ORIGINAL ARTICLE

BARRIERS FACED BY CARDIAC PHYSICIANS IN PROVIDING SEXUAL COUNSELLING TO CARDIOVASCULAR DISEASES PATIENTS

Daniyal Musaddiq¹, Khalid Iqbal Bhatti¹, Naveed Ahmed Shaikh¹, Shakir Zada¹, Ahsan Mujtaba Baig¹, Abdul Hameed¹, Rajesh Kumar¹, Shams Rehan¹, Sher Muhammad¹, Syed Zahid Jamal¹

¹National Institute of Cardiovascular Diseases, Karachi, Pakistan

Objectives: The objective of this study was to evaluate clinical practice of cardiac physicians in providing sexual counseling to cardiovascular diseases (CVD) patients and to identify possible barriers towards sexual health discussion. Discussion regarding sexual complications among patients with CVD is a less frequent clinical practice and various barriers, patient-related, system-related, and cultural factors that prevent cardiac physicians to remain silent on this important aspect.

Methodology: In this study an online survey was conducted with practicing cardiac physicians at various cardiac centers of Pakistan regarding discussing sexual problems in CVD patients.

Results: Out of 151 physicians 77.5% (117) were male and the mean age was 32.8 ± 5.9 years. A 52.6% physicians and 49.7% newly diagnosed (≤ 3 months) CVD patients rarely or never discuss or report sexual issues, for old diagnosed (> 3 months) patients these figures were 59.0% and 76.8% respectively. Only 40.4%, 41.1%, and 38.7%, of the physicians, claimed to have adequate knowledge, awareness, and confidence respectively about dealing with sexual problems. Commonly reported barriers were physicians personal attitudes and beliefs about sexuality (55.0%), the perception that it is someone else's job (51.0%), sexuality not seen as a problem by the patient (48.3%), and the age difference between physicians and patients (40.4%).

Conclusion: We observed poor practice, inadequate knowledge, and lack of awareness among cardiac physicians regarding discussing sexual health.

Keywords: cardiovascular diseases, sexual complications, cardiologist, cardiac physician, education, knowledge, attitude, and practice

Citation: Musaddiq D, Bhatti KI, Shaikh NA, Zada S, Baig AM, Hameed A, Kumar R, Rehan S, Muhammad S, Jamal SZ. Barriers Faced by Cardiac Physicians in Providing Sexual Counselling to Cardiovascular Diseases Patients. Pak Heart J. 2022;55(03):293-299. DOI: https://doi.org/10.47144/phj.v55i3.2307

INTRODUCTION

Cardiovascular diseases (CVD) remain the leading cause of disease burden in the world with around 523 million prevalent cases and 34.4 million disabilityadjusted life years (DALYs) as of 2019. CVD events are not only the leading cause of deaths around the world but also have a significant impact on various aspects of life among those who survived and sexual activity is one such lifestyle aspect. Sexual complications in individuals with CVD are prevalent and arise due to various reasons, such as unawareness regarding the association between sexuality and CVD and its treatments and drugs.^{2,3} The co-existence of psychological co-morbid conditions such as depression, nervousness, and anxiety and fear that sexual activity might induce palpitations, angina, or even death can all result in sexual dysfunction or sexual impairment among CVD patients.⁴⁻⁶

Sexual dysfunction, as such, is moderately common in the aging population, and adversely influences their standards of living in terms of health, psychological wellbeing, matrimonial quality, and possibility for adverse cardiovascular events.⁷ This is specifically true and more common in middle-aged and old patients with heart diseases as a side effect of regular use of CVD drugs in addition to other common attributes such as lack of physical fitness, smoking, excessive alcohol intake, and high levels of stress and anxiety.8 These components most probably impact their sexual activity even before the cardiac event and increase struggles about sex and produce diverse expectations about it after the cardiac event. Resuming sexual activity following a CVD event and attaining sexual satisfaction can be challenging for patients and their partners. Keeping in view the positive impacts of treatment for sexual issues, particularly enhancement of quality of life, timely identification,

and treatment of sexual complications must be the main concern of healthcare professionals. Educational counseling programs should be conducted as a part of cardiovascular rehabilitation for CVD patients. Even though, sexual activity and related sexual dysfunction, are essential features of health, which are frequently sub-optimally dealt with in cardiac practice.

