

Attitudes and Performance of Cardiologists Toward Sexual Issues in Cardiovascular Patients



Razieh Salehian,¹ Fatemeh Khodaeifar,² Morteza Naserbakht,¹ and Azadeh Meybodi¹

ABSTRACT

Introduction: The aim of the present study was to evaluate the attitudes and performance of cardiologists regarding sexual issues in patients with cardiovascular diseases.

Methods: A nationwide survey was conducted in a sample of cardiologists, representative of Iranian cardiologists, in 2015.

Main Outcome Measures: Appropriate questionnaires were developed and used to ask participants about their attitudes, performance, and barriers regarding discussing sexual issues with patients with cardiovascular disease.

Results: The study population consisted of 202 cardiologists (138 men and 63 women) with a mean age of 44.25 years (SD = 8.45). Overall, 93.15% of cardiologists agreed with the importance of discussing sexual issues with their patients with cardiovascular diseases. Almost 76.7% of cardiologists agreed they had a responsibility to deal with patients' sexual problems, and 79.9% of them were aware of the association of cardiovascular disease with sexual problems of cardiac patients, but only 33% of them were confident in their knowledge and skills in this regard. Only 10.6% of cardiologists reported they frequently or always assessed sexual problems with their patients, but 51.50% of them stated they were responding to patients' questions about sexual problems. There was a significant association between performance and responsibility.

Conclusion: The results of this study indicate a gap between cardiologist's attitudes and their actual performance and that their professional responsibility to address patients' sexual issues is a significant parameter for better performance.

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Key Words: Sex; Attitude; Performance; Cardiologists; Sexual Issues; Cardiovascular Diseases; Barrier; Sexual Dysfunction; Counseling

INTRODUCTION

Sexuality is a lifelong human experience that has major positive effects on physical and psychological well-being.¹ Likewise, sexual dysfunction can have a negative effect on emotional health and the quality of interpersonal relationships.² Although sexuality might not always be the first priority for patients with cardiovascular disease (CVD), it is a part of everyone's life and

sexual satisfaction is a major component of quality of life. Sexual problems, such as a decrease in libido, cessation of intercourse, or erectile dysfunction (ED) in men and pain during intercourse or decreased vaginal secretion in women, can frequently occur in relation to some diseases, including CVD.^{3,4} There are numerous studies that have reported on the high prevalence of sexual dysfunction in men and women with CVD.^{5–8} There is an association between sexual problems and CVD including physical vascular causes.⁴ Psychological concerns about a cardiac event or sudden death during sexual activity are the most common stressful problems in patients with CVD and their partners. They worry about their sexual activity and need counseling services and education for this issue.^{9,10} There is evidence suggesting that some medications for cardiac patients, including lipid-lowering drugs and β -blockers, can have side effects on sexual function in these patients.¹¹ In addition, recent studies have suggested a strong association between sexual dysfunction and comorbid

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¹School of Behavioral Science and Mental Health, Tehran Institute of Psychiatry, Tehran, Iran;

²Iran University of Medical Sciences, Mental Health Research Center, Tehran, Iran

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conditions such as diabetes mellitus, dyslipidemia, hypertension, and heart surgery in patients with CVD. The high prevalence of various risk factors of sexual dysfunction in this group of patients indicates the importance of this issue and suggests the need for regular follow-up visits.^{12–14}

Recent guidelines on sexual activity in patients with CVD have recommended that sexual counseling should be considered an important part of cardiac rehabilitation services.^{4,15} Previous researchers have reported that sexual counseling for cardiac patients who experience sexual dysfunction might decrease the patients' fear of sexual activity and enhance the quality of life of these patients and their partners.^{15,16} However, most patients and health professionals avoid talking about sex issues owing to some barriers, including embarrassment, lack of knowledge or training, cultural background, religious beliefs, and negative attitudes about sexuality.^{15,17}

The prevalence of coronary heart disease in Tehrani adults has been reported to be 21.8% (22.3% in women and 18.8% in men).¹⁸ In a population-based study in Iran, the prevalence of sexual dysfunction in 2,626 women 20 to 60 years old was 31.5%.¹⁹ The prevalence of ED in 2,674 men 20 to 70 years old from 28 counties in Iran was 18.8% and hypertension and coronary artery disease were significantly associated with ED.²⁰ Iran is a large country with different ethnicities and cultures. Racial, ethnic, and cultural distinctions have been cited as the reasons for differences in the prevalence rates of sexual disorders.²¹ In a study conducted by Hashemi et al²² of women living in different geographic regions of Iran, the prevalence of sexual disorders was affected by their attitude toward sexual function.

