ORIGINAL RESEARCH—PSYCHOLOGY

Gender Impact on the Correlation between Sexuality and Marital Relation Quality in Patients with Coronary Artery Disease

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ABSTRACT

Introduction. Although the negative impact of coronary artery disease (CAD) on sexual and marital relation of the patients is known, data are lacking regarding possible gender difference.

Aim. We designed a study on patients with CAD to investigate sexual relation and marital adjustment and their association with regard to gender differences.

Main Outcome Measures. Questionnaires including the Dyadic Adjustment Scale for evaluating the couple's agreement on decisions and appropriate behavior, marital satisfaction, and marital cohesion, and the Relation and Sexuality Scale (RSS) for sexual function, frequency, and fear.

Methods. We surveyed 650 patients with documented CAD without any other major comorbidities.

Results. The patients were 464 men (73.1%) and 171 women (26.9%) with CAD. The mean age of the men and the women were 57.1 ± 11.6 years and 56.3 ± 9.7 years, respectively. The women had a significantly poorer dyadic adjustment and sexual relation than men, except for sexual fear, which was more prominent in men with CAD and their spouses. The sexual frequency and the total RSS scores correlated with all aspects of the patients' marital relation in both genders. However, only men suffered from a poorer dyadic satisfaction, dyadic consensus, affectional expression, and overall marital adjustment if they were more afraid of sexual relation. In women, but not men, sexual function was significantly associated with their dyadic satisfaction and their overall marital relation.

Conclusions. Poorer sexual relation and marital adjustment was detected in our women with CAD. To manage all the problems of the patients that may impact their cardiac status, we should consider factors such as fear of sexual activity in men sexual dysfunction in women, and their correlation with marital adjustment. **Kazemi-Saleh D, Pishgou B, Farrokhi F, Assari S, Fotros A, and Naseri H. Gender impact on the correlation between sexuality and marital relation quality in patients with coronary artery disease. J Sex Med 2008;5:2100–2106.**

Key Words. Coronary Artery Disease (CAD); Sexual Relationship; Marital Adjustment; Gender

Introduction

Sexual relations are dependent on the emotional and psychologic interplay in a dyadic relationship [1]. On the other hand, physical problems can impact the sexual satisfaction of patients, their sexual function, and consequently their marital adjustment [2,3]. As a result, sexuality can be regarded as an indicator of health-related quality of life in patients with certain chronic illnesses [4,5]. Concerning coronary artery disease (CAD), affected patients have problems with their sexuality that the physician must deal with. Accordingly, failure in adjustment with the spouse, impaired sexuality, and CAD are three interrelated factors that require attention from various viewpoints [4,5].

The mutual relations of sexuality and mental health have been extensively investigated in patients with CAD [5,6]. However, while different

physiology and even perceptions of sexual relation do exist among men and women, most studies have focused on men and the gender differences are neglected in the context of this disease [5–8]. The shared pathophysiology of CAD and organic disorders, such as erectile dysfunction in men, is the most frequently discussed issue [9–12], and few studies have approached the psychologic and other correlates of sexual relations of the patients [13–16], especially the possible gender differences that potentially impact their quality of life [5,8].

It has been shown that women with CAD not only do not disregard their sexuality, but also more frequently suffer from an impaired sexual relation than men with CAD [8]. How women cope and deal with the condition can be influenced by totally different psychologic and organic factors compared with men. Thus, it is reasonable to assume that the impact of sexual problems on the patient's marital relation requires independent investigations for each gender. In search for the gender differences, we designed this study to investigate sexual and marital relations and their correlations in men and women with CAD.

Methods

Patients

We evaluated the marital relationship quality of CAD patients in association with their sexual relation. The study was approved by the Ethics Committee of Baqiyatallah University of Medical Sciences. We selected patients with documented CAD who presented to the clinic of Baqiyatollah General Hospital. As the majority of our patients are married and the answers of unmarried individuals about their sexual activity could be unreliable because of their reluctance and cultural limitations, we selected married patients. The exclusion criteria were myocardial infarction (MI) or hospitalization during the past 6 months. Also, patients who were reluctant to answer the questions for any reason were excluded from the study. The Comorbidity Scale was used to assess the patient's overall health status [17]. This questionnaire assessed the patients for diseases including ischemic heart disease, hypertension, back pain or vertebral disorders, disability, impaired vision, and hematologic, neurologic, gastrointestinal, urogenital, liver, infectious, pulmonary, and psychologic diseases. Patients with the highest score (4) for the first question on ischemic heart disease ("severe") were excluded and only patients who described their disease as "moderate" or "mild" (scores 2 and 3) were enrolled. Regarding the other diseases, patients with a score lower than 3 for each question (no disease or mild disease) were enrolled in the study.

