Patient Preference and Adherence

Dovepress
Taylor & Francis Group

Open Access Full Text Article

ORIGINAL RESEARCH

The Implementation Gap: A Qualitative Analysis of Determinants of Sexual Counseling Among Coronary Heart Disease Patients in China

Fengpei Zhang[1], Yachai Li[2], Weihong Yang[1], Yingying Fan[3], Aiping Wang[4]

[1]Nursing Department, The First Affiliated Hospital of Xinxiang Medical University, Xinxiang, People's Republic of China; [2]Department of Cardiovascular Ward, The First Affiliated Hospital of Xinxiang Medical University, Xinxiang, People's Republic of China; [3]Department of Gastroenterology Ward, The First Affiliated Hospital of Xinxiang Medical University, Xinxiang, People's Republic of China; [4]Public Business Department, The First Affiliated Hospital of China Medical University, Shenyang, People's Republic of China

Correspondence: Aiping Wang, Email jianghaoran88@hotmail.com

Objective: Coronary heart disease affects the quality of sexual life of patients, sexual life is very important for patients. Sexual counseling is an effective intervention to improve the quality of sexual life in patients with coronary heart disease. However, the implementation of sexual counseling is not very well. Therefore, Based on the theoretical framework, this study aims to explore the influencing factors of the implementation of sexual counseling in patients with coronary heart disease in China, in order to identify its key determinants.

Methods: A descriptive qualitative research design was used to explore the determinants of sexual counseling implementation in China. Qualitative data were collected through semi-structured interviews. Theoretical saturation and validation strategies were used to demonstrate the adequacy of the qualitative data. To enhance methodological rigor, the study referred to the 32-item checklist of the Consolidated Standards for Reporting Qualitative Research (COREQ). Thematic analysis was used to extract themes and map themes to the theoretical framework to complete the qualitative data.

Results: A total of 10 medical staff and 13 patients were included in the study. Six facilitating factors and nine barrier factors were identified, with the main themes including: cultural factors are the main barrier to the implementation of sexual counseling; sexual counseling methods, patients' misunderstanding of sexual counseling, and medical staff's lack of sexual counseling knowledge and time are all hindering factors; patients' willingness to acquire sexual knowledge and medical staff's positive attitude under evidence-based guidance are facilitating factors.

Conclusion: The factors affecting the implementation of sexual counseling were identified, and the main barriers affecting the implementation of sexual counseling are obtained. This provides the basis for developing interventions to promote sexual counseling implementation in the future.

Keywords: coronary heart disease patient, sexual counseling, quality of life qualitative analysis, barriers, facilitators

Introduction

Coronary Heart Disease (CHD), as one of the leading causes of death and disability worldwide, has become a significant public health concern.[1] Advances in medical technology have significantly improved the survival rates of CHD patients, enabling an increasing number of individuals to live with the condition for extended periods and resume normal activities. However, quality of life issues during the rehabilitation process, especially sexual health issues, are increasingly attracting widespread attention. Research indicates that sexual dysfunction is prevalent among CHD patients[2] and can be attributed to multiple factors, including the disease itself, side effects of treatment, and psychological stress.[3] There is a close internal link between heart health and sexual health, CHD may directly lead to sexual dysfunction by affecting blood vessel function and blood circulation, and sexual activity itself as a physical activity, will produce a certain load on heart function, thereby causing patients to worry about sexual safety.[4] Therefore, comprehensive

Received: 9 September 2024
Accepted: 28 June 2025
Published: 3 July 2025

research on heart health and sexual health as a whole will not only help reveal the interaction mechanism between the two, but also provide patients with more comprehensive rehabilitation guidance.

Sexual health, as defined by the World Health Organization (WHO) is an integral component of overall well-being, encompassing physical, psychological, and social dimensions.[5] For patients with CHD, the disease and its treatments, including surgery and medication, often negatively impact sexual activity, leading to issues such as erectile dysfunction, reduced libido, and decreased sexual satisfaction.[6] In addition, psychological problems such as anxiety and depression after the illness further aggravate the problem of sexual health.[7,8] Sexual health issues not only affect the individual quality of life of patients, but can also have a negative impact on marital relationships and family harmony.[9] However, due to cultural, social and doctor-patient relationship, sexual health issues are often ignored or avoided in clinical practice. Patients do not come forward because of shame or lack of trust in the doctor, and the doctor may fail to initiate such discussions because of limited time, lack of expertise, or fear of offending the patient.

