Sexual Problems in Cardiac Patients
How to Assess, When to Refer

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It is increasingly realized that discussing sexuality is an important issue in the holistic care for cardiac patients. In this review article, the conditions of a good assessment of sexual problems are identified such as creating an appropriate environment, ensuring confidentiality, and using appropriate language. Second, we present different styles and approaches that can be used to start the assessment, differing between settings, persons, or disciplines. The PLISSIT (permission, limited information, specific suggestion, and intensive therapy) model can be helpful to initiate discussion about sexuality with the cardiac patient and his/her partner. This model is a stepwise approach using various levels of discussion or treatment. Open-ended questions can facilitate discussion about sexual concerns, and validated questionnaires or diaries can be used to assess sexual problems. Patients with sexual concerns and problems should be counseled and/or treated appropriately, and adequate follow-up is needed. Additional training and research are needed to further improve the quality of sexual assessment and counseling in cardiac patients.

KEY WORDS: assessment, sexual function, sexual problems

Among patients with cardiovascular disease, sexual problems are highly prevalent in both sexes and have been shown to adversely affect the patients’ quality of life and well-being.1,2 Whereas talking about sex seems to be rather normal in daily life and in the media, in the healthcare setting, assessment of the effects of disease and treatment on sexual activity is less evident. Within the field of cardiology, healthcare providers increasingly realize that cardiovascular disease and sexuality are related. The relations are manifold:

- Erectile dysfunction and heart disease share common risk factors such as hypertension or diabetes.3
- Sexual activity might trigger cardiac symptoms.
- Cardiac medications might cause sexual problems. Cardiac medication is cited by part of the patients as the reason for sexual problems (e.g., β-blockers), which can make patients consider stopping the medications on their own initiative.4,5
- Cardiac medications might dangerously interact with the treatment of erectile dysfunction.4,5 The availability of phosphodiesterase 5 inhibitors, the new oral treatment for erectile dysfunction, has brought their own challenges.6 Although safe and effective for most stable cardiac patients, these agents are absolutely contraindicated in patients taking organic nitrates.7
- The absence of discussion of sexual health issues and self-prescribing of increasingly available products may present a significant health risk to patients, who may not be aware of the danger of drug interactions.
- After a myocardial infarction, the patient and/or partner can be scared of sexual expression, fearing cardiac death, and with an implantable cardioverter defibrillator (ICD), they may avoid sex for fear of a shock.

It is therefore important to address sexual function as part of the overall medical care of cardiac patients. Otherwise, patients may worry unnecessarily about their sexual problems and will not receive optimal treatment. This article is especially aimed at summarizing approaches that can be used to discuss sexuality in cardiac patients. Many nurses in cardiology are involved in research, so extra attention is paid to assessment tools.

Conditions of a Good Assessment

There are several prerequisites for implementing successful patient education and counseling on issues related to sexual function. A proper assessment is of vital importance; however, some conditions need to
be met before starting assessment and education, such as an appropriate environment, ensuring confidentiality, and using appropriate language.

- Environment issues. Sexual assessment and counseling are preferably conducted in a quiet environment such as a conference room or a private area and without being disturbed by beepers or phones.
- Confidentiality. The healthcare provider should ask permission from the patient prior to beginning sexual assessment and counseling. Patients should be assured that confidentiality is maintained about sexual problems or issues that arise. Issues that require further intervention should be documented, however.
- Language. The language used in assessment and counseling is an important consideration. A lot of people do not have sufficient language/words to talk about sexuality. In addition, many words used in subgroups or among friends are not appropriate for use in a professional conversation. Both healthcare providers and their patients can find it difficult to articulate the right words for such personal health issues. Imagine, for example, what words to use to tell your doctor that you have pain in your vagina during sexual intercourse? Uneasiness discussing the topic of sexuality may be revealed in several communication styles, for example, “concealing vague language” (eg, using “it doesn’t work anymore down there”), medical language (eg, coitus), childish language, or dirty language. Using the language and terms used by the patient will enhance understanding the content of sexual counseling. For example, when the patient uses 4-letter words to refer to body parts and the health professional uses medical language, the message may not be understood. Every nurse should develop and have a set of words for the various sexual organs, functions, and behavior. These words should feel comfortable for the nurse herself/himself. So there should be no misunderstanding of the meaning of the words for all involved. This means that verification of understanding is frequently needed.

**Approaches for Assessment**

For many professionals, the first step to discuss sexual concerns might be the most difficult one. Different styles and approaches can be used to start the assessment, and these approaches might differ between settings, persons, or disciplines.

Some approaches might not work to assess sexual concerns. A too direct approach (eg, “How is your sex life?”) might be too confronting for some patients, whereas others might appreciate this directness. At the same time, some healthcare professionals might think that sexuality is a too sensitive of a topic to discuss. They may wait for the right moment (which never will be there). It is better to take a proactive role in bringing up the topic with the patient and addressing any questions or concerns.