Main Outcome Measures

Sociodemographic and medical history of the patients were assessed by information forms filled out by the visiting research assistant. In addition, two self-administered questionnaires were completed by the patients after the instructions were given by a trained sex-matched research nurse. The Revised Dyadic Adjustment Scale (RDAS) [18] was used, comprising 14 statements for evaluating the couple's agreement on decisions and appropriate behavior, marital satisfaction, and marital cohesion. The RDAS scores range from 0 to 69, with "distressed relation" having the lowest score. The instrument has a high internal consistency (Cronbach's alpha, 0.88) and construct validity [18]. Other than the total score, four subscores were determined to measure consensus, affectional expression, satisfaction, and cohesion in the patients and their spouses' marital relation.

For evaluating the patients' relationship and sexuality since the development of CAD, we used 10 items of the Relation and Sexuality Scale (RSS) questionnaire (Appendix) [19–21]. The RSS has three subscores to assess sexual function, sexual frequency, and sexual fear. Responses to each item were arranged in ordinal categories, corresponding to problem levels. Items 1, 2, 3, 7, and 8 were used for sexual function; 4, 9, and 10 for sexual frequency; and 5 and 6 for sexual fear. The Cronbach's alpha was 0.820 for total score.

Statistical Analyses

The chi-squared and independent sample *t*-test were used for comparisons between two groups and the Pearson correlation test for the evaluation of the correlations between variables with normal distribution, using the SPSS software (Statistical Package for the Social Sciences, version 13.0, SPSS Inc, Chicago, IL, USA). A *P* value less than 0.05 was considered significant.

Results

Of the total 983 patients with CAD, 796 (80.1%) were eligible, of whom 635 (79.8%) consented to participate in the study and completed the questionnaire. The participants included 464 men

Table 1 Scores for Revised Dyadic Adjustment Scale (RDAS) and Relation and Sexuality Scale (RSS) in men and women with coronary artery disease*

Characteristic	Men	Women	*P*
RDAS			
Dyadic consensus	17.1 ± 3.5	16.5 ± 3.8	0.08
Affectional expression	9.2 ± 1.5	8.9 ± 2.4	0.08
Dyadic satisfaction	16.9 ± 3.7	14.6 ± 5.5	<0.001
Dyadic cohesion	12.9 ± 4.9	11.6 ± 5.0	0.007
Total RDAS	56.1 ± 10.1	51.7 ± 13.0	<0.001
RSS			
Sexual function	10.4 ± 3.3	11.7 ± 2.9	<0.001
Sexual frequency	5.5 ± 2.1	6.5 ± 2.3	<0.001
Sexual fear	0.8 ± 1.5	0.3 ± 1.2	0.001
Total RSS	16.6 ± 4.8	18.6 ± 3.8	<0.001

*Values are demonstrated as mean ± standard deviation. Higher scores are indicative of worse conditions for the RSS but a better condition for the RDAS.

(73.1%) and 171 women (26.9%). The mean age of the men and women were 57.1 ± 11.6 years and 56.3 ± 9.7 years, respectively ($P = 0.39$).

The RDAS scores were higher among the men, indicating that compared to the women, their marital relation was better from their point of view (Table 1). According to the RSS scores, the women were less satisfied with their frequency of intercourses and had a poorer sexual function than men. However, both the men with CAD and their spouses were more afraid of sexual activity during the disease course (Table 1). Consequently, the mean sexual fear score was significantly higher in men.

We sought to investigate the potential correlations between the patients' sexual relation and their marital adjustment. The sexual frequency and the total RSS scores correlated with all aspects of the patients' marital relation in both genders. However, men and women were different in their sexual fear and function in relation to their marital adjustment; men, whose sexual relation was highly influenced by fear of sexual activity, suffered from a poorer dyadic satisfaction, dyadic consensus, affectional expression, and the overall marital adjustment (Table 2), but the women's marital relation was not associated with sexual fear. On the other hand, although the sexual function score did not correlate with marital adjustment in men, it was significantly associated with the women's dyadic satisfaction and their overall marital relation (Table 2).