The topic of sex is particularly sensitive within Chinese culture. Influenced by traditional beliefs, sexual issues are often considered taboo in many cases and rarely discussed openly even in medical settings.[8] This cultural background makes CHD patients face more complex sexual health issues during recovery. Although some studies have pointed out that sexual counseling has an important role in helping patients resume sexual life,[10] systematic and standardized sexual counseling services have not yet been formed in China. There is a significant gap between patients' needs and the services they actually receive, affecting their full recovery. This gap not only hinders the full recovery of patients, but also highlights the urgency of in-depth exploratory counseling and its influencing factors.

The lack of patient perspective is also a shortcoming in the current study. The existing literature mainly focuses on the perspective of medical staff or the impact of disease, and pays less attention to patients' own experiences and needs.[8,11,12] This lack is due to a number of reasons. First, cultural taboos prevent patients from speaking openly about sexual health problems, making it difficult for researchers to obtain first-hand information from patients.[8] Second, in clinical practice, medical professionals often prioritize the acute symptoms of heart disease over the sexual health needs of patients, thus limiting the systematic exploration of patient perspectives.[13,14]

Based on the Comprehensive Framework for Implementation Research (CFIR) and the Capability, Opportunity, Motivation-behavior model (COM-B), this study explores the facilitators and barriers to the implementation of sexual counseling through qualitative research methods. Heart health and sexual health, two key areas that affect patients' quality of life, face the challenge of stigmatizing discussions in many cultures, especially in the context of China, where such traditional beliefs are deeply ingrained. Combining these two theories, this study provides a comprehensive understanding the implementation status of sexual counseling in CHD patients from the perspective of both the supply and demand of sexual counseling through in-depth interviews, provides theoretical support for the formulation of more effective intervention strategies, and provides specific recommendations for policy makers, healthcare administrators and front-line medical professionals in practice.

Methods

Study Design and Participants

This study uses a describe qualitative research to assess the determinants influencing the implementation of sexual counselling. Purposive sampling method was used to select medical staff and patients from the cardiovascular department of the First Affiliated Hospital of Xinxiang Medical College, Henan Province in China from November 2023 to January 2024 as the study objects. Doctors and nurses who experience in treating or caring for patients in the cardiovascular department for more than 2 years are selected. Patients diagnosed with coronary heart disease, aged 18 years or older, had a stable sexual partner, maintained a normal sexual life before the disease, and had no communication disorders were selected. Patients with CHD combined with heart failure and mental illness were excluded.

Theoretical Framework

CFIR and COM-B model were used as theoretical guidance to guide data collection and analysis. CFIR is divided into five dimensions and 39 components, including intervention characteristics, inner setting, outer setting, participant

characteristics and implementation process.[15] The framework serves as a determinant framework that offering researchers a structured approach to analyzing and understanding the various factors that influence the successful implementation of a project, policy, or intervention.[16] Based on CFIR, this study analyzed factors such as intervention characteristics, environment and participant characteristics in the implementation of sexual counseling from the perspective of medical staff. For example, "How do you think to conduct sexual counseling for patients with CHD (eg, way, method, content)?" explores intervention characteristics, "What do you think are the factors that sexual counseling does not conducted in patients with CHD?" examines the potential influence of external environment (eg, culture) and internal environment (eg, resources), and "Do you know anything about sexual counseling for cardiovascular patients?" assesses individual characteristics.

The COM-B model comprising capability, opportunity and motivation-behavior,[17] This model examines the behavioral changes of people from three dimensions of ability, opportunity and motivation,[18] which is used to guide the understanding of relevant behaviors, establish the behavioral goals, and lay the foundation for designing intervention measures.[18] Based on the COM-B model, this study analyzed the determinants of sexual counseling seeking behavior from the perspective of patients. Such as "Do you know anything about having sexual life safely after illness?" assesses psychological ability, "Who do you want to get it from, and in what way (eg, telephone, brochure)?" explores physical opportunities, and "What do you think are the reasons for not seeking counseling?" reflects reflective motivation.

Research Team

Our team consisted of four researchers, a female professor responsible for the design and quality control of the study, two Ph.D. researchers (two females) involved in the collection and analysis of the data, and another female professor with extensive experience in qualitative research who was responsible for negotiating and determining the code.