Cardiologists play an important role in assisting cardiac patients who experience sexual dysfunction to learn how to live with their disability and return to normal sexual activity.^{4,23,24} Therefore, it is necessary that cardiologists assess these problems in this group of patients. Lack of such provision could have long-term side effects for patients and their partners. To the best of our knowledge, no study has assessed cardiologists' attitudes toward and performance of discussing sexual issues in Iran. Only one study was carried out in Kerman, Iran, and it concerned the knowledge and attitude of nurses toward sexual activity.²⁵ Therefore, the aim of the present study was to evaluate the attitudes and performance of cardiologists concerning sexual issues in patients with CVD; thus, we examined whether cardiologists in Iran assessed sexual problems with their patients and, if not, their reasons for not doing so.

METHODS

Sampling

A multistage sampling method was used for the selection of study subjects. Because several ethnicities with different native languages and cultures are distributed throughout Iran (eg, Baluchs live mostly in the southeast and Turks live mostly in the northwest), we selected Iran's geographic areas. Therefore, in the first step, Iran was divided into six regions (northeast, northwest, central, southwest, southeast, and Tehran). In the next step, two

provinces were selected randomly from each region and then one city from each selected province was randomly chosen (except Tehran, which had been selected as a region). Almost 1,600 cardiologists were members of the Iran Society of Cardiology in March 2015. A list of the names and addresses of cardiologists in the study area was used to invite participation and questionnaires with a study information sheet were mailed to the individuals on the list. They completed questionnaires and returned them by mail. The study was granted ethical approval by the Shahid Beheshti University of Medical Sciences (Tehran, Iran) in April 2015.

Questionnaires

Demographic and professional data included age, sex, marital status, level of education, duration of practice in cardiology, and region of activity.

Three questionnaires were used to assess the participants' attitudes, performance, and barriers to addressing sexual issues. Because of the different cultures and religions in Iran, we decided to develop appropriate questionnaires to gather useful information. For this purpose, a literature review and discussions with the research steering committee were performed while building the questionnaire forms. In addition, we obtained feedback on a draft version from five cardiologists and further revised the questionnaire. A panel of experts (five cardiologists and five psychiatrists) was assembled and their quantitative and qualitative viewpoints were collected and analyzed to measure the face and content validity of the instrument. The internal consistency of the questionnaires was calculated by the Cronbach α value, and, to determine the temporal reliability of the questionnaires, 30 cardiologists completed them within 2 weeks.

The attitude questionnaire consisted of nine items. Cardiologists were asked to rate their agreement with each item on a five-point Likert scale (completely disagree = 1, disagree = 2, no comment = 3, agree = 4, completely agree = 5). This questionnaire consisted of four subdomains. The subdomain of overall view (the first six items) focused on the importance of the sexual issues of cardiac patients and sexual instruction (eg, the importance of elderly patients' sexual issues). The overall view score was calculated by adding the scores of six questions related to this subdomain. Three items on the attitude questionnaire focused on the cardiologists' awareness of the association between CVD and the sexual problems of cardiac patients and presumed responsibility and confidence in sexual health care (subdomain of awareness, responsibility, and confidence, respectively). The total attitude score was calculated by adding the scores of all nine questions. Minimum and maximum possible scores of the attitude questionnaire were 9 and 45, respectively. A higher score reflected the responder's more positive attitude toward the importance of patients' sexual issues and greater awareness, responsibility, and confidence in dealing with sexual issues.