The popular approach, “Sex is fun and we are open about it,” might also not work. Healthcare providers using this approach may believe that everybody can talk about sex as easy as they do themselves. A professional might ask, for example, “Had good sex after your rehabilitation program?” In this approach, the language is not adapted to the patients’ needs, and patients could feel offended or that their concerns were not taken seriously.

Approaches that might be more successful include a gradual approach, using a matter-of-fact approach, a context approach, the sensitive approach, and a policy approach. Using a gradual approach begins by asking more general questions about the patient’s sexual concerns and then proceed to more sensitive topics. In a matter-of-fact approach, the healthcare provider uses experiences of other patients, or evidence from research is a good opening to discuss sexual function. To illustrate, the nurse can state, “Many people have concerns about resuming sexual activity after a heart attack. What concerns do you have?” This statement implies that it is normal to have these concerns and allows the patient to bring up any concerns. If the patient is not sexually active or does not have concerns, this usually will become apparent in the patient’s answer. In the context approach, the topic of sexual concerns and cardiac illness is broached within the context of exercise or in a general discussion on consequences of the disease or the treatment for daily life. After discussing the recommendations for exercise, the healthcare provider can introduce the topic of return to sexual activity as a component of exercise. Within the context of up-titration of medication (eg, β-blocker), changes in sexual response can be introduced or the fear for impotence can be discussed, for example, by stating, “Some people report sexual problems as a result of taking this medication (β-blocker). How is that for you?”

In using the sensitivity approach, the healthcare professional addresses the difficulty of the subject, for example, “Some people feel that talking about sexually is not easy. However, for a lot of people, this is an important subject in their life and your disease might have an effect on sexuality. Is it alright to ask you a few questions regarding this subject?”

Finally, the policy of the team or the organization regarding the discussion of sexuality can help professionals to address the subject, for example, “In our team, we think it is important to discuss sexuality and the effect of treatment with all our patients that we see at the heart failure clinic. Therefore, I would like to pose a few questions regarding this subject.”
The PLISSIT Model

One tool that healthcare providers can use to initiate discussions about sexuality with their cardiac patients and their partners is the PLISSIT model. PLISSIT is an acronym for permission, limited information, specific suggestion, and intensive therapy. This is a stepwise model that can be used to initiate discussions about sexuality.9

- **Step 1: Permission.** This step opens the door to a discussion of sexuality. In a way, discussing sexuality is also giving permission for being sexual and having sex despite having a disease or health condition.

- **Step 2: Limited information.** This refers to giving the patients just enough information to help improve their sexual functioning.10 For example, a nurse might explain that the cardiac demands of sex can be compared with a range of daily activities such as walking 1.5 km (or 1 mile) in 20 minutes or walking up and down 2 flights of stairs.7,11 This limited and general information may help patients and partners to overcome fears or correct misunderstandings.

- **Step 3: Specific suggestion.** The third step in the PLISSIT model requires greater knowledge and expertise that is relevant for this specific patient and partner with a specific condition or problem. Advice for cardiac patients might include “Your problems regarding the lack of energy to have sexual intercourse might be related to your limited heart function and the burden of your daily activities that might consume a lot of your energy. You could consider having sex in the morning or taking some extra rest during the day, so you are well rested, and fatigue will be less likely to affect your ability to have sex.” Several suggestions for the cardiac population might be general; however, disease-specific advice might be needed for the patient with ICD, those who had a coronary bypass surgery, or those with heart failure.12

This step also might indicate the need for referral to someone specialized in sexual counseling or dysfunction. For example, for a patient with erectile problems after ICD implantation, you would need to provide sexual counseling or a referral that is specific to the underlying problem (eg, anxiety, ischemia), instead of more general counseling.13,14 Because this step often includes a more in-depth approach to the problem and the related personal factors, a comprehensive assessment and problem analysis are needed.

- **Step 4: Intensive therapy.** This final step in the model usually refers to conditions that require treatment by a specialist or a therapist. To optimize appropriate referral, specific questions are also used to clarify sexual concerns and problems (Table 1). Information can be gathered on the nature and development of the sexual difficulty, emotional reactions to the problem, understanding of its development, attempts to resolve the problem, psychiatric history, past sexual abuse, illness, therapy, hospitalization, physical health, medical history, medications, drug and alcohol use, and motivation for treatment.15

### How to Assess: What Questions and Questionnaires to Use

#### Questions

Open-ended questions tend to facilitate discussion and enable the nurse to assess sexual concerns.8 The response to the question also allows the nurse to determine the order in which sexual counseling topics might be discussed. Table 1 summarizes some of the questions that might be used to assess sexual problems.12

#### Questionnaires

**General Questionnaires (for Both Men and Women)**

Several questionnaires have been developed for self-administration in the natural home setting or in a