Data Collection

Two researchers established good relationships with participants. Face-to-face semi-structured interviews were used in this study. An interview outline was developed for medical staff and patients based on CFIR and COM-B models. After the interview outline is drawn up, researchers familiar with the subject are invited to revise it. After the pre-experiment, the interview outline was modified again to form the final interview outline (Appendix 1). Each interview lasted 30 to 50 minutes. Before the interview, the demographic data of the participants were collected, the purpose of the interview was informed, and the interview was started with the consent of the participants. During the interview, two researchers participated in the interview and collected data simultaneously through notes and recordings. The interview was conducted in a quiet and undisturbed environment. After the interviews, the two researchers transcribed the interviews verbatim into text within 24 hours. A researcher used the notes taken during the interview to supplement and verify the interview text. Subsequently, the two researchers summarized the data and analyzed whether new topics appeared to determine the saturation of information. When the information reached saturation, the number of participants in the interview was the sample size of this study.

Data Analysis

After the interviews, NVivo11 software was used to encode the data. Data analysis followed the thematic analysis method proposed by Braun and Clarke.[19] The analysis process included steps such as becoming familiar with the interview data, generating initial codes, summarizing themes, reviewing themes, and naming themes. First, two researchers read each transcript word for word and took preliminary notes to familiarize themselves with the data. Next, by reading the data line by line, the researcher marked the words and sentences related to the research questions and openly coded the data. Subsequently, similar or related codes were sorted together to form a preliminary coding framework. After the initial codes are generated, the researchers summarized and organized these codes, identified potential topics, and brought together all the codes and data fragments related to each potential theme to form a preliminary framework of themes. Finally, each theme was checked for consistency with the relevant codes and the entire data set, and individual themes were mapped into the CFIR and COM-B models.

Researcher Reflexivity

In this study, two researchers systematically reflected on the potential influence of their personal backgrounds, perspectives, and experiences on the research process through detailed reflective journals and regular team discussions. To enhance the reliability of the results, the study used data source triangulation (collecting data from both medical staff and patients' perspectives) and researcher triangulation (two researchers independently coded, which was reviewed and agreed upon by a third researcher). In addition, methodological rigor and robustness of study findings were ensured by checking preliminary results with participants, confirming data saturation (new information no longer appears), and following the COREQ 32-item checklist.

Ethics

This study was approved by the Ethics Committee of the First Affiliated Hospital of Xinxiang Medical College (No. (No): EC-022-005). The researchers adhered to the Declaration of Helsinki. The information collected in the study was strictly confidential and anonymous. Letters were used to replace the patients' name in the study, "D" stands for doctor, "N" stands for nurse, "M" stands for male patient, and "F" stands for female patient. Participants were informed that they could withdraw from the study at any time and/or refuse to answer any questions.

Results

A total of 23 participants were included in this study, including 10 medical staff and 13 patients with CHD. The medical staff included 8 doctors and 2 nurses, 7 of whom were male and 3 were female (Table 1). Among the patients, there were 10 males and 3 females, aged mainly between 41 and 50 years old, accounting for 46.2%, most of the patients had a junior high school education (Table 2).

Table 1 Demographic Data with Medical Staff (n=10)

No	Gender	Years of Working (year)	Education	Title
D1	Male	5	Master	Physician in Charge
D2	Male	6	Master	Physician in Charge
N3	Female	13	Undergraduate course	Supervisor nurse
D4	Male	3	Master	Resident
D5	Male	11	Master	Physician in Charge
D6	Male	25	Master	Professor
N7	Female	24	Undergraduate course	Nurse practitioner
D8	Male	5	Master	Physician in Charge
D9	Male	2	Master	Resident
D10	Female	15	Master	Professor

Table 2 Demographic Data with Patients (n=13)

No	Age	Gender	Duration of Illness
M1	34	Male	1 month
M2	41	Male	1 month
M3	42	Male	2 years
F4	55	Female	2 months
M5	40	Male	1.5 years
M6	46	Male	5 years
F7	53	Female	1 year

(*Continued*)

Table 2 (Continued).

No	Age	Gender	Duration of Illness
F8	41	Female	2 years
M9	56	Male	10 years
M10	67	Male	5 years
M11	56	Male	1.5 Years
M12	47	Male	6 months
M13	53	Male	2 months

Interview Results of Medical Staff

The themes and subthemes derived from the study are shown in Table 3.

Intervention Characteristics

Integrate into Daily Health Education

Medical staff recommend integrating sexual counseling into routine health education to reduce the embarrassment of patients and medical staff when discussing sexual health issues. By naturally embedding the content of sexual health education into routine health education, sexual counseling can become a part of routine care, thereby alleviating the psychological burden on patients when asking questions. This approach sends a clear message to patients that sexual health is part of a comprehensive health management process and that they can feel free to ask questions without feeling uncomfortable or shy.

