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Sexual Health Knowledge among Malaysian with Coronary Artery Disease

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ABSTRACT

Introduction: Sexual counselling is a fundamental aspect of cardiac rehabilitation. It is challenging to develop an appropriate framework for sexual counselling in coronary artery disease patients without having knowledge about their level of sexual knowledge.

Material and Methods: A descriptive, correlational cross-sectional study was conducted at the Cardiac Rehabilitation Clinic Universiti Malaya Medical Centre, Kuala Lumpur. A convenience sample of 112 patients diagnosed with myocardial infarction or coronary artery disease was recruited. The patient's sexual health knowledge was assessed using the Sex After Myocardial Infarction Knowledge Test.

Results: The majority of patients were male (85%), mean age of 57±11 years, Malay (46%), had secondary education (54%), married for 27±13 years and was diagnosed within 4±5 years. Questions on awareness of cardiac symptoms and safety during sexual activity scored the highest, while questions on medication safety, suitable time for sex, and partner communication scored the lowest. No statistically significant relationships found between the level of knowledge and age, sex, religion, education level, employment status, number of years of marriage, or duration of the diagnosis. Most of were interested in talking about sexual health but rarely had the opportunity to discuss.

Conclusion: Sexual health is an important concern for patients with coronary artery disease. Some patients are symptomatic and have difficulty having sex. This study identifies specific issues that need to be addressed, especially convenient time, medication safety, and effective communication when providing sexual education.

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INTRODUCTION

Cardiovascular diseases remain the leading cause of morbidity and mortality for more than a decade in Malaysia. The mean age for Malaysians who had acute coronary syndrome was 58.5 years [1]. Global prevalence shows one person experiences a myocardial infarction in every 40 seconds and one person dies every 33 seconds in the United States from cardiovascular disease. Cardiovascular disease imposes a significant burden on healthcare services, pharmaceuticals, and productivity losses. It causes a substantial impact on an individual's life, including sexual dysfunction and intimacy [2]. There is significant prevalence of erectile dysfunction among men with cardiovascular disease, 46% worldwide [3] and 41.6% in Malaysia [4].

Cardiac Rehabilitation is recognised as an evidence-based intervention for improving outcomes in patients after an acute coronary syndrome or revascularization [5]. The European Society of Cardiology (ESC) and the American Heart Association (AHA) recommend routine delivery of sexual counselling to individuals with cardiac conditions [6]. In a study conducted by Byrne et al., 66% of patients participating in cardiac rehabilitation reported that sexual issues had never been discussed [7]. Additionally, in the same study, 14% of the patients reported engaging in sexual activity once a week, while 46% acknowledged experiencing sexual problems.

At present, the Cardiac Rehabilitation services in Malaysia do not incorporate any structured sexual counselling into its cardiac rehabilitation programs. This

gap is further compounded by the absence of prior research and validated local language (Bahasa Melayu) tools for assessing sexual health knowledge in this population. Filling these knowledge gaps and fostering open communication between healthcare provider and patients could help patients regain their sexual health and lead more fulfilling lives after a cardiac event. After all, a healthy heart encompasses not just physical well-being, but also the ability to maintain a satisfying sexual relationship.

Thus, this study assessed the sexual heath knowledge among patients who had myocardial infarction or diagnosed with coronary artery disease. Findings from this study could identify gaps in current practice and be used to formulate framework for sexual counselling for this population.

MATERIAL AND METHODS

Study Design

A cross-sectional study was conducted using a descriptive correlational method to assess patients' knowledge on sexual health and factors related to the level of knowledge after they had myocardial infarction or were diagnosed with coronary artery disease. The study was conducted at Cardiac Rehabilitation Clinic, Universiti Malaya Medical Center (UMMC). This is the largest tertiary teaching hospital located in the urban area of Kuala Lumpur. It provides a comprehensive cardiac service from acute cardiac care to cardiac rehabilitation services. Duration of study was 6 months (June – November 2023).

Ethical Consideration

This study was approved by the UMMC Medical Research Ethics Committee, (MREC ID NO: 20221031-11667).