Health experts and, in specific, cardiologists must be aware of the importance to converse and providing quick and sufficient guidance to CVD patients concerning sexual life. 10 Studies regarding sexual therapy in CVD revealed that healthcare experts face hurdles in carrying out this assignment such as lack of training, and the perception that patients might not be interested in knowing this information.9 Open and friendly conversation regarding sexuality between doctors and patients is important for tackling curable sources of sexual dysfunction. In current guidelines, cardiologists have been instructed to take up the subject actively as it is an issue that falls within the vascular area.¹¹ However, not much is known regarding the approach of cardiologists in terms of conversation of sexual nature with patients. This information could be vital to maximizing techniques to improve the sexual health and wellbeing of CVD patients.

Cardiac physicians are in an ideal position to start and arrange for continuity on the discussion regarding sexual health problems with CVD patients, furthermore, they can be the favored source of such information and professional assistance for sexual complications among CVD patients. Though, not much is known about cardiac physicians' experiences and approaches about, discussing sexual health problems with CVD patients. Therefore, this study aimed to evaluate the clinical practice of cardiac physicians with regard to their inquiry about sexual dysfunction in cardiovascular disease patients and to identify the barriers towards discussing sexual issues in their day-to-day practice.

METHODOLOGY

This knowledge attitude and practice (KAP) study was performed after approval from the ethical review committee of the National Institute of Cardiovascular Diseases (NICVD), Karachi between September 2021 and December 2021. The study population consisted of a consultant cardiologist, senior registrars, and postgraduate trainees in cardiology at various public and private sector cardiology centers of the country. Inclusion criteria for the study were either gender, age between 25 to 65 years, and working as a cardiac

physician at any public and private sector cardiology centers of Pakistan.

Data for the study was collected with the help of a selfadministered online questionnaire. A questionnaire used in this study was adopted from a study conducted among GPs in Ireland. 12 Anonymous responses were obtained with the help of an online questionnaire developed using Google Forms. It started with consent for the participation in the study and a short explanation of the purpose and benefit of the study. The questionnaire consists of a section regarding participant demographic and professional profile including age, gender, education, years of working experience, and designation. Knowledge, attitude, and practice regarding providing sexual counseling to CVD patients and possible barriers faced by the cardiac physicians were assessed with the help of various close-ended and open-ended questions.

A study conducted among general physicians (GPs) in Ireland reported that 70% GPs rarely or never discussed sexual problems with cardiac patients, taking 70% as anticipated prevalence, at 95% confidence level, and 7.5% absolute precision the sample size for the study was calculated to be n=144. Hence questionnaire was closed after 151 valid responses. Collected data were analyzed with the help of IBM SPSS version 19, responses were summarized by computing frequency percentages. Differences in knowledge, attitude, and practice level by the baseline characteristics were assessed by performing the Chi-Square test/Fisher's exact test with a p-value of ≤ 0.05 as criteria for statistical significance.

RESULTS

A total of 151 respondents completed the online questionnaire, out of which 77.5% (117) were male and the mean age was 32.8 ± 5.9 years. A majority, 53.6% (81), of the respondents were postgraduate trainees followed by 22.5% (34) diploma in cardiology, 11.9% (18) post-fellow trainees, eight (5.3%) senior registrar, seven (4.6%) assistant professors, and three (2.0%) associate professor. Mean years of practice were 5.3 ± 4.5 years with the range of 1 to 34 years. A majority of cardiac physicians either rarely or never discuss sexual health with their patients newly diagnosed (≤3 months) or old diagnosed (>3 months) with the frequency of 52.6% and 59.0% respectively. Similarly, both new or old diagnosed CVD patients were also reported to be less frequent, never or rarely, in reporting sexual problems with the frequency of 49.7% and 76.8% respectively. A majority, 72.2% (109), of the cardiac physicians believe that patients should be the ones to initiate the