> D9: Incorporate knowledge about sexual life into daily health education so that it is not easy to cause discomfort to patients. There is no need to talk about it specifically. Just give patients a signal so that those who have questions can actively ask medical staff.

Use of Information Brochures

Medical staff recommend using detailed health education brochures that patients can read in private. This approach effectively protects patients' privacy and enables them to obtain sexual health information in an undisturbed environment. At the same time, the brochures can provide guidance on how to obtain further sexual counseling, reminding patients to actively seek help when needed. This approach not only makes it easier for patients to access information, it also increases the likelihood that they will proactively contact their medical staff, thereby improving the overall effectiveness of care.

> D8: You can provide patients with a health knowledge booklet and write the content in the booklet as detailed as possible. This can not only protect the patient's privacy, but also send a signal to the patient, allowing the patient to ask medical staff if he has any questions.

Table 3 Facilitators and Barriers Themes with Medical Staff

CFIR Framework	Theme	Determinant
Intervention characteristics	Integrate into daily health education	Facilitators
	Use of information brochures	Facilitators
	Personalized consultation based on patient needs	Facilitators
	Misconceptions about specialists	Barriers
Outer setting	Benefit from external learning	Facilitators
	Traditional culture's barriers to sexual counseling	Barriers
Inner setting	Lack of suitable environmental for consultation	Barriers
Characteristics of individuals	Willingness to learn and implement evidence-based practices	Facilitators
	Resistance to sexual counseling	Barriers

https://doi.org/10.2147/PPA.S495291

Personalized Consultation Based on Patient Needs

Medical staff emphasize that sexual counseling must be tailored to the individual needs of patients to ensure that their specific circumstances and special requirements are met. Each patient's background, medical condition, and focus on sexual health issues may be different, so sexual counseling cannot be a one-size-fits-all approach. Medical staff should fully understand the patient's personal experience, cultural background and psychological state so as to provide targeted advice and support. Personalized sexual counseling can not only more accurately address patients' specific problems, but also improve patient satisfaction and treatment outcomes.

> N7: When doing sexual counseling, you need to first understand the patient's condition and educate the patient based on his or her needs.

Misconceptions About Specialists

Patients often mistakenly believe that cardiologists focus only on the treatment of heart disease. This misunderstanding stems from a narrow understanding of the role of the cardiovascular physician, which leads patients to view sexual health issues as a separate area unrelated to heart disease. As a result, they are unaware that cardiologists can provide valuable assistance, leading to a lack of trust in the physician's overall abilities and limiting the willingness to proactively seek help.

> D4: Some patients believe that specialists are responsible for their own treatments and are unaware that doctors have knowledge in this area. They mistakenly believe that cardiologists only treat heart problems.

Outer Setting

Benefit from External Learning

Healthcare professionals who have received sexual counseling training or have participated in sexual counseling practices have found these experiences to be very beneficial to their professional development and patient care. The training made them realize the importance of sexual health knowledge in practical work and improved their ability to identify and solve patients' sexual health problems. Through systematic training, healthcare professionals can not only provide effective sexual counseling to help patients understand and manage disease-related sexual issues, but also significantly improve the overall quality of life of patients.

> D10: I have learned relevant guidance when I was training in other hospitals. It clearly stated how long it takes to resume sexual intercourse after myocardial infarction or PCI surgery. The hospital also provided patients with rehabilitation and guidance in this aspect, which improved their quality of life.

Traditional Culture's Barriers to Sexual Counseling

Medical staff believe that traditional culture has a significant impact on patients' ability and willingness to discuss sexual health issues. In Chinese culture, sex is considered a private and taboo topic, which means that even if patients have concerns, they may choose to keep silent due to embarrassment and shame. Especially when communicating with medical staff of the opposite sex, patients' resistance is more obvious. Traditional gender roles and privacy concepts further aggravate their shyness and anxiety.

> D6: In China, sex is a very sensitive topic, and even if patients have sexual problems, they will avoid talking about it in most cases.

> D10: Influenced by traditional culture, I am relatively conservative and embarrassed to ask. I also won't take the initiative to tell patients these things because I don't know whether they need it or not.

> N7: When facing patients of the opposite sex, sometimes patients are reluctant to speak because they feel embarrassed. For example, male patients are embarrassed to speak to female doctors.