Study Population

A non-probability convenience sampling was used for this study; 112 participants were recruited from patients attending the Cardiac Rehabilitation Clinic at the Department of Rehabilitation Medicine, UMMC. The inclusion criteria were: at least 18 years old at recruitment, had suffered a myocardial infarction or coronary artery disease, has ability to understands Bahasa Melayu or English. Individuals with significant cognitive impairments or a score of less than 3 on the Abbreviated Mental Test 4 screening, had limited ability to answer in Bahasa Melayu or English, were excluded from the study.

Instrument

Sex after MI Knowledge test (SMIKT) developed by Elaine E. Steinke in 2004, was used to measure knowledge about resuming sexual activity after myocardial infarction [8]. The instrument consists of 25 self-administered questions with response options of true, false, or do not know. It addresses both psychosocial and physical concerns related to resuming sexual activity. Correct responses receive a score of 3; incorrect responses receive a score of 1, while 'do not know' responses receive a score of 2. Scores can range from 25 to 75, with a higher score indicating greater knowledge. The researchers decided to remove two items related to anal and oral sex due to cultural sensitivity.

The questionnaire was translated into Bahasa Melayu with permission from the author. The translation follows Brislin's translation model for cross-cultural research [9]. The Bahasa Melayu version underwent validation and showed acceptable content validity and internal consistency (Cronbach's alpha 0.706). Moderate test-retest reliability (ICC values range from 0.442 to 0.907). Additional questions on the sociodemographic background of participants and their interest in sexuality were collected.

Additional Questions

Six additional questions were added to further describe the patient's interests and perspectives toward sexual activity. The added questions are: (1) Has sexual health been discussed in the cardiac rehabilitation clinic? (2) Do you want to talk about sexual health with a healthcare provider? (3) Are they sexually active? (4) Any discomfort or (5) symptoms they experience during sex? (6) Patient's opinion on the importance of having sex in life. All variables were analysed and discussed. Sociodemographic data such as age, gender, duration of disease, marital status and duration of marriage, educational level, and employment status were also collected.

Patients' recruitment & Data Collection

Patients attending the cardiac rehabilitation clinic were screened for suitability. A careful approach was taken to broach the topic of patients' sexual history and seeking their consent to discuss sexual health. This approach aimed to create a comfortable and trusting setting. Subsequently, they were approached following a consultation at the facility. Patients were provided with a patient information sheet and informed consent form. Participants who consented to take part in the study will receive a self-administered questionnaire. They will be invited to a private room to ensure confidentiality and will be given ample time to complete the work. Each

participant took an average of 15 minutes to complete the questionnaire.

Analysis

The SPSS Statistical program version 26 was used to input and evaluate the data. Descriptive statistics were calculated to summarize the demographic characteristics of patients. This included measures such as means, standard deviations, frequencies, and percentages for quantitative variables. The scores for each item, which reflects area of knowledge were analysed. The relationship between patients' demographics and their level of knowledge about sexual health was studied using different statistical tests. The total score for sexual knowledge was computed as a continuous variable. Demographic variables were categorized as independent variables. The relations between variables were analysed using correlation and simple linear regression test while some variables such as education level and employment status were analysed using ANOVA. In all cases, a p-value <0.05 was considered significant.

RESULTS

Demographics

The participants' demographic characteristics are presented in Table 1. A total of 112 participants were included in this study, of which 85% of them are men. Most of participants fell between the age range of 50-70 years, with a mean age of 57±11 years. The majority of participants were Malay, accounting for 46% of the total. Most of the participants (54%) had completed secondary education. The participants consisted of a combination of employed and retired individuals, each contributing approximately 35%. Marital status leaned towards married (majority), with an average marriage duration of 27 years (SD=13). At time of recruitment 30% of participants were diagnosed with heart disease within the first year, while the average length of diagnosis was 4±5 years.

