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REVISTA IBERO-AMERICANA DE SAÚDE E ENVELHECIMENTO  
REVISTA IBERO-AMERICANA DE SALUD Y ENVEJECIMIENTO

**SEX EDUCATION FOR PEOPLE WITH HEART DISEASE**

**EDUCAÇÃO SEXUAL À PESSOA COM DOENÇA CARDÍACA**

**EDUCACIÓN SEXUAL PARA PERSONAS CON CARDIOPATÍAS**

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## ABSTRACT

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**Objective:** To identify directed teachings to the adult's sexual health, who suffer from cardiac disease.

**Methodology:** It was performed a systematic review of the literature, through a research made on the MEDLINE data base, and on the Complementary Index, based on studies published between January 2015 and October 2020. It is intended to answer the question: Which teachings should be included on the adult's sexual health who suffer from a cardiac disease?

**Results/Discussion:** Previously defined criteria were applied, and 5 articles selected. It was evident that nurses assume a predominate role on the sexual education of the cardiac disease patient, however there are some gaps when using the teaching methods, since the nurses rarely debate sexual concerns with their patients.

**Conclusion:** There are some scientific evidences regarding the sexual education on a patient with cardiac disease. However, it is required more investigation, and that the nurses become more pro-active on sexual counseling, aiming an improvement on the quality of the care and training of these patients and their partners.

**Keywords:** Cardiac Rehabilitation; Cardiovascular Disease; Myocardial Infarction; Sexual Counseling; Sexual Health.

## RESUMO

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**Objetivo:** Identificar ensinamentos direcionados para a saúde sexual da pessoa adulta com doença cardíaca.

**Metodologia:** Foi realizada uma revisão sistemática da literatura através de pesquisa realizada em base de dados MEDLINE e Complementary Index com incidência em estudos publicados no período de janeiro de 2015 a outubro de 2020. Pretende-se responder à questão: Quais os ensinamentos a incluir na educação sexual à pessoa adulta com doença cardíaca?

**Resultados/Discussão:** Foram aplicados critérios previamente definidos e selecionados 5 artigos. Destacou-se que os enfermeiros assumem um papel preponderante na educação sexual ao paciente com doença cardíaca, no entanto existem lacunas na realização dos ensinamentos, uma vez que, os enfermeiros raramente discutem preocupações sexuais com os seus pacientes.

**Conclusões:** Existe alguma evidência científica acerca da educação sexual no paciente com

doença cardíaca, no entanto é ainda necessária mais investigação e que os enfermeiros se tornem mais pró-ativos no aconselhamento sexual, com vista à melhoria da qualidade dos cuidados e capacitação destes pacientes e parceiros.

**Descritores:** Aconselhamento Sexual; Doença Cardiovascular; Enfarte Agudo do Miocárdio; Reabilitação Cardíaca; Saúde Sexual.

## RESUMEN

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**Objetivo:** Identificar enseñanzas direccionadas a la salud sexual de la persona adulta con enfermedad cardíaca.

**Metodología:** Fue realizada una revisión sistemática de la literatura por medio de una pesquisa realizada en la base de datos MEDLINE y Complementary Index con incidencia en estudios publicados en el período de Enero del 2015 a Octubre del 2020. Tiene la intención de contestar a la pregunta: ¿Cuáles son las enseñanzas que se debe incluir en la educación sexual de la persona adulta con enfermedad cardíaca?

**Resultados/Discusión:** Fueran aplicados criterios previamente definidos y seleccionados cinco artículos. Se destacó que los enfermeros asumen un papel importante en la educación sexual al paciente con enfermedad cardíaca, sin embargo hay algunos fallos en la realización de las enseñanzas, puesto que los enfermeros raramente discuten preocupaciones sexuales con sus pacientes.

**Conclusiones:** Existe alguna evidencia científica sobre la educación sexual en el paciente con enfermedad cardíaca, sin embargo es aún necesario más investigación y que los enfermeros se vuelvan más activos en la recomendación sexual, con vista a la mejoría de la calidad de los cuidados y la capacitación de los pacientes y sus parejas.

**Descriptores:** Enfermedad Cardiovascular; Infarto Agudo del Miocardio; Recomendación Sexual; Rehabilitación Cardíaca; Salud Sexual.

## INTRODUCTION

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Cardiovascular diseases (CVD) encompass a set of pathologies related to the circulatory system, which include ischemic heart disease and cerebrovascular disease<sup>(1)</sup>.

CVDs are the main cause of death in most European Union countries, accounting for about 40% of deaths in European countries. Ischemic heart disease and stroke together account for approximately 60% of all deaths associated with cerebrovascular disease<sup>(1)</sup>.

According to the World Health Organization (WHO), ischemic heart disease is responsible for about 62,587 million years of quality life lost, 4.1% of the world total, being, therefore, in the sixth position of the causes of loss of years of healthy life<sup>(1)</sup>.