Inner Setting

Lack of Suitable Environment for Consultation

Lack of a privacy is one of the most important barriers to sexual counseling. The noise, high turnover and small space in the wards limit the possibility of private and sensitive discussions. In this environment, it is difficult for patients to open up about their sexual health concerns and needs. In addition, the presence of other patients and medical staff may make patients feel embarrassed and reluctant to ask sexual questions, causing them to feel ignored and affecting their acceptance of sexual counseling.

> D10: Chinese culture are relatively conservative when discussing sexual topics, and sexual counseling must be conducted in a secret environment.

> N3: The environment in the ward is quite noisy. It is not appropriate to conduct sexual counseling in the ward. It is better to have a private environment.

Characteristics of Individuals

Willingness to Learn and Implement Evidence-Based Practice

Many medical staff said that they would be willing to learn sexual counseling knowledge and apply it in clinical practice if evidence-based evidence and relevant training were available. Systematic training allows them to acquire best practices and the latest research, thereby enhancing the professionalism and effectiveness of their consultation. In summary, medical staff hope to improve their sexual health knowledge through scientific training in order to better meet the needs of patients.

> D1: As long as I have evidence-based guidance on what to do, I am willing to give guidance to patients, and I am willing to learn and work on sexual counseling.

> N7: Patients have this need and sexual life is very important to them, but they are unwilling to speak up. I think medical staff should actively carry out this work, and I am willing to join in this work.

Resistance to Sexual Counseling

Some medical staff are reluctant to provide sexual counseling, mainly due to lack of knowledge and interest in sexual health issues. On the one hand, many medical staff feel uncomfortable when providing sexual counseling due to lack of professional training and lack of knowledge. On the other hand, high workloads and tight schedules limit their ability to pay attention to and deal with patients' sexual health issues.

> D2: I have never thought about studying relevant literature. Compared with the disease itself, this is not important. Even if I know the relevant knowledge, I am still unwilling to carry out health education or consultation on sexual life.

> D5: Doctors have limited energy and there are too many patients, they don't have time to deal with these.

Patient Interview Results

The themes and subthemes derived from the study are shown in Table 4.

Physical Capability

Physical Condition

Physical condition is an important barrier to sexual counseling for patients. Some patients tend to feel uneasy about changes in their physical condition, and even if they do not feel any discomfort in their daily activities, their anxiety and worry make them hesitant and unwilling to take the initiative to consult medical staff. Concerns about their physical condition limit their access to sexual health issues.

> M1: I didn't feel any discomfort and had no symptoms after light physical labor. Considering the illness, I started having sex after a while, and I didn't have the awareness to ask for advice on when to start having sex.

Table 4 Facilitators and Barriers Themes with Patients

COM-B Model		Theme	Determinant
Capability	Physical Capability	Physical condition Physiological condition	Barriers
	Psychological Capability	Misconception Lack of knowledge	Barriers
Opportunity	Physical Opportunity	Social Environment	Barriers
	Social Opportunity	Social Culture	Barriers
Motivation	Reflective Motivation	Self-assessment Psychology	Barriers
	Automatic Motivation	Necessity of things	Facilitators

Physiological Condition

Some patients believe that their sexual function declines with age, and even if they have sexual problems after becoming ill, they do not think it is necessary to seek professional consultation.

> M9: After illness, I felt that the quality of my sexual life was not as good as before illness. However, as I got older, I had fewer sexual intercourses, so I was not willing to seek sexual counseling.

Psychological Capability

Misconception

Some patients have the wrong perception that sex is a completely personal issue, so they are ashamed to ask or discuss it with others. They do not seek sexual counseling not only because they are ashamed but also because they lack relevant knowledge and do not know where to get sexual counseling. In addition, due to the influence of sociocultural factors, they often have doubts about seeking professional support, which also exacerbates patients' neglect of sexual health issues.

> M13: I didn't know that coronary heart disease affects sexual function, and I didn't know that I could get sexual counseling from medical staff. Medical staff didn't mention these things to me. Besides, sexual life is a personal matter, and I'm embarrassed to ask others.

Lack of Knowledge

Patients lack knowledge about sex. They often only realize the impact of disease on physical health, but do not realize that disease can also affect the quality of sexual life. Furthermore, because medical staff fail to offer patients with detailed information about sexual health during discharge instructions, patients were unable to obtain adequate sexual health knowledge.

> F7: I did not know that coronary heart disease would affect sexual function. I just thought that after the operation, I was afraid to have sex. There was no medical staff to provide relevant education and guidance, and I did not know that I could seek sexual counseling from medical staff.

> M5: I have not paid attention to whether coronary heart disease has any impact on my sexual life. When I was discharged from the hospital, the doctor informed me of the precautions I should take at home about the disease, but did not provide me with any knowledge about sexual life. Therefore, I had no awareness of seeking medical advice when I had sexual health problems.