Table 1. Socio-demographic Characteristics of Participants

Variable	N	%
Gender		
Male	96	85.7
Female	16	14.3
Age		
25 - 50 years	28	25
50 - 60 years	32	28.6
60 -70 years	36	32.1
above 70 years	16	14.3
Race		
Malay	52	46.4
Chinese	29	25.9
Indian	27	24.1
Others	4	3.6
Religion		
Muslim	54	48.2
Hindu	18	16.1
Buddhist	25	22.3
Christian	13	11.6
Others	2	1.8
Education		
Primary Education	10	9.3
Secondary Education	59	54.6
Tertiary Education	39	36.1
Employment		
Employed	40	35.7
Unemployed	13	11.6
Self-employed	16	14.3
Retired	40	35.7
Marital Status		
Married	98	87.5
Single	6	5.4
Divorced	1	0.9
Widowed	4	3.6
Duration of marriage		
1-20 years	32	32
20-30 years	18	18
30-40 years	26	26
40-60 years	24	24
Duration of disease		
1 year	34	32.4
2 years	33	31.4
3 years	12	11.4
4 years and above	26	24.8

Sex knowledge

Items with high scores (Table 2) highlight important health precautions related to sexual activity. Item 17 (chest pain during sex, should stop and rest) has the highest score (88%), followed by items emphasizing reporting discomfort to a doctor (82%) and waiting for rest before intercourse (81%). These high scores indicate good awareness of symptoms and safety practices. Conversely, low scores on items reflect areas needing education. Item 4 (not upsetting partner with fears) received the lowest score (17%). Item 14 on timing sex in the evening (24%) and Item 9 on stopping medication if they think it is causing a problem with sex, (27%) also scored low. These findings suggest a need for education on communication with partners, appropriate timing for sex, and medication safety in relation to sexual health.

Correlations between demographic variables and total score

Patients who were above 70 years old exhibited slightly greater knowledge compared to younger

Table 2. Percentage of correct answers in the "Sex After MI Knowledge Test"

	Item	Correct Answer	Patient N (%)	Mean	SD
1	A danger sign to report to the physician is shortness of breath or increased heart rate (pulse) for more than 15 minutes after intercourse.	True	70 (62.5)	0.63	0.486
2	Drinking alcohol prior to sex will help you relax and improve sex.	False	51 (45.5)	0.46	0.5
3	Some medicines used for high blood pressure, anxiety, or depression can affect sex.	True	46 (41)	0.41	0.494
4	You should try not to upset your partner with your fears about resuming sex.	False	19 (17)	0.17	0.377
5	Palpitations (rapid heart beating) lasting more than 15 minutes after intercourse are normal.	False	37 (33)	0.33	0.472
6	Sex can generally be safely resumed within a few weeks after the heart attack.	True	33 (29.5)	0.29	0.458
7	It is helpful to be rested before intercourse.	True	79 (70.5)	0.71	0.458
8	You should choose your usual position for sex or one that is most comfortable and that does not tire you.	True	81 (72.3)	0.72	0.449
9	If you think a medicine is causing a problem with sex, you should stop it immediately.	False	31 (27.7)	0.28	0.449
10	A common emotional reaction after a heart attack is depression.	True	45 (40.2)	0.4	0.492
11	A normal response during sex is an increased heart rate, blood pressure, and rate of breathing.	True	83 (74.1)	0.74	0.44
12	A good way to ease back into sex is to talk with your partner about your feelings about the heart attack while taking a daily walk.	True	85 (75.9)	0.76	0.43
13	It is important to have sex as often as before your heart attack.	False	38 (33.9)	0.34	0.476
14	Late evening or the end of the day is the best time to have sex when you are more relaxed.	False	27 (24.1)	0.24	0.43
15	Sexual foreplay when you are more relaxed puts less strain on your heart.	True	65 (58)	0.58	0.496
16	A hotel room is the ideal place to resume sex after a heart attack in order to create a more exciting atmosphere.	False	49 (43.8)	0.44	0.498
17	If you have chest pain during sex, you should stop and rest.	True	99 (88.4)	0.88	0.322
18	Not being able to sleep after intercourse or extreme fatigue the day after intercourse is normal.	False	60 (53.6)	0.54	0.501
19	Wait 2 to 3 hours after a heavy meal before having sex.	True	67 (59.8)	0.6	0.492
20	It is normal to feel angry or helpless if your partner is overprotective of you after a heart attack.	True	43 (38.4)	0.38	0.489
21	You should report to your physician a feeling of tightness, fullness, or chest pain during sex.	True	92 (82.1)	0.82	0.385
22	A room temperature that is not too hot or cold is important for sex.	True	84 (75)	0.75	0.435
23	If you are tense or tired, you should not have intercourse until after a good night's sleep.	True	91 (81.3)	0.81	0.392

N = total number, SD = standard deviation

patients but there were no significant differences among different age groups ($p = 0.42$). Pearson correlations were used to assess the number of years of marriage and the duration of diagnosis, but no significant relationships were found. The findings indicated that male patients exhibited a higher level of knowledge ($M = 54.57$, $SD = 4.56$) compared to female patients ($M = 53.69$, $SD = 4.20$). However, the observed difference did not reach statistical significance ($p = 0.468$). There is no statistically significant association between the educational level of patients and their degree of knowledge ($p = 0.068$). Otherwise, there were minimal variations in scores based on race, religion, and employment status (Table 3).

