent a detailed cardiological assessment in order to identify comorbidities and risk factors, and to define on-going medical therapies. Demographic data comprising age, sex, monthly family income, education level, and living place were registered. We also collected clinical data consisting of body mass index (BMI); history of previous MI; extent of coronary involvement, i.e., single-, two-, or three-vessel; somatic comorbidities such as COPD and stroke; CAD risk factors such as smoking, i.e., active smoking history of >10 packs per year and smoking index equal to the multiplication of the average number of cigarettes smoked per day and duration in years; hyperlipidemia (HLP), defined as a total cholesterol level >200 mg/dL (>7.73 mmol/L) in patients not taking specific drugs; HTN, defined as a systolic blood pressure >160 mm Hg or a diastolic blood pressure >90 mm Hg in three consecutive recordings at rest; history of diabetes, defined as a history of fasting blood sugar >126 mg/dL; medications, especially beta-blockers; and duration of CAD, defined as the first episode of typical chest pain or the first objective demonstration of myocardial ischemia by noninvasive tests. In addition, psychological symptoms (Hospital Anxiety and Depression Scale [HADS]) and marital relation quality (Dyadic Adjustment Scale) were assessed.

The HADS measures symptoms of anxiety and depressive symptoms, and has been reliably utilized in CAD patients [22]. The scale contains 14 items and two subscales, namely anxiety and depression. Each item is scored from 0 to 3, giving maximum scores of 21 to anxiety and depression, respectively [23]. It is worthy of note that we employed a previously translated and validated version for the Iranian population [24]. Cronbach's alpha in our study was 0.815.

The Revised-Dyadic Adjustment Scale (R-DAS) comprises 14 items, which evaluate a couple's agreement on decisions, appropriate behavior, marital satisfaction, and marital cohesion. The R-DAS scores range from 0 to 69, with "distressed relation" having the lowest score [25]. The Persian version of this questionnaire has been previously used in our country [26], and its Cronbach's alpha in our study was 0.90.

Presence of sexual fear was assessed according to the sexual fear subscale of the Relationship and Sexuality Scale (RSS). This subscale consists of two items inquiring about the presence and degree of fear of sexual intercourse in patients and their spouses. Each item is scored between 0 and 4 for "never," "rarely," "sometimes," "often," and "always" responses, with the final score being within the range of 0–8. In this study, the presence of any degree of sexual fear in the patients or their spouses (score >=1) was considered as sexual fear. The RSS, used previously in Iranian subjects [27], is presented in the appendix. The total RSS score is within the range of 0–36, with a higher score indicating a poorer state [28]. Sexual function and sexual frequency were the other subscores utilized in this investigation. Finally, Cronbach's alpha in our subjects was 0.802.

Statistical Analysis

Data were analyzed with SPSS software version 13 (SPSS Inc., Chicago, IL, USA). All the comparisons for the HADS (anxiety, depression, and total score), R-DAS (total score, dyadic consensus, dyadic satisfaction, dyadic cohesion, and affection expression), and other SRS nonfear subscores (sexual function and sexual frequency) between the patients with and those without sexual fear were made by means of an independent sample *t*-test. Demographic and clinical data, such as the number of coronary arteries with significant stenosis, were assessed via a chi-square test. *P* values less than 0.05 were considered significant.

Results

The male-to-female ratio was 65:22 with a mean (SD) age of 58.0 ± 10.7 years. The mean duration of symptoms or signs of myocardial ischemia prior to enrollment in the study was 49 months (range 1–200). Seventeen patients had a history of MI. The demographic and clinical characteristics of the subjects are depicted in Table 1.

Twenty-nine (33.3%) subjects reported to have some degrees of fear of intercourse. Whereas age, education level, monthly family income, tobacco smoking, and a history of MI were significantly different between the patients with and the ones without sexual fear, there was no significant dissimilarity between them with respect to gender, living place, BMI, extent of coronary involvement, COPD, HTN, stroke, HLP, history of diabetes, and the use of beta-blockers (Table 2).

Table 1 Demographic and clinical data of the study groups

Demographic	Age (mean ± SD)	58.0 ± 10.7
	Gender (male)	65 (74.7%)
	Income level (more than 300,000 Rials)	21 (24.1%)
	Upper-intermediate level of education	41 (47.1%)
Angiographic results	Minimal	5 (5.7%)
	1 VD	13 (14.9%)
	2 VD	18 (20.7%)
	3 VD	51 (58.7%)
Clinical	Diabetes	24 (27.6%)
	HTN	29 (33.3%)
	HLP	34 (39.1%)
	Tobacco use	12 (13.7%)
	History of MI	17 (19.5%)

VD = vessel disease; MI = myocardial infarction; HLP = hyperlipidemia; HTN = hypertension.