Opportunity

Physical Opportunity

Social Environment

Social environment inhibits patients from discussing sexual health issues. People around them avoid talking about sexual health issues, and this atmosphere of silence makes them feel embarrassed to speak up and unable to take the initiative to talk about related topics or seek help.

M11: None of my friends talk about sex, and I am embarrassed to talk about it.

M10: I don't know this knowledge either, and the people around me also lack this knowledge, so I can't consult others.

Social Opportunity

Social Culture

Cultural norms and the perception that sexual topics are highly private prevent patients from discussing these sensitive topics with their healthcare providers. In Chinese culture, talking about sex is considered taboo, and even if patients realize they need help, they often remain silent due to cultural pressure.

M6: I am relatively conservative and think that sex is a private topic. I have never dared to ask other people. I have looked up relevant questions on the Internet and in books. I am embarrassed to consult medical staff.

M3: I think sexual topics are personal privacy and I am unwilling to mention them to outsiders. I have never asked anyone else and I don't know that medical staff can provide relevant knowledge.

Motivation

Reflective Motivation

Self-Assessment

Patients often rely on self-assessment for sexual health issues, believe that they do not need sexual counseling if they do not have obvious symptoms, and lack the initiative to discuss sexual health issues with medical staff. This misconception causes them to ignore potential sexual health problems and weakens their willingness to seek professional guidance.

M1: I thought there was nothing wrong with my body, so I didn't consult any medical staff and I didn't know whether the disease had any impact on my sexual function.

Psychology

The patient's psychological state has a negative impact on his or her physical health and the quality of his or her sexual life. When patients feel anxious or fearful about their illness or treatment outcomes, this emotional state can exacerbate their concerns about their sexual life, which can affect their sexual function and overall life satisfaction.

F8: After the operation, I have no symptoms after daily activities, but I am afraid of an acute attack of the disease and dare not have sex. I wonder if I can consult the medical staff of the cardiovascular department.

Automatic Motivation

Necessity of Things

Despite multiple barriers, some patients are eager to learn about the impact of the disease on their sexual health and believe that acquiring sexual health knowledge is crucial to improving their quality of life. These patients hope to obtain detailed sexual health knowledge and hope to get help from medical staff.

M6: Patients lack the knowledge about safe sex after the disease and are afraid to have sex. They hope to learn about this from medical staff and feel it is necessary to learn about it.

F4: Some patients are eager to learn relevant knowledge, hope that medical staff can provide relevant knowledge, and are willing to make changes.

Discussion

Based on the CFIR and COM-B models, this study systematically analyzed the determinants of sexual counseling for patients with CHD and found that there are many factors that affect sexual counseling, involving multiple levels such as medical staff, patients and their social environment. Most of the research results are consistent with previous studies.[11,12,20] Research shows that many medical staff believe that sexual counseling is difficult to implement directly. They suggest embedding sex-related knowledge into health education. This implicit intervention strategy can reduce patients' embarrassment and discomfort, and patients may be more likely to accept it. This is consistent with a study, this study shows that due to the confidentiality of sexual topics, it is difficult for medical staff to provide sexual counseling. The study found that patients prefer to obtain sexual knowledge through indirect channels such as health education, WeChat and so on.[7] However, this approach may also result in some patients being unaware of the availability of sexual counseling, thereby missing out on the opportunity to obtain targeted intervention. Therefore, future interventions should find a balance between implicit and explicit approaches to protect patient privacy while ensuring the effectiveness of information delivery.

The study found that some medical staff are resistant to sexual counseling, partly because they lack relevant knowledge and guidance. Many medical training programs do not pay enough attention to sexual health, and medical staff lack knowledge about the sexual health of patients with coronary heart disease.[13,14] This makes medical staff lack the confidence and ability to discuss such issues. Even if they recognize the importance of sexual health, they are often afraid to talk about it. On the other hand, high workload is an important factor that causes medical staff to ignore sexual health issues. Clinical medical staff face a large number of daily tasks and emergencies. Due to limitations of time and resources, they can only deal with patients' disease treatment and lack the energy to pay attention to sexual health issues. In this case, patients' sexual health issues become a secondary issue.[13] Although sexual health is critical to a patient's quality of life, it is often neglected due to time and resource constraints on medical staff.