For an effective fight against CVD, there must be transversal public health strategies that develop in a structured way the aspects of health promotion, treatment and rehabilitation of the disease<sup>(1)</sup>.

Cardiac Rehabilitation (CR) is a multifactorial intervention system that allows the individual to maintain or recover their physical, psychological, social and professional condition in a favorable way after an acute cardiac event or in chronic heart disease. It is based on the practice of adapted physical exercise and on changing behaviors with the aim of triggering changes in lifestyle, reducing and controlling risk factors, acting on psychological factors, with the aim of nullifying or counteracting the progression of CVD<sup>(1)</sup>.

The European Society of Cardiology, the American Heart Association (AHA) and the American College of Cardiology, classify CR as an intervention with mandatory indication, based on the highest levels of scientific evidence. CR provides a cost-effective therapeutic intervention that reduces mortality and hospitalizations, improves quality of life and encourages the normalization of activities of daily life<sup>(1)</sup>.

Scientific evidence shows that users with a history of ischemic heart disease who undertake an adequate CR program have a lower risk of new cardiovascular events compared to those who do not use these programs<sup>(1)</sup>.

The empowerment of citizens is a priority and, therefore, health promotion and disease prevention are two crucial aspects that cut across all levels of care<sup>(2)</sup>.

Behaviors and health status are significantly influenced by education, as this conditions individuals' access to information, their ability to take advantage of new knowledge and the acquisition of healthy behaviors<sup>(2)</sup>.

In patient education, teaching related to nutrition, medication, risk factors and symptoms are often performed in contrast to sexual health education. WHO identifies sexual health as a human right and defines it as a state of physical, emotional, mental and social well-being related to sexuality, not merely the absence of disease or dysfunction. A positive evaluation and a respectful approach to sexuality and sexual relationships are prerequisites for sexual health<sup>(3)</sup>.

Sexuality encompasses all aspects of being sexual, in its physical, biological, psychosocial and behavioral dimensions. Therefore, sexuality is considered essential in each person's life, thus contributing to balance and sexual health<sup>(4)</sup>.

The WHO defines sexuality as a central area of human life that includes sex, gender, identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction<sup>(4)</sup>. It is experienced and manifested through thoughts, fantasies, desires, beliefs, attitudes, values, behaviors, practices, roles and relationships. Sexuality accompanies the person during the life cycle and is influenced by several factors, which make each person unique. Therefore, individual sexuality represents body image and self-concept. Therefore, the expression of sexuality and intimate involvement with another person is fundamental throughout life<sup>(4)</sup>.

Increasing knowledge and comfort regarding the assessment of sexual needs and concerns is a key area of intervention. Sexual education and counseling are of similar importance<sup>(5)</sup>.

Through sexual counseling, a positive impact is achieved in the fight against sexual difficulties in heart patients, as it helps to reduce the anxiety, depression and fear that they experience<sup>(6)</sup>.

With the accomplishment of this systematic review, it is intended to identify the teachings directed to the sexual health of the adult person with heart disease.

## METHODOLOGY

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To carry out this systematic review, a research question was formulated using the PICO method, which resulted in: What teachings should be included in sex education for adults with heart disease? In this way, complying with the methodology related to the question, participants were identified as (P) adult person with heart disease, corresponding to the intervention (I) sex education, in the context (C) specific in a hospital environment, where the outcomes (O) correspond to the information that supports the teaching to be carried out.

A search was subsequently carried out on October 24, 2020 in the MEDLINE and Complementary Index databases, using Medical Subject Headings [MeSH] and Health Sciences Descriptors [DeCS], previously selected and organized according to the Boolean operators for searching “cardiovascular disease AND myocardial infarction AND sexual counseling AND sexual health AND cardiac rehabilitation”.

In order to obtain articles with significant relevance, studies published from January 2015 to October 2020 were defined as inclusion criteria.

After presenting the results, a total of 192 articles were obtained, 153 being excluded after taking academic journals as inclusion criteria, resulting in 39 articles. 12 articles were selected, taking into account the title and abstract.

Then, after reading and applying the level of evidence, methodological recommendation and critical evaluation checklist of the quality criteria issued by The Joanna Briggs Institute (JBI)<sup>(7)</sup>, a total of 5 articles were obtained for extraction and analysis of results. This process (Figure 1<sup>7</sup>) was carried out by 5 reviewers autonomously and independently, with the 5 final articles being considered after validation and consensus by the group.

## RESULTS

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After critical evaluation with the respective checklist (tables 1<sup>7</sup>, 2<sup>7</sup>), it was decided to include in this systematic review a study with a final evaluation of 60% because it supports the starting question.

With the aim of facilitating the understanding and discussion of the results, we proceeded to extract the data considered relevant, after analyzing the selected articles (Table 3<sup>7</sup>).

## DISCUSSION

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The analysis and reflection on the selected articles contributed to answer the starting question of this research. However, it also made it possible to identify the existence of gaps in the inclusion of sexual health education in the care plan for users with heart disease.