The performance questionnaire consisted of 10 items on a five-point Likert scale focusing on the practice of conducting a sexual assessment and counseling of patients (never = 1, rarely = 2,

sometimes = 3, frequently = 4, always = 5). The possible minimum and maximum performance scores were 10 and 50, respectively. A higher score indicated better performance of cardiologists in sexual health care. The performance questionnaire consisted of two subdomains on the relevancy of items to cardiovascular medication; for example, the non-drug-related subdomain consisted of the item “Do you assess cardiac function for sexual activity in your patients?” and the drug-related subdomain consisted of the item “Do you assess the sexual side effects of cardiovascular medication?” The score for each subdomain was calculated by adding the scores of related questions. In addition, two questions about their preferred professionals for referrals and the need for additional training were included at the end of this questionnaire.

The barriers questionnaire consisted of 10 items focusing on a list of nine barriers and an open-ended item inquiring about additional barriers. The cardiologists were asked to select each barrier with which they agreed (the cardiologists were not asked to rate this instrument’s items for importance).

Statistical Analysis

The characteristics of participants are presented as mean (SD) for numerical variables and number (percentage) for categorical measurements. Differences in two mean values were assessed using the Student independent t-test between several couples of independent groups such as men and women and one-way analysis of variance was used for differences in at least three mean values for several independent groups, such as region of activity groups. To assess the independence of two categorical variables, the χ^2 test or Fisher exact test was used. Mann-Whitney U-test or Kruskal-Wallis test was used for the association of categorical measurements and variables of attitude and practice. A non-parametric measurement (Spearman correlation) was used for the relation between the variables of attitude and practice. *P* values less .05 were considered statistically significant.

RESULTS

Questionnaires

In the present study, we measured the content validity of the questionnaire by asking experts familiar with this field to review it. The values of the content validity ratio for attitudes, performance, and barriers were 80%, 85%, and 77.7%, respectively, and the indices of content validity were 93.4%, 92.75%, and 89.7%, respectively. Internal consistency (Cronbach α) and temporal reliability (by Spearman ρ non-parametric correlation coefficients) of three questionnaires were 81.9%, 83.3%, and 78.3% and 77.8, 82.5, and 80.8 for the attitudes, performance, and barriers questionnaires, respectively.

Participants’ Characteristics

Of 350 questionnaires, 232 were returned (response rate = 66.29%) but 30 were excluded because of inadequate completion of the questionnaire (>10% missing data). Because of the

Table 1. Demographic and professional characteristics of respondents (N = 202)

Characteristic	n	%*
Age (y)		
30–40	71	37.60
40–50	69	36.50
50–60	37	19.60
≥60	12	6.30
Sex		
Men	138	68.30
Women	63	31.20
Marital status		
Single	30	14.90
Married	165	81.70
Education		
Cardiologist	149	73.80
Fellowship	53	26.20
Practice of cardiology (y)		
<10	110	54.50
≥10	55	27.20
≥20	30	14.90
Region of activity		
Northeast	29	14.40
Northwest	27	13.40
Central	25	12.00
Southeast	26	12.90
Southwest	25	12.40
Tehran	70	34.70

*The number differs because of missing items in the survey data; the valid percentage is listed.

anonymous design of the study, the demographic characteristics of non-respondents were not available for analysis. Therefore, the study population consisted of 202 cardiologists (138 men and 63 women) whose mean age was 44.25 years (SD = 8.45). Of these, 165 (81.70%) were married. A statistically significant difference was founded between the mean age of women and men (mean = 46.39 ± 9.026 in women vs mean = 39.68 ± 6.296 in men; *P* = .007).

Of the 202 participants, 145 (73.8%) were cardiologists and 53 (26.2%) were in cardiology fellowships; 54.5% of participants had less than 10 years’ work experience, 27.2% had 10 to 20 years’ work experience, and 14.9% had longer than 20 years of experience. Of the participants, 14.4% were from the northeast, 13.4% were from the northwest, 12.4% were from the central region, 12.4% were from the southwest, 12.9% were from the southeast, and 34.7% were from the Tehran area. Table 1 presents a summary of participants’ characteristics.