Culture is an important factor affecting the implementation of counseling. In traditional Chinese culture, the moral constraints of Confucianism,[21] the implicit expressions of Taoism, and the restraint concept of Buddhism[22] have led Chinese to believe that sexual issues are private issues, or even taboo topics. This leads to patients often choosing to look up information on their own or not deal with it when they have sexual health problems.[23,24] This study also reached a similar conclusion. The perception and attitudes towards sexuality among Chinese people not only influence how patients approach sexual health issues but also affect how healthcare professionals address these concerns. Many medical staff are worried that discussing sexual issues will cause discomfort or embarrassment to patients, which leads them to avoid discussing them in actual work. This is consistent with the research views of Emily K. Hyde et al.[11] Cultural barriers lead to the neglect of sexual health issues in clinical practice. Compared with Western countries, patients in China are more reluctant to take the initiative to raise sexual health issues,[14] resulting in medical staff not knowing how to intervene, which makes greater challenges to the promotion of sexual counseling in China. Therefore, future interventions need to gradually guide patients and health care professionals to discuss sexual issues more openly while respecting cultural backgrounds.

Despite the many obstacles, this study also found some factors that are conducive to the implementation of sexual counseling. For example, some medical staff said that they are willing to conduct sexual counseling if there is evidence-based guidance. This shows that by providing scientific evidence and practical operation guidelines, the enthusiasm of medical staff can be stimulated and the promotion of sexual counseling can be promoted. In addition, some patients expressed their desire to acquire sex-related knowledge and were willing to accept guidance from medical staff, which provided a good basis for the implementation of sexual counseling.

This study provides insights into the implementation of sexual counseling in the Chinese context and has certain implications for future research. By integrating CFIR and COM-B models to combine determinants from both supply and demand sides, this study transcends a single healthcare professional perspective, revealing the interplay between cultural taboos and environmental constraints and its implications for systemic interventions, offering valuable insights for countries with conservative cultural backgrounds. This study emphasizes the importance of patient education and suggests

that implicit education (eg, manuals) is more suitable for sensitive environments. It also preliminarily identifies barriers and opportunities and suggests measures such as training, improving the consultation environment (eg, private space), and incorporating sexual health into cardiac rehabilitation guidelines to alleviate limitations in implementation. Meanwhile, future extension of these findings to multi-regional and multi-cultural studies is encouraged to verify their applicability.

Limitations

The study also has some limitations. First, the generalizability of the results may be affected by the limited sample size. Future studies should increase the sample size, especially by increasing the participation of patients and medical staff from different regions and cultural backgrounds. Secondly, the depth of qualitative research depends on participants' willingness to express and the richness of interview data. Although this study ensures the adequacy of the subject through data saturation, some participants may not fully disclose their experience due to cultural taboos or personal reservations, which may limit the exploration of some potential problems. In addition, while the research team reduced subjective bias through reflection and triangulation, the researcher's interpretation of the data may still be influenced by personal perspective. Therefore, future studies may consider combining quantitative studies to further verify the comprehensiveness of the results.

Conclusion

This study systematically analyzed the multiple factors that affect the implementation of sexual counseling for patients with CHD in China. The results showed that the implementation of sexual counseling was constrained by the knowledge and attitudes of medical staff, the counseling environment, the physical abilities and psychological barriers of patients, and the sociocultural background. Nevertheless, some medical staff and patients have a positive attitude towards sexual counseling, which provides a basis for promoting the implementation of sexual counseling. In the future, On the basis of respecting cultural background, we should explore in depth the effective intervention measures for the implementation of promotional counseling to comprehensively improve the quality of life of patients.

Data Sharing Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Ethics Approval and Informed Consent

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of The First Affiliated Hospital of Xinxiang Medical University (No: EC-022-005).

Consent for Publication

All participants signed informed consent, including permission to publish anonymous responses and direct quotes.

Acknowledgments

We thank all the researchers and participants who participated in this study.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Funding

The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

Disclosure

The authors have no relevant financial or non-financial interests to disclose for this work.