Table 2 Correlations of sexual relation indicators with dyadic adjustment scales in men and women with coronary artery disease*

	Sexual function		Sexual frequency		Sexual fear		Total RSS	
RDAS domains	Men	Women	Men	Women	Men	Women	Men	Women
Dyadic consensus	−0.012 (0.82)	−0.10 (0.22)	−0.22 (<0.001)	−0.25 (0.001)	−0.14 (0.004)	−0.03 (0.72)	−0.15 (0.003)	−0.24 (0.003)
Affectional expression	0.04 (0.46)	−0.03 (0.66)	−0.32 (<0.001)	−0.37 (<0.001)	−0.40 (<0.001)	−0.11 (0.18)	−0.24 (<0.001)	−0.28 (<0.001)
Dyadic satisfaction	−0.005 (0.93)	−0.23 (0.004)	−0.16 (0.002)	−0.37 (<0.001)	−0.16 (0.001)	0.07 (0.41)	−0.12 (0.01)	−0.38 (<0.001)
Dyadic cohesion	0.001 (0.99)	−0.08 (0.34)	−0.25 (<0.001)	−0.38 (<0.001)	−0.07 (0.15)	−0.007 (0.93)	−0.13 (0.008)	−0.29 (<0.001)
Total RDAS	0.001 (0.99)	−0.16 (0.04)	−0.32 (<0.001)	−0.45 (<0.001)	−0.21 (<0.001)	−0.004 (0.96)	−0.20 (<0.001)	−0.40 (<0.001)

*Values are demonstrated as correlation coefficient (*P*).
RDAS = Revised Dyadic Adjustment Scale; RSS = Relationship and Sexuality Scale.

Discussion

We found a poorer sexual function and less frequent sexual activity in women with CAD than in

men with the disease. The recently published studies have supported this finding [8,22]. We did not compare the women in our study with the healthy population, but distinct sexual dysfunction and lower frequency of intercourses have also been shown in women with CAD compared with healthy controls [22]. Consequently, while a decrease in quality of sexuality in patients with CAD occurs [6,22,23], the ultimate condition might be worse in women. This warrants attention of the physicians to the sexual problems of women with CAD, in addition to those of men, mainly their erectile dysfunction.

An interesting point concerning other aspects of sexuality than sexual function was that we found a higher rate of sexual fear in men with CAD and their wives. Evidence is scarce on gender differences in sexual fear of patients with CAD. One study showed that 20% of women were afraid of sexual activity after a cardiac event [24]. In men, it has been stated they are afraid of sexual intercourse and the risk of death or cardiac injury [25,26]; however, there is no information of the extent of this fear. There may be several reasons for sexual fear; the patients are concerned about the relapse of their cardiac symptoms, dyspnea, MI, and death [23,27]. They may also be conscious of reduced sexual ability with CAD and be afraid of failure in dyadic sexual satisfaction. The higher frequency of sexual fear among male patients and their wives might be because of the cultural behaviors and the more active role of men in sexual activities, as well as the psychologic consequences of erectile dysfunction. We suggest further investigation in different population settings to elucidate the roots of sexual fear in men and women with CAD.

Regarding marital adjustment, we found that women with CAD suffer from impaired relation with their spouses to a greater extent than men with CAD. We cannot determine the role of CAD in such a gender difference, and postulating a causal effect is beyond the scope of this study. However, our results would help to consider some neglected factors that should be managed in the treatment of women with CAD. It has been shown that these women have a poorer quality of life that undoubtedly impacts their disease outcome [8], and of course, marital relation is a major proportion of the quality of life. Recent studies have focused on the spouses of the patients with CAD and their level of distress and coping that can influence the recovery of the patient, and documented that the spouses of patients with MI suffer from distress even more than the patients themselves [28,29]. Distressed spouses of cardiac patients had less intimacy in their marriages and lower family functioning [28]. Meanwhile, research has shown that sustained familial support has a positive long-term effect on the cardiac outcome [30]. Hence, the poor marital relationship can contribute to suboptimal recovery in patients with CAD [31]. Our study adds to the above knowledge the point that we should provide the spouses of patients, and in particular husbands of women with CAD, with proper counseling on their marital adjustments.

According to our findings, both men and women with CAD have a better marital relation in all aspects when they have a better sexual relation and, in particular, more frequent intercourses. Studies on the general population are completely in agreement with our results [1,32,33]. In a study in the United States, it was revealed that in both husbands and wives, sexual satisfaction and constructive communication were predictive of marital satisfaction. Even at a low level of constructive communication, sexual satisfaction could independently improve marital satisfaction in both genders [33]. Regarding the CAD patients, O'Farrell and colleagues described sexual concerns as one of the five stressors encountered by the spouses that could lead to less intimacy between the couple [28].