conversation around sexual problems. Although, it is believed that discussing sexual problems is either very or extremely important for both physician and patient with the frequency of 82.8% and 82.8% respectively. Less than half of the physicians claimed to have very good or excellent knowledge, awareness, and confidence about dealing with sexual problems in CVD patients with the frequency of 40.4%, 41.1%,

and 38.7% respectively. When asked about practice, 13.9% (21) reported using guidelines for the assessment of sexual health problems, 17.9% reported using guidelines for counseling regarding sexual health problems, and 25.2% reported referring CVD patients to other services for sexual health problems (Table 1).

Table 1: Knowledge, attitude, and practice of cardiac physicians regarding sexual health discussion with cardiovascular diseases patients

Attributes	Total	Gender of physician		P-value
	Total	Female	Male	1 -value
Total (N)	151	34	117	-
Frequency of sexual health discussion with patients with CVD				
Never	13.2% (20)	32.4% (11)	7.7% (9)	0.001 ^a
Rarely	38.4% (58)	41.2% (14)	37.6% (44)	
Sometimes	31.1% (47)	23.5% (8)	33.3% (39)	
Frequently	15.2% (23)	2.9% (1)	18.8% (22)	
Always	2% (3)	0% (0)	2.6% (3)	
Frequency of sexual health discussion with patients with CVD		S		
Never	14.6% (22)	26.5% (9)	11.1% (13)	0.004ª
Rarely	44.4% (67)	52.9% (18)	41.9% (49)	
Sometimes	27.8% (42)	20.6% (7)	29.9% (35)	
Frequently	10.6% (16)	0% (0)	13.7% (16)	
Always	2.6% (4)	0% (0)	3.4% (4)	
Frequency of sexual problems reported by patients with CVD	diagnosis for ≤3 months	1		
Never	11.3% (17)	14.7% (5)	10.3% (12)	
Rarely	38.4% (58)	58.8% (20)	32.5% (38)	
Sometimes	38.4% (58)	26.5% (9)	41.9% (49)	0.003ª
Frequently	8.6% (13)	0% (0)	11.1% (13)	
Always	3.3% (5)	0% (0)	4.3% (5)	
Frequency of sexual problems reported by patients with CVD	diagnosis for >3 months	•	•	
Never	8.6% (13)	20.6% (7)	5.1% (6)	0.004ª
Rarely	38.4% (58)	52.9% (18)	34.2% (40)	
Sometimes	38.4% (58)	20.6% (7)	43.6% (51)	
Frequently	13.2% (20)	5.9% (2)	15.4% (18)	
Always	1.3% (2)	0% (0)	1.7% (2)	
Who should initiate the conversation around sexual health pr	oblems	•	•	
Physician	27.8% (42)	41.2% (14)	23.9% (28)	0.048 ^b
Patient	72.2% (109)	58.8% (20)	76.1% (89)	
Importance of discussing sexual problems for physician	•	•	•	
Not important	0% (0)	0% (0)	0% (0)	0.004 ^b
Somewhat important	17.2% (26)	29.4% (10)	13.7% (16)	
Very important	61.6% (93)	67.6% (23)	59.8% (70)	
Extremely	21.2% (32)	2.9% (1)	26.5% (31)	
Importance of discussing sexual problems for patients	.			
Not important	0.7% (1)	2.9% (1)	0% (0)	0.236 ^a
Somewhat important	10.6% (16)	14.7% (5)	9.4% (11)	
Very important	65.6% (99)	64.7% (22)	65.8% (77)	
Extremely	23.2% (35)	17.6% (6)	24.8% (29)	
Knowledge about dealing with sexual problems in CVD paties	nts		•	
Poor	2% (3)	2.9% (1)	1.7% (2)	
Fair	13.2% (20)	23.5% (8)	10.3% (12)	1
Good	44.4% (67)	50% (17)	42.7% (50)	0.104ª
Very Good	31.1% (47)	20.6% (7)	34.2% (40)	
Excellent	9.3% (14)	2.9% (1)	11.1% (13)	
Awareness about dealing with sexual problems in CVD patier		1	<u>'</u>	1