Interest in Sexual Health and Activity

Despite a strong desire for sexual health discussions (51%), only 20% of patients had these conversations with their healthcare providers. While nearly half of patients (49%) reported no recent sexual activity, most of them (80%) still considered sex important in their lives. Interestingly, only a small portion (5%) experienced frequent cardiac symptoms during sex, with the majority (55%) being asymptomatic (Table 4).

Table 3. Correlations between Demographic Variables and Total Score

Variables	Coefficient	t	p-value	95% CI	
				Low	Upper
Age	0.013	0.138	0.891	-0.067	-0.77
Gender	0.069	-0.728	0.468	-3.294	-1.523
Race	0.199	2.131	0.035	0.069	1.792
Religion	0.095	0.997	0.321	-0.362	1.097
Education level	0.05	-0.514	0.068	-1.723	-1.014
Employment	0.047	-0.482	0.631	-0.797	-0.485
Years of marriage	0.015	-0.149	0.882	-0.07	-0.06
Duration of diagnosis	0.056	-0.566	0.573	-0.214	-0.119

CI = confidence interval

Table 4. Patient's Interest and Symptoms on Sexual Activity

	Item	Yes	%			No	%
1	Have you ever talked about sexual health with your doctor in Cardiac Rehabilitation Clinic?	12	10.7			90	80.4
2	Do you want to talk about sexual health with your healthcare provider?	57	50.9			45	40.2
3	Are you sexually active during the last year?	45	40.2			56	50
4	Do you experience discomfort during intercourse?	23	20.5			75	67
5	Have you experience any of these symptoms during sex?	**Frequent**		**Sometimes**		**Never**	
	(Sweating, shortness of breath, chest pain and palpitations)	6	5.4	30	26.8	62	55.4
6	Your opinion on importance of having sex in your life	**Very Important**		**Sometimes Important**		**Never Important**	
		44	39.3	45	40.2	11	9.8

DISCUSSION

The current study is the first study investigating sexual knowledge in patients with coronary artery disease, specifically focusing on their understanding of resuming sexual activity after a myocardial infarction. The result shows a concerning knowledge gap: most patients lacked sufficient information about safe sexual practices following a diagnosis of coronary artery disease. This lack of knowledge was consistent across various demographics, including gender, age, religion, education level, and marital status. The average score on the sexual health knowledge test indicated a low overall understanding among participants.

The results of this study are consistent with the national survey done in Sweden which indicate the average score for sexual health awareness among their population was 51±10 [10]. Comparable investigations conducted in Karachi and Jordan also yielded similar results[11,12]. Despite a high level of patient interest in sexual health discussions, very few reported receiving any guidance from their healthcare providers. Similar to Bryne et al.'s study [7], the Sweeden national survey also found that healthcare provider seldom offer sexual health education to patients or their partners [10]. The discrepancy between patient interest and the lack of available guidance, suggests a need for improved communication and educational resources. Factors hinder sexual counselling delivery include lack of privacy [7], limited knowledge and resources, inadequate training, patient demographics and cultural factors, healthcare provider confidence and discomfort, as well as misconceptions of patient expectations [13]. Those factors need to be considered in developing solutions.

The current study found that over half of the participants had not engaged in sexual activity after the diagnosis of heart disease, similar to findings by Bryne et al. [7] and López-Medina et al. [14]. Fear of resuming sexual activity after a myocardial infarction was likely a contributing factor [14]. In this study, most of participants emphasized the importance of addressing sexual health concerns. This aligns with multiple studies reporting patients' desire for information on sexual health after cardiovascular events [7,10-12]. Participants' low sexual activity, limited understanding

of sexual health, and desire for open discussions reveal a critical need for comprehensive sexual health assessments in clinical settings.