Attitude of Cardiologists Toward Sexual Problems of Patients With CVD

The total attitude scores that were obtained (theoretical range = 9–45) ranged from 26 to 45 (mean score = 37.6 ± 3.62 ; Table 2).

Table 2. Mean score and distribution of responses from participants on their attitude and performance

Domain and subdomain	Items in each domain or subdomain, n	Mean \pm SD	Rate of responses, %		
			Completely agree or agree	No idea	Completely disagree or disagree
Attitude*			Completely agree or agree	No idea	Completely disagree or disagree
Total attitude	9	37.60 \pm 3.62	83.14	12.67	4.07
Overall view	6	26.33 \pm 2.55	93.15	6.60	0.24
Awareness	1	4.08 \pm 0.76	79.80	17.59	2.51
Responsibility	1	4.05 \pm 0.87	76.73	17.33	5.94
Confidence	1	3.09 \pm 0.91	33.00	40.00	27.00
Performance [†]			Often or always	Sometimes	Rarely or never
Total practice	10	29.18 \pm 6.48	34.93	35.70	36.35
Drug-related practice	2	6.52 \pm 1.94	38.00	38.00	24.00
Non-drug-related practice	8	22.66 \pm 5.12	25.43	35.12	39.43

*Total scores for attitude, overall view, awareness, responsibility, and confidence were 45, 30, 5, 5, and 5, respectively.

[†]Total scores for performance, non-drug-related practice, and drug-related practice were 50, 40, and 10, respectively.

Table 3 presents the results of the overall view, awareness, responsibility, and confidence in cardiologists toward discussing the sexual problems of patients with CVD. When asked about the importance of patients' sexual issues, 91.10% of cardiologists stated that it was important from their own view, and 90.10% of cardiologists stated these issues were important from their patients' view. Further, 95% of them agreed that sexual problems in cardiac patients are as important as in the general population, and 96% of them agreed that sex education is an essential need for cardiac patients. In addition, 93.10% of respondents agreed that sexual problems of female patients are as important as those of male patients, and 93.60% of them agreed with the importance of the elderly's sexual problems compared with those of younger adults. Overall, most cardiologists (93.15%) agreed with the importance of sexual instruction and sexual issues in cardiac patients (overall view), and 79.9% of responders were aware of the association between CVD and sexual problems of cardiac patients. When asked about their responsibility in dealing with sexual health problems in this patient group, 76.7% of responders agreed that cardiologists were responsible, but only 33% of them were confident of their knowledge and skills. Experienced cardiologists were significantly more confident about their knowledge and skills (mean 3.31, SD = 0.967, for ≥ 20 years of experience; mean = 3.21, SD = 0.853, for 10–20 years of experience; mean = 2.93, SD = 0.863, for 0–10 years of experience; $P = .045$).

There was no significant association of attitudes, awareness, and responsibility with participants' characteristics, such as age, sex, marital status, education, area of activity, and years of work experience. There was a significant association between confidence and marriage (Table 4). Confidence was higher in married participants (mean = 3.15, SD = 0.904, for married; mean = 2.80, SD = 0.925, for single; $P = .034$).

Cardiologists' Performance and Barriers in Dealing With Sexual Problems in Patients With CVD

The total practice score could theoretically range from 10 to 50, with higher scores indicating better performance of cardiologists in sexual health care. The obtained scores ranged from 10 to 45 (mean score = 29.18 \pm 6.48; Table 2).