Poor	1.3% (2)	2.9% (1)	0.9% (1)	0.546ª
Fair	11.3% (17)	17.6% (6)	9.4% (11)	
Good	46.4% (70)	47.1% (16)	46.2% (54)	
Very Good	32.5% (49)	26.5% (9)	34.2% (40)	
Excellent	8.6% (13)	5.9% (2)	9.4% (11)	
Confidence about dealing with sexual problems in CVD patients	•		•	
Poor	4% (6)	8.8% (3)	2.6% (3)	0.359ª
Fair	15.9% (24)	20.6% (7)	14.5% (17)	
Good	40.4% (61)	41.2% (14)	40.2% (47)	
Very Good	24.5% (37)	20.6% (7)	25.6% (30)	
Excellent	15.2% (23)	8.8% (3)	17.1% (20)	
Attitude towards sexual health of CVD patients				
Use of guidelines for assessment of sexual health problems	13.9% (21)	14.7% (5)	13.7% (16)	>0.999°
Use of guidelines for counselling about sexual health problems	17.9% (27)	26.5% (9)	15.4% (18)	0.138 ^b
Referred onto other services for sexual health problems	25.2% (38)	17.6% (6)	27.4% (32)	0.251 ^b

CVD=cardiovascular diseases, aLikelihood Ratio, Pearson Chi-Square, Fisher's Exact Test

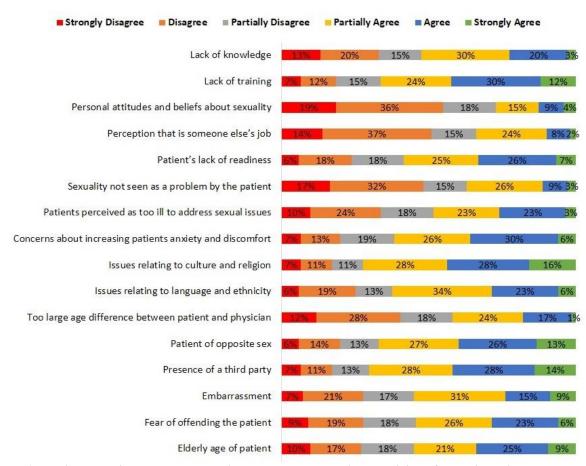


Figure 1: Various barriers that are perceived to prevent cardiac physicians from discussing sexual health problems with their patients

Various barriers that are perceived to prevent cardiac physicians from discussing sexual health problems with their patients are reported in Figure 1.

The most commonly perceived, rating of strongly disagree or disagree, barrier among cardiac physicians to discuss sexual health problems with their patients

was the physician's attitudes and beliefs about sexuality (55.0%) followed by the perception that it is someone else's job (51.0%), sexuality not seen as a problem by the patient (48.3%), and the age difference between physicians and patients (40.4%).

DISCUSSION

Discussion regarding sexual complications among patients with CVD is a less frequent clinical practice and various barriers, patient-related, system-related, and cultural factors, that prevent cardiac physicians to remain silent on this important aspect. Therefore, in this study, we aimed to evaluate the knowledge, attitude, and practice of cardiac physicians towards the sexual health of CVD patients, and an attempt was made to identify the barriers in this regard. Even though, discussions around sexual health are reported to be important by the cardiac physician for the CVD patients as well as for the physician, but, more than half the physicians reported to discuss such matters with their patients, both newly diagnosed or old diagnosed, very rarely or never. Similarly, it is also reported that more than half of the patients, both newly diagnosed or old diagnosed, either never or rarely report a sexual problem. A majority of the physicians believed if such discussions are bound to happen then the patients should be the ones to initiate such conversation. The major challenge in discussing sexual issues appears to be a phenomenon that is "silent". Nobody discusses sexual issues with regards to CVD and discussing sexuality is considered forbidden. Factors leading up to the silent phenomenon include inadequate knowledge, structural barriers such as lack of communication skills, the lack of perceived importance of the subject matter, social and cultural heralds, and a more formal relationship with the patient. Teaching and training focused on skills development might play a crucial role in breaking this silence. 13 Similarly, in this study less than half of the physicians claimed to have adequate knowledge, awareness, and confidence about dealing with sexual problems in CVD patients.