This study revealed a high level of awareness regarding chest pain as a warning sign during sex. The majority of participants understood the importance of stopping activity and rest when they experienced chest pain. Additionally, they acknowledged the need to report symptoms to their physician. These findings suggest good knowledge of safety practices among participants. Interestingly, nearly 50% of participants reported no symptoms during sexual activity. Approximately one-third experienced symptoms like sweating, shortness of breath, or chest pain. This aligns with previous research suggesting a significant portion of patients with cardiovascular disease may be asymptomatic during sexual intercourse [15]. Cardiac rehabilitation plays a crucial role in assessing patient risk, METs (metabolic equivalents), and maximal heart rate. This information is used to guide safe activity modification and optimize sexual satisfaction within individual limitations.

The current study suggests men had more knowledge than women, though not statistically significant. This might be linked to higher prevalence of myocardial infarction and erectile dysfunction among men, prompting them to seek information and discuss the topic more openly [11]. Sociocultural norms and taboos often discourage women from seeking information. Traditional gender roles emphasize modesty for women, limiting their access to comprehensive education. Sex education programs usually focus more on male sexual health. Limited access to healthcare hinder women's ability to obtain accurate information. Additionally, psychological factors like fear of judgment and stigma further hindering women's ability to seek knowledge and make informed decisions about their sexual health [16].

The current study shows many patients believed they should discontinue medications that might affect sexual health. There is a potential concern as it could lead to medication non-adherence. High prevalence of medication nonadherence has been associated with increased risk of morbidity and mortality. Factors leading to nonadherence including illiteracy, polypharmacy, cultural issues, religious beliefs, mental illness, socioeconomic status and the paucity of knowledge on treatment [17]. This finding reinforces the importance of educating patients about the necessity of long-term medications like aspirin and beta-blockers while also promoting healthy lifestyle habits like weight management and a low-fat diet [18].

Sex-related questions often face sensitivity barriers due to cultural, religious, educational, linguistic, and socioeconomic factors. A well-designed questionnaire should minimize these barriers to gather accurate information. Using the local language and avoiding offensive questions are key strategies. The translated Bahasa Melayu version of the "Sex After MI knowledge test" (SMIKT) demonstrates a good validity and reliability for assessing knowledge in the Malaysian context. Cultural sensitivity necessitated the researchers to exclude questions about oral/anal sex and masturbation; such practices deemed inappropriate by the Muslim majority. The modification, although respectful, could potentially compromises the data's integrity. This situation illustrates the importance of navigating cultural sensitivity in sex-related research to balance accurate assessment with respect for cultural norms.

Limitations

Our study has several limitations that warrant consideration. Firstly, the study was conducted at a single urban centre, recruiting participants who were predominantly male, middle to high socioeconomic status, with a secondary school education level, and a significant portion being retired government employees. The small size and heterogeneity of the sample may have limited the study's ability to detect significant differences in knowledge levels across the population. Furthermore, the study acknowledges the limitations of focusing solely on knowledge by using the SMIKT without looking at other domains such as sexual satisfaction, sex arousal or erection, sexual quality of life and the impact on marital institutions.

Further study

Future research should explore the broader impact of cardiovascular disease on various aspects of sexual functioning and patient well-being [19]. To address this gap, clinicians should cautiously select scales that align with their clinical objectives, considering patient characteristics and the feasibility of completing the scale [20]. A more comprehensive approach could involve expanding the sample size by implementing a multicentred study across various districts, including both urban and rural areas. Investigating additional domains beyond the scope covered in the current study could provide a better understanding of sexual health problem, knowledge and impact to this population. Finally, qualitative investigations could probe the reasons behind knowledge deficiencies, uncovering potential barriers that prevent individuals from seeking out information. The SMIKT questionnaires can be used to evaluate the effectiveness of sexual counselling interventions. Administering the SMIKT questionnaires before and after the intervention enables researchers to gauge its impact on patients' sexual health knowledge. By employing these strategies, researchers can gain a richer understanding of the issue, paving the way for more effective interventions and policies.

CONCLUSION

This study identified a concerning gap in sexual health knowledge among Malaysian with cardiovascular disease. Despite patient interest, communication with healthcare providers was lacking. Improved communication and culturally sensitive educational resources are crucial to address misconceptions and promote sexual well-being in this population. Future research should explore broader demographics and cultural factors.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest, and no funding was received for this research.