Table 5 presents the results of the cardiologists' performance in dealing with sexual problems in patients with CVD. To the question "Do you respond to patients' questions about sexual problems?" 18.5% of cardiologists answered "never" or "rarely," 30% answered "sometimes," and 51.5% answered "frequently" or "always." Only 10.6% of cardiologists reported that they regularly assessed sexual problems in their patients, and 9.5% of them talked with the patient's partner about the patient's sexual problem, whereas the rest of them reported that they never, rarely, or sometimes addressed this issue. Only 32% of cardiologists always or often assessed cardiac function for sexual activity and only 10.9% of them prescribed a drug to address ED. Almost 28.9% of them frequently or always provided some information to patients about warning signs during their sexual activities, and 31.2% reported that they provided some information about returning to sexual activity for patients who had recently a myocardial infarction. To the question "Do you refer your patients with sexual problems to other professionals?" 32.7% of cardiologists answered "never" or "rarely," 38.2% answered "sometimes," and 29.2% answered "frequently" or "always." Most referred patients to urologists (59%), psychiatrists (31.7%), psychologists (9.5%), and gynecologists (9.7%); multiple answers were possible. Approximately 34% of cardiologists routinely assessed sexual side effects of cardiovascular medication and 42% of them inquired about the use of phosphodiesterase type 5 inhibitors by their patients. Overall, 34.93% of respondents frequently or always had activity in dealing with the sexual issues of their patients (Table 2). Most cardiologists (93.8%) believed they needed training about sexual problems regarding CVD. No significant differences were seen between male

Table 3. Cardiologists reporting agreement with attitude statements on discussing sexual health problems with patients with cardiovascular disease

Item	Attitude statements	Completely agree or agree		Completely disagree, disagree, or no comment		Total* n
		n	%	n	%	
1	Sex education is an essential need for cardiac patients (overall view).	194	96.00	8	4.00	202
2	Sexual problems in cardiac patients are as important as in the general population (overall view).	192	95.00	10	5.00	202
3	Sexual issues in cardiac patients are important to patients (overall view).	182	90.10	20	9.90	202
4	Sexual issues in cardiac patients are important to me (overall view).	184	91.10	18	8.90	202
5	Sexual problems in women patients are as important as in men patients (overall view).	188	93.10	14	6.90	202
6	Sexual problems in elderly patients are as important as in younger adults (overall view).	189	93.60	13	6.40	202
7	Sexual problems in cardiac patients are associated with their diseases (awareness).	159	79.90	40	20.10	199
8	Cardiologists should assess sexual problems in their patients (responsibility).	155	76.80	47	23.20	202
9	Knowledge and skill are sufficient for addressing patients' sexual problems (confidence).	66	33.00	134	67.00	200

*The number differs because of missing items in the survey data; the valid percentage is listed.

and female physicians ($P = .873$) and or between single and married cardiologists ($P = .873$).

There was a significant association between performance and sex ($P = .033$) and area of activity ($P = .019$). Male cardiologists had better performance than female cardiologists (mean = 29.80, SD = 6.11, vs mean = 27.68, SD = 7.00; $P < .05$). Cardiologists in the northwest had the highest performance and those in the central region had the lowest performance (mean = 31.89, SD = 5.45, vs mean = 25.10, SD = 7.34; $P < .05$). There was no significant association between performance and age, marital status, work experience, and education (Table 4). The performance of cardiologists was not associated with their total attitude ($P = .067$), overall view ($P = .128$), awareness ($P = .444$), and confidence about their knowledge ($P = .318$), but we found a significant association between performance and responsibility ($P = .003$, correlation

coefficient = 0.21). Respondents who agreed to their responsibility had better performance. We did not find any significant association between drug-related practice and responsibility ($P = .827$), but this association was significant between non-drug-related practice and responsibility ($P < .001$, correlation coefficient = 0.25).

Cardiologists were asked to indicate their agreement with a list of reasons for refraining from asking about sexuality. The barriers that the respondents agreed with were "patients feeling uncomfortable" (75.2%), "cultural restrictions" (57.4%), "presence of third parties" (50%), "lack of knowledge and skills" (50%), "too little time" (45.5%), "opposite sex of patient" (42.6%), "ambiguities about responsibility" (39.5%), "no common words and phrases for sexual issues" (34.7%), and "cardiologists feeling uncomfortable" (25.2%). Few cardiologists stated additional reasons for avoiding the discussion about sex in an open-ended section.