The HADS depressive symptoms were significantly more severe in patients with sexual fear than those in the others. The patients with and those without sexual fear were also different in terms of the R-DAS total score and its subscores of dyadic consensus and affection expression (Table 3).

Discussion

According to our pilot study, one-third of our CAD patients reported some degrees of fear of sexual intercourse, which was more prevalent in those at a lower age, higher levels of education, higher income level, and a positive history of MI or tobacco smoking. This was also accompanied by less frequent sexual intercourse, a poorer marital relationship quality, and more severe depressive symptoms.

Data on sexual fear or renewal of sexual activity after the diagnosis of CAD or MI are scarce in the literature [10,29], and most published articles in this field have focused on sexual dysfunction [30–37]. Nonetheless, the results of those few studies conducted on the subject show that more than half of the patients report sexual concerns after MI, only one-third of CAD patients resume sexual activity [15], and a greater proportion reduce their intercourse frequency post-MI [14–16].

No relationship was reported between medication, extent of coronary involvement, CAD risk factors, and the presence of sexual fear in our study.

The majority of studies conducted hitherto do not point to a correlation between clinical and angiographic findings or medications in CAD and sexual functioning [38,39]. We are, however, inclined to believe that such findings can be the result of a low sample size. Differences may be

Table 2 Comparison of demographic and clinical characteristics between patients with and without sexual fear

		Sexual fear		
		Present (N = 29)	Absent (N = 58)	*P* value
Demographic variables	Age	54.52 ± 10.09	59.78 ± 10.73	0.029
	Gender (male)	24 (82.8%)	41 (70.7%)	0.222
	Living place (city)	27 (93.1%)	55 (94.8%)	0.745
	Upper-intermediate level of education	19 (65.5%)	22 (37.9%)	0.015
	Income (higher)	12 (41.4%)	9 (15.5%)	0.008
Clinical variables	HTN	10 (34.5%)	19 (32.8%)	0.872
	Diabetes	6 (20.7%)	18 (31.0%)	0.309
	HLP	12 (41.4%)	22 (37.9%)	0.756
	Tobacco	7 (24.1%)	5 (8.6%)	0.048
	History of MI	9 (31%)	8 (13.8%)	0.049

MI = myocardial Infarction; HLP = hyperlipidemia; HTN = hypertension.

due to the varying criteria in defining CAD, the sensitivity–specificity of cardiological test(s) used (mainly the exercise stress test in the emergency department (ED) series vs. coronary angiography in the CAD series), and to CAD's clinical characteristics [40–42]. Only a small number of studies have suggested that gross disease severity correlates with sexual functioning [43].

According to the literature, the finger of blame for sexual fear can be pointed at the experience of chest symptoms during intercourse [15,17]. Moreover, fear of sexual failure or suffering an acute ischemic cardiac event triggered by sexual activity has been reported to create psychological morbidity in this group of patients [21]. In stroke victims, the discontinuity of sexual activity is mainly due to the psychological, rather than medical, status of the patient [3].

Our results, which show an association between sexual fear and poorer marital quality, chime in with those reported by Papadopoulos et al. [17], who found a higher probability of the resumption of sexual activity after coronary artery bypass grafting in those CAD couples enjoying a closer emotional relationship. On the other hand, another study reports that unfounded fears and misconceptions about postcoronary sexual relation beget a great deal of anxiety in an individual [44].

The cross-sectional design of our study did not permit us to conclude a causative relation between the presence of sexual fear and depressive symptoms or marital discord. However, according to the previous reports, both marital discord and depression may drive down sexual activity [45–47]. Drawing upon evidence-based approaches for controlling depressive symptoms [48,49] and improving the marital relationship quality [50] may augment the sexual activity in CAD sufferers. This is only a hypothesis, and thus, requires to be tested by future studies.

Given that decline in sexual activity in CAD patients may enhance the quality of life [21], and that there is no reason to limit normal sexual activity in CAD patients [10,18], we believe that any approach that may upgrade subsequent sexual functioning should be considered seriously.