### TABLE 1 | Specific Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Explanation/Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you describe your relationship with your partner?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What concerns do you have about resuming sexual activity with your cardiac condition (insert appropriate term, eg, heart attack, implantable defibrillator, heart failure, etc)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important are sex and intimacy in your relationship? Are activities like hugging, kissing, and just being close an important part of your relationship?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Were you sexually active before you were hospitalized? Is it important to you to be sexually active after you are discharged from the hospital?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did your previous sexual activity include sexual intercourse (vaginal or anal), masturbation, or oral sex? (Note: This helps to gauge the amount of energy expenditure required and to plan sexual counseling strategies.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes in sexual performance can occur as part of normal aging. Would you like me to review some of these changes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you noticed any changes in your sexual performance such as problems with erections or orgasm, vaginal dryness, or decreased desire for sex?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What medications or supplements are you currently taking? (Note: Evaluate for sexual adverse effects.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What concerns has your partner expressed about resuming sex after you are discharged from the hospital? Would you like to include your partner in a discussion of resuming sexual activity after your cardiac condition?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Steinke and Jaarsma.12 Request for reprint submitted to Elsevier.

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The sexual activity subscale of the Psychosocial Adjustment to Illness Scale is used in several studies in cardiac patients. This reliable and valid subscale evaluates shifts in the quality of sexual relations due to the current illness or treatment and is composed of 6 multiple-choice questions. A total score ranges from 0 to 18 for the sexual activity subscale. Low scores reflect good adjustment, whereas high scores indicate poor adjustment.

The Multidimensional Sexual Self-concept Inventory is a reliable and valid questionnaire containing subscales that measure sexual self-concept: sexual satisfaction, sexual anxiety, sexual self-efficacy, and sexual depression have been specifically tested in cardiac populations. Each subscale contains 5 items, and respondents indicate how characteristic a statement is of them using a 5-point Likert scale. Individual subscale scores range from 5 to 20, with a higher score representing a greater proportion of the specific attribute (eg, more sexual depression, greater sexual satisfaction). This scale has recently been used in a heart failure population.

Questionnaires for Male Patients

Most questionnaires assessing sexual problems focus on erectile dysfunction. Commonly used are the following:

- The original International Index of Erectile Function (IIEF) is a self-report questionnaire with 15 questions and was used in clinical trials. Recently, those 15 questions have been examined for their usefulness as a simple patient-administered diagnostic tool of erectile dysfunction. Using the IIEF, erectile dysfunction is classified as severe, moderate, and normal. A 6-item version (IIEF) and 5-item version (IIEF-5) are developed and tested, and the scale is used in cardiac populations (Table 2).

- The Male Sexual Health Questionnaire is a validated 25-item self-administered questionnaire for assessing erection, ejaculation, and satisfaction in older men. It was designed to be culturally sensitive and age appropriate. Recently a 4-item version was made available, which is not widely used in cardiac patients yet.

### Questionnaires for Female Patients

In a review, the following questionnaires were recommended for trials of female sexual dysfunction. Although all are reliable and valid measures, no publications using these scales in cardiac patients were found.

- The Brief Sexual Function Index for Women is a reliable, validated, 22-item, multidimensional self-report instrument for women that assesses sexual function in 7 dimensions: sexual thoughts/desires, arousal, frequency of activity, receptivity/initiation, pleasure/orgasm, relationship satisfaction, and sexual problems. The scale also yields an overall composite score.

- The Female Sexual Function Index is a reliable, validated, 19-item self-report questionnaire that assesses sexual functioning in women in 6 separate dimensions (desire, arousal, lubrication, orgasm, satisfaction, pain). In addition, a total scale score can be computed according to a simple scoring algorithm.

- The Sexual Function Questionnaire is a validated, sensitive, 31-item, multidimensional questionnaire developed for use in clinical trials in women with sexual arousal disorders. The questionnaire assesses sexual function in 7 dimensions: desire, physical arousal, lubrication, enjoyment, orgasm, pain, and partner satisfaction.