Table 4. Association of participants' characteristics and their attitude and performance

	Age	Sex	Marriage	Education	Practice experience	Region of practice
Total attitude	0.062	0.222	0.615	0.885	0.973	0.119
Overall view	0.297	0.566	0.866	0.616	0.829	0.521
Awareness	0.192	0.865	0.142	0.850	0.808	0.291
Responsibility	0.260	0.198	0.353	0.198	0.399	0.980
Confidence	0.233	0.092	0.034*	0.158	0.052	0.435
Total practice	0.695	0.033*	0.816	0.099	0.055	0.019*
Drug-related practice	0.758	0.033*	0.515	0.611	0.323	0.005*
Non-drug-related practice	0.656	0.070	0.722	0.058	0.160	0.030*

*The level of significance was $P < .05$ for all tests.

Table 5. Cardiologists reporting agreement with performance questions about discussing sexual health issues with patients

	Item	Performance question	Always or frequently		Sometimes		Rarely or never		Total*	
			n	%	n	%	n	%		
Non—drug-related practice	1	Do you assess the patient's sexual function?	21	10.55	86	43.21	92	46.23	199	
	2	Do you respond to patient's questions about sexual problems?	103	51.50	60	30.00	37	18.50	200	
	3	Do you talk with patient's partner about sexual problems?	19	9.45	43	21.39	139	69.15	201	
	4	Do you assess cardiac function for sexual activity in patients?	64	32.00	72	36.00	64	32.00	200	
	5	Do you give information to patients about warning signs during their sexual activities?	58	28.90	90	44.78	53	26.37	201	
	6	Do you give information about return to sexual activity to patients who had recently had a myocardial infarction?	62	31.16	72	36.18	65	32.67	199	
	9	Do you prescribe drugs for erectile dysfunction in your patients?	22	10.94	63	31.34	116	57.71	201	
	10	Do you refer your patients with sexual problems to other professionals?	58	29.14	76	38.19	65	32.66	199	
	Drug-related practice	7	Do you assess sexual side effects of medication?	68	34.00	82	41.00	50	25.00	200
		8	Do you assess PDE5I usage in patients?	84	42.00	70	35.00	46	23.00	200

PDE5I = phosphodiesterase type 5 inhibitor.

*The number differs because of missing items in the survey data; the valid percentage is listed.

DISCUSSION

This study is the first nationwide survey in Iran to investigate the attitudes and performance of cardiologists about sexual issues in patients with CVD. The key findings of this study conclude there is a gap between cardiologists' attitudes and their actual practices. Most cardiologists agreed with the importance of sexual issues for cardiac patients, but they did not routinely discuss sexuality with their patients. Previous studies have found that most health care providers and cardiologists do not routinely ask patients about sexual problems.^{1,10,26–29}

Almost half the participants reported that if patients ask questions about their sexual activities, they regularly answer them (passive performance); the survey findings indicated that the cardiologists believed the conversation about sexual issues should be initiated by the patients. This finding is similar to the study conducted by Nicolai et al,²⁸ which indicated that more than half the respondents expected the patient to take the lead in discussing sexual function. In a survey by Vassiliadou et al,²⁹ cardiologists stated that patients much more often initiated discussion about difficulties with sexual performance.

Apart from this passive performance, in all items of practice that need the active role of cardiologists to deal with sexual issues, most of them frequently or always failed to take action. However, in comparison, more cardiologists routinely engaged in drug-related practice, but in these two subdomains, they did not routinely address the sexual issues of patients with CVD.

Most cardiologists accepted their responsibility for addressing the sexual issues of patients with CVD, but only one third of them were confident about their knowledge and skills. In the survey by Nicolai et al,²⁸ approximately one third of cardiologists accepted their responsibility to discuss sexual matters with their patients and most stated they had “some” or “a lot” of the necessary knowledge to discuss sexual problems with their patients. In these two studies, cardiologists did not routinely discuss sexuality with their patients. The factors indicated to cause cardiologists' lack of routine in assessing sexual health were somewhat different; for example, almost half the Dutch cardiologists indicated the absence of an opening to raise the subject as an important reason not to raise it, but patient discomfort and cultural and religious reasons appeared to be important obstacles for most participants in the present study.