The current clinical practice guidelines suggest that both patient and spouse must be given some form of counseling regarding sexual activity after ACS, 9,14 even though patients are not getting sufficient knowledge and are frequently left to their findings without proper medical guidance. Unfortunately there is enough indication that shows there is a disparity between what healthcare experts believe they are delivering with sexual counseling and what patients essentially understand. 15,16 Sexual activity has been observed to be safe and harmless after uncomplicated ACS with comparable similar heart rhythm disturbances as other everyday activities.¹⁷ Right time for the provision of counseling regarding sexual activity is ideal before hospital discharge or in a cardiac rehabilitation (CR) program. On the other hand, most of the patients are either not getting counseling at all or getting inadequate information regarding it.¹⁸

Salehian R et al.¹⁹ conducted a study which consisted of 202 cardiologists and their attitudes, approaches, and performance concerning sexual complications in CVD patients were evaluated and reported a difference between cardiologist's professional responsibility, attitudes, and actual performance to deal sexual problems in CVD patients. Approximately 76.7% of cardiologists believed addressing sexual problems of cardiac patients is their professional responsibility, 79.9% of them know about the association between sexual problems and CVD, on the other hand only 33% were confident in their skills and knowledge in this respect. Merely 10.6% of the cardiologists stated they often evaluated sexual complications of CVD patients and 51.50% were responsive towards patients' queries regarding sexual complications.

Healthcare professionals face various obstacles and barriers in addressing the sexual problems of CVD patients. To develop effective strategies and interventions to address sexual discussion in day-today clinical practice comprehensive understanding of such barriers is crucial. One of the main barriers revealed by cardiologists was patient discomfort in discussing complications regarding sexual health, their hesitance to talk about this issue is primarily due to the fear that such conversations might lead to embarrassment for both physician and patient. 19,20 Various, traditional and religious factors may not be as important in various other regions but it can be a key obstacle for the majority of individuals in our population. Although open and friendly conversations regarding sexuality between the physician and patient are important to identify and cure most of the sexual dysfunction among CVD patients, such discussions can be sensitive in our population and must be carried out within culturally acceptable boundaries.²¹ Various barriers have been reported in past studies for cardiologists to initiate discussions of sexual nature with their patients, amongst these hurdles, the fact that patients' might get uncomfortable and embarrassed by such discussion remains the main concern of cardiologists. Other major factors included socioreligious constraints, time constraints, and lack of knowledge and skills were the most important. 22 Most of these obstacles could be associated with the level of communication and skills regarding how to ask about sensitive topics. Additional modules communication skills regarding sensitive subjects such as sexuality in cardiology education and training programs can help mediate sexual counseling for CVD patients.²³ Moreover, in our study the most commonly perceived barrier to among cardiac physicians for discussion around sexual issues were physicians personal attitudes and beliefs towards discussion around sexuality, considering it not cardiac physicians professional responsibility and perceiving it as someone else's job, considering sexuality not as a problem for the patient, and large age difference between physicians and patients.