Some researches have emphasized the more prominent correlation between marital and sexual relations in women [32,34]. Sexuality in chronic illnesses usually reminds us of male sexual dysfunction; however, we found that in the patients with CAD, sexual function was not related to marital adjustment in men. Conversely, women with a poorer sexual function had a poorer dyadic consensus and impaired overall marital adjustment. In diabetic women, marital relation was described as the predominant predictors of sexual dysfunction [35]. Even in the general population, it has been shown that other than arousal problem and inhibited enjoyment, orgasmic dysfunction is significantly related to marital difficulties in women [34].

A unique finding of our study was the exclusive association of sexual fear and marital adjustment in men with CAD. The total RSS scores in men correlated the RDAS scores and its subscores. Of the subdomains of the RSS, sexual fear and frequency constituted this correlation. Surprisingly, sexual function (that mainly represents erectile function) did not have a role in the interplay between marital and sexual relations in men with CAD. Thus, we can conclude that fear of sexual activity in men is a

major concern in men with CAD that might yield to poorer spousal support of the patient. The low frequency of sexual intercourse can be a direct consequence of a poor marital relation, but the mutual reinforcing effect of marital relation and being afraid of sexual activity needs further exploration. Reducing the irritating feeling of fear in couples suffering from CAD is, however, a viable and of course, an essential task of the physician. Although the excitement and overactivity that occurs during sexual intercourse can be accompanied by cardiac symptoms, the absolute risk of cardiac events does not increase significantly by sexual activity [9,23]. Recommending less strenuous sexual positions and prophylactic use of nitrates can be helpful. In addition, the couples' sexual behavior should be shifted from intercourse to alternative forms of sexual pleasure focusing on the couples' affectional expression [36]. A constructive communication between the patient with CAD and his wife can improve their perceptions of the disease and the husband's limitations in sexual activity. All these considerations can ultimately alleviate both the couples' sexual and marital relation. Therefore, other than the treatment of erectile dysfunction in men with CAD, we should pay special attention to their other needs and their partner's attitude toward the disease.

The findings of the present study are remarkable, especially in the geographic and cultural context of our study population. However, we should acknowledge the limitations with the measurement of subjective variables we were involved with. The RSS and RDAS self-reporting questionnaires have frequently been used and relied on in other investigations, but several measurement tools have been used for sexual and marital relations that make comparisons and conclusion difficult. For instance, differential correlation patterns have found between sexual function, marital adjustment, and sexual satisfaction with three measures of sexual satisfaction, one of them being RDAS [37]. Moreover, we did not classify CAD based on its severity and type, and as a result, our finding might not be generalizable to all coronary conditions. Nonetheless, this study offers a new insight about the different characteristics of sexuality and marital adjustment that can be of great importance in the management of CAD.

Conclusions

It has been evidenced that patients with CAD suffer from impaired sexual relation with their partners and a low quality of life that impact on their disease outcome. Marital adjustment is, on the one hand, an essential part of a good psychosocial status of the patients with chronic illness, and, on the other hand, is related to sexual relations. However, different patterns of these interrelations and perceptions of each gender have been neglected in the management of patients with CAD. We could depict poorer sexual relation and marital adjustment in women with CAD and also gender differences in these factors and their severity of impairment in the presence of heart disease. The couples' fear of sexual activity is a major concern in men with CAD other than sexual dysfunction, while in women, we should pay more attention to sexual dysfunction that can impact their marital relation. Further studies are warranted to unravel details of the patients and their partners' relation and to improve the management of all physical and psychologic impairments accompanying chronic conditions such as heart disease.

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Appendix

Relationship and Sexuality Scale

1. Negative effect of disease on sexual life
   (1) not at all (2) slightly (3) rather much (4) much (5) very much
2. Effect of disease on sexual desire
   (1) increased (2) no change (3) decreased (4) all gone
3. Effect of treatment on sexual desire
   (1) increased (2) no change (3) decreased (4) all gone
4. Satisfaction with frequency of hugs and kisses
   (1) not at all (2) slightly (3) rather much (4) much (5) very much
5. Fear of sexual intercourse
   (1) never (2) rarely (3) sometimes (4) often (5) always
6. Perceived fear of partner for sexual intercourse
   (1) never (2) rarely (3) sometimes (4) often (5) always
7. Frequency of sexual intercourse relative to level before disease diagnosed
   (1) increased a lot (2) somewhat increased (3) no change (4) somewhat decreased
8. Ability to reach orgasm relative to that before disease diagnosed
   (1) increased a lot (2) somewhat increased (3) no change (4) somewhat decreased
9. Satisfaction with your frequency of intercourse
   (1) not at all (2) slightly (3) rather much (4) much (5) very much
10. Frequency of sexual intercourse in last 2 weeks
    (1) none (2) once (3) twice (4) three times (5) four or more