Similar to the results reported by Nicolai et al, these findings are alarming because, since 1999, several recommendations for the clinical management of sexual function in men and women with CVD have been provided to help physicians communicate with patients about sexual activity.^{13,15,23,30–32}

Several factors can be effective in cardiologists' lack of routine in assessing sexual issues. The first assumption is that they have insufficient knowledge about sexual issues of patients with CVD. We did not examine the knowledge of cardiologists about the sexual issues of patients with CVD, but approximately two thirds of cardiologists stated they did not have enough knowledge and

skills. Because most cardiologists stated that the sexual issues of patients is important from their own viewpoint and that most of them are motivated to receive additional training, there seems to be a need for more knowledge and training to help them understand how to conduct a sexual assessment and offer counseling. In the study about physicians' knowledge of ED in Saudi Arabia, the cardiologists scored lower marks than urologists, andrologists, and general surgeons.³³ Another study conducted on Dutch cardiologists indicated that most cardiologists had insufficient knowledge about the effects of cardiovascular drugs on sexual function.²⁴ A study about cardiologists' knowledge and opinions concerning their patients' sexual activity indicated that Greek cardiologists tend to underestimate the scale of the problem and are poorly informed about all aspects of cardiac patients' sexual issues.²⁹ One comprehensive review about the state of sexual health education worldwide has shown that sexual medicine education is inadequate in most centers³⁴; therefore, cardiologists might need more knowledge and specific practical training to conduct the sexual assessment and counseling of cardiac patients.

The study showed that professional responsibility is a significant factor for better performance to deal with patients' sexual issues. Because more cardiologists are routinely engaged in drug-related practice, one assumption is that they perceive more responsibility for addressing the drug-related sexual issues of patients and have misconceptions that other domains of sexual care for patients is under the responsibility of other specialties. This assumption is reinforced by the significant association between professional responsibility and non-drug-related practice; cardiologists who had a higher sense of responsibility had a better non-drug-related practice. In the survey by Vassiliadou et al,²⁹ most cardiologists stated that the main etiology of ED in patients with heart problems was pharmacologic. In their study, a lack of understanding that ED has common pathophysiologic risk factors with cardiac disease was a known reason for underestimating the problem. The effect of cardiovascular agents on sexual function is important,³⁵ but, apart from medication side effects, the association between CVD and sexual dysfunction has been identified,^{36–38} so cardiologists should consider these issues as part of their professional responsibility.^{4,23} They might need more information and training relating to their own professional responsibility to explore sexual problems and advice and support patients.^{3,39,40} Current guidelines and scientific statements for sexual assessment and counseling can help cardiologists in this regard.^{4,12,15,31,41–43}

Professionals experience barriers in discussing sexual issues. Having an understanding of the barriers is useful to improve addressing sexual issues and necessary intervention.^{10,43,44} Patient discomfort was an important barrier reported by cardiologists for discussing sexual health issues. Previous studies in other countries have shown that a common barrier to this issue was embarrassment in patients and physicians. They are reluctant to discuss this issue because they are worried they might upset or embarrass each

other.^{1,17} Cardiologists should consider that patients, who generally want their sexual issues to be addressed, perceive fewer barriers to communication than the cardiologists, who fear causing an uncomfortable feeling by raising sexual issues with their patients.¹ It might help cardiologists to discuss the topic of sexual concerns within the context of assessing medication side effects or in a general discussion on the consequences of the disease and asking patients about changes in sexual function.⁴⁵

Interestingly, cultural and religious reasons that were not found to be significant barriers in previous research appeared to be important obstacles for most participants in the present study.^{10,28} This could be due to the different cultures and religions in Iran. The content and nature of patient-doctor communication about sexuality has been affected by cultural characteristics, but although the recommendations differed between countries, patients were generally satisfied with these suggestions.⁴⁶ Open and frank discussions about sexuality between physicians and patients is fundamental for addressing treatable causes of sexual dysfunction, but such conversations should be conducted in a culturally sensitive manner.⁴⁷