Implementation guidelines for sensitive subjects, for example, sexuality, can be specifically hard for healthcare professionals', various traditional barriers are in the way of changing patient care such as fear of making the situation uncomfortable and embarrassing at one side and fear of offending on the other. Barriers can arise at various levels originating from the individual patient level to the grand environmental and cultural obstacles.²⁴ A recently proposed a multilevel intervention model in cardiac rehabilitation regarding sexual counseling highlighting the importance of adequate resources and skill level of the healthcare workers for targeted counseling of not only the patient but also partners.²⁵

Even though discussion on patients' sexual concerns is considered as one of the responsibilities of cardiac physicians, but these issues largely get ignored in daily practice. Enhancing awareness in healthcare providers and providing needed training to initiate conversations regarding sexual activity in CVD patients are recommended. Further researches are required to understand the beliefs and practices of the cardiac physician, and to develop culturally appropriate strategies to deliver such sensitive yet important information.

CONCLUSION

We observed poor practice, inadequate knowledge, and lack of awareness among cardiac physicians regarding discussing sexual health with CVD patients in their day-to-day practice. A majority of physicians were observed to be reluctant in initiating discussion with their patients and they believe patients should be the ones to start such conversation. A very few of the physicians were aware of any guidelines for the assessment and counseling about sexual health problems among CVD patients. Physicians' attitudes and beliefs towards discussion around sexuality were the main barriers followed by considering it not cardiac physicians' professional responsibility, perceiving it not as a problem for the patient, and a large age gap between physicians and patients. Considering the positive role of sexual activity in the quality of life of CVD patients, increasing awareness among cardiac physicians regarding this important aspect and skill-building and training regarding communicating sensitive matters, such as sexuality, are needed especially during cardiology training.

AUTHORS' CONTRIBUTION

DM, KIB, and SZJ: Concept and design, data acquisition, interpretation, drafting, final approval, and agree to be accountable for all aspects of the work. NAS, SZ, HMB, AH, RK, SR, and SM: Data acquisition, interpretation, drafting, final approval and agree to be accountable for all aspects of the work.

Conflict of interest: Authors declared no conflict of interest.

Acknowledgment: The authors wish to acknowledge the support of the staff members of the Clinical Research Department of the National Institute of Cardiovascular Diseases (NICVD) Karachi, Pakistan

REFERENCES

- Roth GA, Mensah GA, Johnson CO, Addolorato G, Ammirati E, Baddour LM, et al. Global burden of cardiovascular diseases and risk factors, 1990–2019: update from the GBD 2019 study. J Am Coll Cardiol. 2020;76(25):2982-3021.
- Joseph P, Lonn E, Bosch J, Lopez P, Zhu J, Keltai M, et al. Longterm effects of statins, blood pressure-lowering, and both on erectile function in persons at intermediate risk for cardiovascular disease: a substudy of the Heart Outcomes Prevention Evaluation-3 (HOPE-3) randomized controlled trial. Can J Cardiol. 2018;34(1):38-44.
- Steptoe A, Jackson SE, Wardle J. Sexual activity and concerns in people with coronary heart disease from a population-based study. Heart. 2016;102(14):1095-9.
- Levine GN, Steinke EE, Bakaeen FG, Bozkurt B, Cheitlin MD, Conti JB, et al. Sexual activity and cardiovascular disease: a scientific statement from the American Heart Association. Circulation. 2012;125(8):1058-72.
- Mulat B, Arbel Y, Mashav N, Saar N, Steinvil A, Heruti R, et al. Depressive symptoms and erectile dysfunction in men with coronary artery disease. Urology. 2010;75(1):104-7.
- Jaarsma T. Sexual function of patients with heart failure: facts and numbers. Wiley Online Library; 2017. p. 3-7.
- Twenge JM, Sherman RA, Wells BE. Declines in sexual frequency among American adults, 1989–2014. Arch Sex Behav. 2017;46(8):2389-401.
- Lunelli RP, Rabello ER, Stein R, Goldmeier S, Moraes MA. Sexual activity after myocardial infarction: taboo or lack of knowledge? Arq Bras Cardiol. 2008;90(3):172-6.
- Steinke EE, Jaarsma T, Barnason SA, Byrne M, Doherty S, Dougherty CM, et al. Sexual counselling for individuals with cardiovascular disease and their partners: a consensus document from the American Heart Association and the ESC Council on Cardiovascular Nursing and Allied Professions (CCNAP). Eur Heart J. 2013;34(41):3217-35.
- de Araújo CGS, Stein R, Sardinha A. Sexual counselling in cardiac rehabilitation: an urgent need for more consideration and study. Can J Cardiol. 2018;34(12):1546-8.
- Nehra A, Jackson G, Miner M, Billups KL, Burnett AL, Buvat J, et al., editors. The Princeton III Consensus recommendations for the management of erectile dysfunction and cardiovascular disease. Mayo Clin Proc; 2012: Elsevier.
- Byrne M, Doherty S, McGee HM, Murphy AW. General practitioner views about discussing sexual issues with patients with coronary heart disease: a national survey in Ireland. BMC Fam Pract. 2010;11(1):1-7.
- Kolbe N, Kugler C, Schnepp W, Jaarsma T. Sexual counseling in patients with heart failure: a silent phenomenon: results from a