REFERENCES

1. Clinical Practice Guidelines on Primary & Secondary Prevention of Cardiovascular Disease In: Ministry of Health Malaysia AoMM, National Heart Association of Malaysia, editor. Health Technology Assessment Unit Medical Development Division2017.
2. Epifanio MS, La Grutta S, Alfano P, Marcantonio S, Piombo MA, Ammirata M, et al. Sexual Satisfaction and Quality of Life in Cardiovascular Patients: The Mediating Role of Anxiety. Healthcare (Basel). 2023;11(3).
3. Nascimento ER, Maia AC, Pereira V, Soares-Filho G, Nardi AE, Silva AC. Sexual dysfunction and cardiovascular diseases: a systematic review of prevalence. Clinics (Sao Paulo). 2013;68(11):1462-8.
4. Quek KF, Sallam AA, Ng CH, Chua CB. Prevalence of sexual problems and its association with social, psychological and physical factors among men in a Malaysian population: a cross-sectional study. J Sex Med. 2008;5(1):70-6.
5. Davos CH, Rauch B. 1Evidence for cardiac rehabilitation in the modern era. In: Abreu A, Schmid J-P, Piepoli M, editors. ESC Handbook of Cardiovascular Rehabilitation: A practical clinical guide: Oxford University Press; 2020. p. 0.
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). European Heart Journal. 2013;34(41):3217-35.
7. Byrne M, Doherty S, Murphy AW, McGee HM, Jaarsma T. The CHARMS Study: cardiac patients' experiences of sexual problems following cardiac rehabilitation. Eur J Cardiovasc Nurs. 2013;12(6):558-66.
8. Steinke EE, Swan JH. Effectiveness of a videotape for sexual counseling after myocardial infarction. Res Nurs Health. 2004;27(4):269-80.
9. Brislin RW. Back-Translation for Cross-Cultural Research. Journal of Cross-Cultural Psychology. 1970;1:185 - 216.
10. Brännström M, Kristofferzon M-L, Ivarsson B, Nilsson U, Svedberg P, Thylén I. Sexual Knowledge in Patients With a Myocardial Infarction and Their Partners. The Journal of cardiovascular nursing. 2013;29.
11. Farhan R, Yousuf R, Hussain SNF, Khan M, Bilal Z, Khan M, et al. Sexual Knowledge in Post-Myocardial Infarction Patients: A Cross-Sectional Study. Cureus. 2020;12(6):e8480.
12. Bdair I, Abushaikha L. Jordanian Patients Knowledge Regarding Sexual Health Following Coronary Artery Diseases2018.
13. Mc Sharry J, Murphy PJ, 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):134.
14. López-Medina IM, Gil-García E, Sánchez-Criado V, Pancorbo-Hidalgo PL. Patients' Experiences of Sexual Activity Following Myocardial Ischemia. Clinical Nursing Research. 2016;25(1):45-66.
15. Levine GN, Steinke EE, Bakaeen FG, Bozkurt B, Cheitlin MD, Conti JB, et al. Sexual Activity and Cardiovascular Disease. Circulation. 2012;125(8):1058-72.
16. Kohan S, Movahedi M, Sadeghi M, Nekuei N. Identifying and Responding to the Sexual Reproductive Health Needs of Women with Heart Disease: A Qualitative Study. Iran J Nurs Midwifery Res. 2022;27(3):221-8.
17. Ho PM, Bryson CL, Rumsfeld JS. Medication Adherence. Circulation. 2009;119(23):3028-35.
18. Virani SS, Newby LK, Arnold SV, Bittner V, Brewer LC, Demeter SH, et al. 2023 AHA/ACC/ACCP/ASPC/NLA/PCNA Guideline for the Management of Patients With Chronic Coronary Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines. Circulation. 2023;148(9):e9-e119.
19. Rosman L, Cahill JM, McCammon SL, Sears SF. Sexual Health Concerns in Patients With Cardiovascular Disease. Circulation. 2014;129(5):e313-e6.
20. Grover S, Shouan A. Assessment Scales for Sexual Disorders—A Review. Journal of Psychosexual Health. 2020;2(2):121-38.