Almost one third of respondents indicated the absence of common words and phrases to raise the subject as a reason not to inquire about it. Iran is a multiethnic and multicultural society with individuals who speak different languages, such as Persians, Turks, Kurds, Lurs, Baluchis, Arabs, and Armenians. Broad questions such as "Do you have any sexual concerns you would like to discuss?" could help to initiate discussions about sexual issues.⁴⁷ Communication skills have been identified as a predictor to help physicians take in a patient's sexual history.⁴⁸ However, discussions about sexual issues should be conducted in an atmosphere of sensitivity and respect.⁴⁷ A practical workshop with more common scenarios could help cardiologists to actually practice the wording and the approach.⁴⁵

Another important barrier reported by cardiologists is lack of time, which was found to be a barrier in other research.^{10,28} This finding also is consistent with surveys of other professionals, such as breast surgeons and oncologists, who reported they often have a limited amount of time to assess sexual problems.^{48,49} Most physicians believed that sexual well-being is not the main priority of patients with cancer or CVD when there is not enough time.^{50–52} Sexual dysfunction is prevalent in men and women with CVD,^{53,54} and patients and their partners worry about their sexual activity and need counseling services and education to address this issue.^{9,43} Therefore, cardiologists should pay attention to sexual issues and, if they cannot make enough time to do so, must consider referring their patients to a specialist in sexual health care.

As in previous studies, the respondents stated a lack of knowledge and training as a reason not to inquire about sexual problems.^{10,28} Fortunately, most cardiologists indicated that they would benefit from training about this part of patient care. Specific training courses could help them in developing the

knowledge and skills to discuss sexual issues in their practice and have more sexological competence.^{39,45,55} Of several factors that have been identified as predictors of involvement in taking a sexual history, previous training in communication was the strongest.⁴⁸ Therefore, more attention to specialized training of communication skills for discussing sexual issues is required.

The present study is the first research effort to assess the attitude and performance of cardiologists regarding sexual issues in patients with CVD in a representative sample of cardiologists in Iran. Therefore, the results of this study elucidate new information about this issue in Iran that could help for further intervention. In addition, we developed a valid and reliable questionnaire to measure attitudes and performance that can be used for future studies. A common problem for a mail survey is that the finding can be affected by response rate and non-response bias. Although the response rate in the present study is higher than in similar studies,^{1,10} cardiologists who did not respond to the study might be even more passive in talking about sexual problems with patients or have negative attitudes toward doing so. Thus, the findings of this study could be an underestimation of the actual situation. Despite this underestimation, it is noteworthy that cardiologists do not routinely discuss sexual problems with their patients with CVD.

Future research is needed to identify the level of cardiologists' knowledge about sexual assessment and counseling of patients with CVD. In addition, an investigation to evaluate the attitudes of patients with CVD about discussing sexual issues and barriers they perceive can be useful for future planning and intervention.

CONCLUSION

Previous research has shown that sexual problems in patients with CVD are a very important issue that can have a negative effect on their quality of life. The results of this study show that a gap between cardiologists' attitudes and their actual practices, and their professional responsibility to deal with patients' sexual issues is a significant parameter for better performance. Cardiologists who participated in the study reported various barriers for the assessment of sexual health issues. Sexual medicine training and communication skills can help to overcome these barriers.

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Corresponding Author: Razieh Salehian, Department of Psychosomatic Medicine, Ayatollah Taleghani Hospital, Shahid

Beheshti University of Medical Sciences, Aarabi Street and Yaman Avenue, Shahid Chamran Freeway, Tehran 1987111151, Iran; E-mail: salehian.razieh@gmail.com

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STATEMENT OF AUTHORSHIP

Category 1

(a) Conception and Design

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

(b) Acquisition of Data

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

(c) Analysis and Interpretation of Data

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

Category 2

(a) Drafting the Article

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

(b) Revising It for Intellectual Content

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

Category 3

(a) Final Approval of the Completed Article

Razieh Salehian; Fatemeh Khodaeifar; Morteza Naserbakht; Azadeh Meybodi

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