- convergent parallel mixed method study. J Cardiovasc Nurs. 2016;31(1):53-61.
- Steinke EE, Jaarsma T. Sexual counseling and cardiovascular disease: practical approaches. Asian J Androl. 2015;17(1):32.
- D'Eath M, Byrne M, Doherty S, McGee H, Murphy AW. The Cardiac Health and Assessment of Relationship Management and Sexuality study: a qualitative inquiry of patient, general practitioner, and cardiac rehabilitation staff views on sexual assessment and counseling for cardiac patients. J Cardiovasc Nurs. 2013;28(2):E1-E13.
- Boothby CA, Santana MJ, Norris CM, Campbell TS, Rabi DM. Sexual Activity After Acute Coronary Syndrome: A Qualitative Approach to Patient and Partner Experiences. J Cardiovasc Nurs. 2021;36(5):E71.
- Drory Y, Fisman EZ, Shapira Y, Pines A. Ventricular arrhythmias during sexual activity in patients with coronary artery disease. Chest. 1996;109(4):922-4.
- Bedell SE, Duperval M, Goldberg R. Cardiologists' discussions about sexuality with patients with chronic coronary artery disease. Am Heart J. 2002;144(2):239-42.
- Salehian R, Khodaeifar F, Naserbakht M, Meybodi A. Attitudes and performance of cardiologists toward sexual issues in cardiovascular patients. Sex Med. 2017;5(1):e44-e53.

- Byrne M, Doherty S, Murphy AW, McGee HM, Jaarsma T. Communicating about sexual concerns within cardiac health services: do service providers and service users agree? Patient Educ Couns. 2013;92(3):398-403.
- Althof SE, Rosen RC, Perelman MA, Rubio-Aurioles E. Standard operating procedures for taking a sexual history. J Sex Med. 2013;10(1):26-35.
- Hyde EK, Martin DE, Rieger KL, Malone R. "Just think of it as sexercise"—healthcare providers' perceptions about sexual health education in cardiac rehabilitation programs. Disabil Rehabil. 2021:1-7. DOI: 10.1080/09638288.2021.2001052
- Salehian R, Naserbakht M, Mazaheri A, Karvandi M. Perceived barriers to addressing sexual issues among cardiovascular patients. Iran J Psychiatry Behav Sci. 2017;11(2):e7223.
- Mc Sharry J, Murphy P, Byrne M. Implementing international sexual counselling guidelines in hospital cardiac rehabilitation: development of the CHARMS intervention using the Behaviour Change Wheel. Implement Sci. 2016;11(1):1-11.
- Murphy PJ, Mc Sharry J, Casey D, Doherty S, Gillespie P, Jaarsma T, et al. Sexual counselling for patients with cardiovascular disease: protocol for a pilot study of the CHARMS sexual counselling intervention. BMJ Open. 2016;6(6):e011219.

Address for Correspondence:

Dr. Daniyal Musaddiq, Resident Cardiology at National Institute of Cardiovascular Diseases (NICVD), Karachi, Pakistan.

Email: medico.danial@gmail.com