Table 3 Comparison of marital, sexual, and psychological characteristics between patients with and without sexual fear

		Sexual fear		
		Positive (N = 29)	Negative (N = 58)	*P* value
Marital adjustment	Dyadic consensus	15.37 ± 4.55	17.94 ± 2.84	0.006
	Affection expression	8.29 ± 2.31	9.42 ± 1.47	0.002
	Marital satisfaction	15.13 ± 4.55	16.70 ± 3.91	0.076
	Cohesion	12.24 ± 4.68	13.13 ± 4.28	0.277
	DAS total score	50.85 ± 11.98	57.11 ± 8.69	0.014
Sexual relationship	Function	9.85 ± 3.41	10.71 ± 3.35	0.232
	Frequency	6.55 ± 2.72	5.20 ± 2.05	0.013
	Total score	19.25 ± 5.44	15.94 ± 4.34	0.014
Hospital Anxiety Depression Scale	Anxiety	6.37 ± 5.21	6.24 ± 5.21	0.503
	Depression	7.00 ± 3.26	4.90 ± 3.17	0.022
	Total	13.37 ± 6.16	11.14 ± 6.76	0.081

DAS = Dyadic Adjustment Scale.

Appropriate counseling is one of these helpful measures; in the study of Dhabuwala et al. [51], the patients who received information about the safety of resuming sexual activity showed a lesser degree of apprehension in the post-MI period.

There are, however, two major obstacles to counseling: first, CAD patients tend to be unforthcoming about their sex life, a great proportion of them not even feeling the need to ask their physicians questions about their future sexual activity [14]; and second, cardiologists fail to discuss this aspect of rehabilitation, perhaps because their knowledge in this field is insufficient [15,16]. As a result, most CAD patients are not given sufficient information about sexual activity [14].

The present study has some limitations. First, we did not consider sexual dysfunction in our patients and their spouses. Second, we assessed the subjects' psychological status by using a questionnaire, not according to Diagnostic and Statistical Manual of Mental Disorders—4th Edition-based criteria. Third, we had a low sample size of MI patients or smokers. And lastly, cultural differences, which can modify the experience of sexual fear, were assumed as minimal or insignificant because a lack of data from Iran forced us to use references from other countries. We enrolled men and women in this study because the questionnaire has been used in both sexes elsewhere, and it does not focus on the details of sexual dysfunctions that are sex dependent. Furthermore, we utilized only the sexual fear subscale, on which there is no consensus on it being gender dependent. Because there is a spectrum of opinions ranging from a higher fear of coitus in females [52], no difference between males and females [53] to even a higher sexual fear in men [54]. Despite all these weaknesses, we are inclined to believe that this first report of psychological and marital correlates of sexual fear in CAD patients may assist cardiologists and their associates in using marital and psychological approaches to improve sexual activity in their CAD patients. Further trials targeting these correlates in CAD patients suffering sexual fear should be conducted.

The present study could have been made more robust if we had taken account of which couples had been counseled on the safety and resumption of sexual intercourse. A follow-up interventional study could, therefore, examine sexual functioning pre- and postintervention, and hypothesize that treatment for depression and marital counseling may enrich sexual activity and functioning in CAD patients.

We considered the degree of CAD (single-, two-, and three-vessel), but it goes without saying that not all CAD patients are the same. Future studies should take into account those who receive particular therapies for their CAD. For example, the type of therapy, such as percutaneous transluminal coronary angioplasty or interventional therapies, can have an impact on the perception of a patient's partner of the manifestation of the disease and the notion that the heart is now "fixed."

Conclusion

According to our pilot study, although there is no reason why sex life should be restricted in CAD patients, fear of sexual activity does exist in one-third of such patients, and is associated with marital discord and more severe depressive symptoms. Further studies with a larger sample size seem essential.

Corresponding Author: Seyed Abbass Tavallaii, Baqiyatallah Medical Sciences University, Vanak Square, Mollasadra Ave. 19945-587 Tehran, Iran. Tel: +98 21 81264150; Fax: +98 21 88037561; E-mail: ab.tavallayee@gmail.com

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Appendix

Relationship and Sexuality Scale

Negative effect of disease on sexual life	Not at all	Slightly	Rather much	Much	Very much
Effect of disease on sexual desire	Increased	No change	Decreased	All gone	
Effect of treatment on sexual desire	Increased	No change	Decreased	All gone	
Satisfaction with frequency of hugs and kisses	Not at all	Slightly	Rather much	Much	Very much
Fear of sexual intercourse*	Never	Rarely	Sometimes	Often	Always
Perceived fear of partner for sexual intercourse*	Never	Rarely	Sometimes	Often	Always
Frequency of sexual intercourse relative to level before disease diagnosed	Increased a lot	Somewhat increased	No change	Somewhat decreased	
Ability to reach orgasm relative to that before disease diagnosed	Increased a lot	Somewhat increased	No change	Somewhat decreased	
Satisfaction with your intercourse	Not at all	Slightly	Rather much	Much	Very much
Frequency of sexual intercourse in last 2 weeks	None	Once	Twice	Three times	Four or more

*Sexual fear subscale.