### Table 2. The 5-Item Version of the IIEF

<table>
<thead>
<tr>
<th>Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the Past 6 mo</td>
<td>Very low</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
<td>Very high</td>
</tr>
<tr>
<td>How do you rate your confidence that you could get and keep an erection?</td>
<td>Almost never or never</td>
<td>Much less than half the time</td>
<td>About half the time</td>
<td>Much more than half the time</td>
<td>Almost always or always</td>
</tr>
<tr>
<td>When you had erections with sexual stimulation, how often were your erections hard enough for penetration?</td>
<td>Almost never or never</td>
<td>Much less than half the time</td>
<td>About half the time</td>
<td>Much more than half the time</td>
<td>Almost always or always</td>
</tr>
<tr>
<td>During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?</td>
<td>Extremely difficult</td>
<td>Very difficult</td>
<td>Difficult</td>
<td>Slightly difficult</td>
<td>Not difficult</td>
</tr>
<tr>
<td>During sexual intercourse, how difficult was it to maintain your erection to the completion of intercourse?</td>
<td>Almost never or never</td>
<td>Much less than half the time</td>
<td>About half the time</td>
<td>Much more than half the time</td>
<td>Almost always or always</td>
</tr>
<tr>
<td>When you attempted sexual intercourse, how often was it satisfactory for you?</td>
<td>Almost never or never</td>
<td>Much less than half the time</td>
<td>About half the time</td>
<td>Much more than half the time</td>
<td>Almost always or always</td>
</tr>
</tbody>
</table>

Abbreviation: IIEF, International Index of Erectile Function.

The IIEF-5 score is the sum of questions 1–5. The lowest score is 5, and the highest score 25.
The Female Sexual Distress Scale is a reliable and valid 12-item instrument for assessing subjective distress associated with sexual dysfunction in women.29

**Daily Diaries and Event Logs**

Diaries or sexual event logs are brief, self-report instruments that are often used to obtain frequency data in clinical trials. Diaries typically require the subject to record sexual activity on a daily basis, whereas event logs are completed only on days that sexual activity occurs. For example, the Sexual Encounter Profile is a 6-item event log that has been used in several multicenter, clinical trials of erectile dysfunction.30 Patients are asked to report on specific aspects of sexual activity, for example, SEP2 Patient Diary: “Were you able to insert your penis into your partner’s vagina?” And in SEP3 Patient Diary: “Did your erection last long enough to satisfactorily complete the sexual intercourse?”

A corresponding version for women (Sexual Encounter Profile for Women) has been developed for use in clinical trials of female sexual dysfunction, with questions such as “Were you satisfied with your arousal during intercourse?”

**Follow-up and Referral**

Follow-up needs to be planned to evaluate the effectiveness of the treatment working, if the treatment was used properly, if the couple was happy with the treatment, and if the couple had any problems.11 Structured questionnaires can help to assess the treatment effectiveness. An assessment algorithm might help to determine which steps need to be taken before appropriate treatment can be initiated. Following the Second Princeton Consensus guidelines, a patient’s cardiovascular risk is graded low, intermediate, or high (Figure 1). Treatment can be initiated according to the risk score, and patients with low or intermediate risk can be treated in the outpatient or primary care setting.7,11

Some professionals might not be comfortable in discussing the consequences of the disease or treatment for sexual activities or to provide advice on resuming sexual activities. Others might not want to treat erectile dysfunction within their daily cardiology practice. It is important to establish a policy within the team and determine which healthcare professional will be involved and responsible for the assessment of sexual issues. If specialist help is required, referral should be made to an internist, diabetologist, cardiologist, primary care practitioner, or sexologist. Some centers have urology or sexology specialists with a special interest and expertise in the field of treating erectile and other sexual disturbances. The American Association of Sexuality Educators, Counselors and Therapists (www.aasect.org) provides a list of healthcare providers by state or region in the United States, Canada, Mexico, United Kingdom, Israel, and China. The organization has information for both the public and healthcare professionals.

**Concluding Remarks**

Sexual problems are common in cardiac patients, and their lives and those of their partners might be adversely affected. Assessment of sexual function after a cardiac event is an important part of holistic patient care. In addition, healthcare providers need to consider the feelings, needs, and fears of the spouse/partner of the cardiac patient. In some situations, the patients may not be experiencing physical issues of their own, but issues related to the worries or fears of the spouse may indeed affect performance. The spouse may also have problems expressing feelings to the partner because he/she may not have even come to terms with his/her own concerns.

Healthcare professionals involved in the management of these patients need to address this issue but sometimes may be reluctant to do so. By integrating the topic into daily care, applying different approaches, and using open-ended questions that suit a specific patient–healthcare provider interaction, assessment of sexual function can be integrated into the various practices of healthcare providers, in clinical, rehabilitation, or home care settings.

Healthcare providers might benefit from specific training courses to assist in developing the knowledge and skills to discuss sexual issues in practice. In addition, it is helpful if such programs incorporate the role...
of team members in discussing sexuality. Taking advantage of these educational courses might improve knowledge and attitudes of healthcare providers to feel at ease discussing matters of sexuality and to apply one's practice.31

At the same time, evidence-based approaches to address problems and effectively counsel patients and partners are still scarce and need to be studied. Further research is needed to validate the specific content and instructions for cardiac patients, for example, those with heart failure. Most research on sexual counseling has been conducted with myocardial infarction patients, and little is known about the sexual counseling needs and specific strategies for those with heart failure or ICD or had a coronary bypass surgery. Nurses can play a pivotal role in moving science forward in these areas.

REFERENCES