References

1. Liu M, Wang Z, Fan J, Fan J. Key points of China cardiovascular health and disease report 2023. *Chin Cardiovasc Res*. 2024;22(7):577–593.
2. Brandis Kepler S, Hasin T, Benyamini Y, Goldbourt U, Gerber Y. Frequency of sexual activity and long-term survival after acute myocardial infarction. *Am J Med*. 2020;133(1):100–107. doi:10.1016/j.amjmed.2019.06.019
3. Sexual behavior in patients with cardiovascular disease - UpToDate. Available from: https://www.uptodate.com/contents/zh-Hans/sexual-activity-in-patients-with-cardiovascular-disease#!. Accessed October 16, 2023.
4. Cheitlin MD. Sexual activity and cardiovascular disease. *Am J Cardiol*. 2003;92(9):3–8. doi:10.1016/S0002-9149(02)03367-2
5. Sexual health. Available from: https://www.who.int/teams/sexual-and-reproductive-health-and-research-(srh)/areas-of-work/sexual-health. Accessed January 30, 2024.
6. Steinke EE, Mosack V, Hill TJ. The influence of comorbidities, risk factors, and medications on sexual activity in individuals aged 40 to 59 years with and without cardiac conditions: US National Health and Nutrition Examination Survey, 2011 to 2012. *J Cardiovasc Nurs*. 2018;33(2):118–125. doi:10.1097/JCN.0000000000000433
7. Wu X. *Investigation and Countermeasures of Sexual Quality of Life After PCI* [Master]. Guangxi Medical University; 2019.
8. Zhang F, Li Y, Shi Z, Wang A. Sexual experience in patients with coronary heart disease: a descriptive phenomenological study. *Sci Rep*. 2024;14(1):9968. doi:10.1038/s41598-024-60496-7
9. Günzler C, Kriston L, Harms A, Berner MM. Association of sexual functioning and quality of partnership in patients in cardiovascular rehabilitation--a gender perspective. *J Sex Med*. 2009;6(1):164–174. doi:10.1111/j.1743-6109.2008.01039.x
10. Xu F, Ming Q, Hou L. The effect of sex counselling in the sexual activity of acute myocardial infarction patients after primary percutaneous coronary intervention. *Acta Cardiol*. 2015;70(4):460–464. doi:10.1080/ac.70.4.3096894
11. Hyde EK, Martin DE, Rieger KL. Factors shaping the provision of sexual health education for adults with acute coronary syndrome: a scoping review. *Patient Educ Couns*. 2020;103(5):877–887. doi:10.1016/j.pec.2019.11.017
12. Karani S, McLuskey J. Facilitators and barriers for nurses in providing sexual education to myocardial-infarction patients: a qualitative systematic review. *Intensive Crit Care Nurs*. 2020;58:102802. doi:10.1016/j.iccn.2020.102802
13. 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):40. doi:10.1186/1471-2296-11-40
14. Wang P, Ai J, Davidson PM, Slater T, Du R, Chen C. Nurses' attitudes, beliefs and practices on sexuality for cardiovascular care: a cross-sectional study. *J Clin Nurs*. 2019;28(5–6):980–986. doi:10.1111/jocn.14692
15. Zhang Q, Pang D, Hu J, Wang Z. An interpretation of the constituent elements of the Comprehensive Framework for Implementation Research (CFIR). *Chin J Evid Based Med*. 2021;21(3):355–360.
16. Zhang L, Lu S, He W, et al. Analysis and application of the updated Comprehensive Framework for Implementation Research (CFIR). *J Nurs*. 2023;30(11):47–52. doi:10.16460/j.issn1008-9969.2023.11.047
17. Barker F, Atkins L, De lusignan S. Applying the COM-B behaviour model and behaviour change wheel to develop an intervention to improve hearing-aid use in adult auditory rehabilitation. *Int J Audiol*. 2016;55(sup3):S90–S98. doi:10.3109/14992027.2015.1120894
18. Michie S, Van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation Sci*. 2011;6(1):42. doi:10.1186/1748-5908-6-42
19. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. doi:10.1191/1478088706qp063oa
20. Mangolian Shahrbabaki P, Mehdipour-Rabori R, Gazestani T, Forouzi MA. Iranian nurses' perspective of barriers to sexual counseling for patients with myocardial infarction. *BMC Nurs*. 2021;20(1):196. doi:10.1186/s12912-021-00697-x
21. Katchadourian HA. *Sexology Endpoint*. Scientific and Technical Literature Press; 2019.
22. Ruan FF. *Sex in China: Studies in Sexology in Chinese Culture*. Springer US; 1991. doi:10.1007/978-1-4899-0609-0
23. Kong X, Zhang H, Shen Y, Wu H, Chen R. The status quo of recovery of sex life in patients with coronary heart disease and the research progress of health education. *Chin J Nurs*. 2010;45(11):1039–1041.
24. Wang S, Li Y, Zhao D, Gao Y, Gao Y. A survey of knowledge and practice of cardiac rehabilitation staff on sexual health management of patients with coronary heart disease. *Acad J Chin PLA Med Sch*. 2012;33(10):1083–1084+1087.