Cardiovascular diseases continue to be one of the main causes of morbidity and mortality in all regions of the world<sup>(9)</sup>.

One of the main concerns of users with CVD is related to the onset of sexual activity and, for this reason, they feel the need for clarification and advice from health professionals. Insufficient information provided may lead to complications such as readmissions, sudden death during sexual activity and sexual dissatisfaction on the part of the user and/or his partner<sup>(8)</sup>.

According to Gazestani T *et al*<sup>(8)</sup> users with acute myocardial infarction suffer from sexual disorders since they reduce or completely cease sexual activity. They experience a reduction in sexual pleasure and satisfaction for fear of the adverse effects of sexual activity such as increased heart rate, tiredness and dyspnea. These fears result in anxiety, feelings of guilt and loss of sexual desire.

Sexual counseling for users with heart disease reduces anxiety, stress and depression and promotes the practice of their sexual activity<sup>(8)</sup>.

In this line of thought, it is essential to identify recommendations regarding the safe return of sexual activity. These should form an integral part of the user's and/or partner's sexual counseling, taking into account their individualization and their heart condition. The tables that follow (4<sup>7</sup>, 5<sup>7</sup>, and 6<sup>7</sup>) present a diagram of this information.

Despite the importance of sexual counseling and the impact it can have on the sexual health of the user/partner and consequently on their quality of life, Gazestani T *et al*<sup>(8)</sup> report that around 50-60% of users and/or partners they have no information about the onset of sexual activity after an AMI, and the sexual consequences are rarely evaluated by health professionals.

Steinke E *et al*<sup>(10)</sup> in a study on "Sexual counseling for patients with heart disease: awareness, responsibility and trust" found that although nursing professionals are responsible for assessing the sexual concerns of heart patients, they rarely do so in their daily practice. They concluded that these health professionals need more knowledge about sexual health in patients with heart disease.

Wang P *et al*<sup>(9)</sup> in their study, concluded that most nurses rarely or never discussed sexual concerns with patients with CVD. Among the nurses who discussed this subject, 61.5% mentioned that they rarely actively initiated the conversation.

Nurses consider the topic of sexuality too private to discuss with users and, in addition, consider that the discussion of sexual concerns is not within their scope of responsibility<sup>(9)</sup>.

The main barriers identified by nurses for limited and/or non-existent sexual counseling are the fear of offending users, difficulty in approaching and conducting the interview, feelings of shame, lack of a safe/private environment and lack of knowledge<sup>(9)</sup>.

Wang P *et al*<sup>(9)</sup> in their study, identified several barriers mentioned by nursing professionals, which prevented the discussion on sexual health:

- Fear of offending users;
- Doubts in the communication strategy;
- Embarrassment;
- Lack of safe and private environment;
- Lack of knowledge;
- Lack of training;
- Lack of experience;
- Prejudices (advanced age of users);
- Not prioritizing sexual concerns;
- Shortage of time;
- High age difference between user-nurses;
- Gender difference between nurse-users;
- Fears of the negative influence of sexual activities on users' health.

According to the same authors mentioned above, in order to overcome these barriers, it is imperative to educate nurses and create a culturally safe environment. The development of communication strategies and the increase of nurses' knowledge about sexual counseling promote the inclusion of sexual education in clinical practice.



## CONCLUSION

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User education is considered to be a set of information provided by health professionals with a view to improving their health status. This constitutes an integral part of the users' care plan.

Although the guidelines and scientific statements address the importance of sex education in users with heart disease, the present review indicates the existence of gaps in this topic.

This systematic review revealed that nurses rarely discuss sexual concerns with their patients. Several barriers are identified such as personal attitudes and beliefs, limited skills and knowledge, culture and organizational barriers. To overcome these barriers, there must be investment in the training of health professionals and in the creation of safe and private environments, promoting the relationship between the actors.

It was considered that health professionals have an important role in sex education, assessment of activities and advice, and in promoting the quality of life of users with heart disease. It is imperative to adapt sexual counseling to the needs, concerns and questions of users and partners. They expect health professionals to be proactive in introducing and providing sexual information and may contribute positively.

It is concluded that, as there is some scientific evidence about sex education for patients with heart disease, this topic continues to be the subject of debate. More research is needed on sexual counseling, resulting in improved quality of care and consequent empowerment of these users. It's time to do an assessment and counseling of sexual activity and make this aspect a routine practice of daily care.

### Authors' contributions

LB: Study coordination, study design, data collection, storage and analysis, review and discussion of results.

CM: Study design, data analysis, review and discussion of results.

CA: Study design, data analysis, review and discussion of results.

DC: Study design, data analysis, review and discussion of results.

MM: Study design, data analysis, review and discussion of results.

All authors read and agreed with the published version of the manuscript.

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#### Responsabilidades Éticas

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Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

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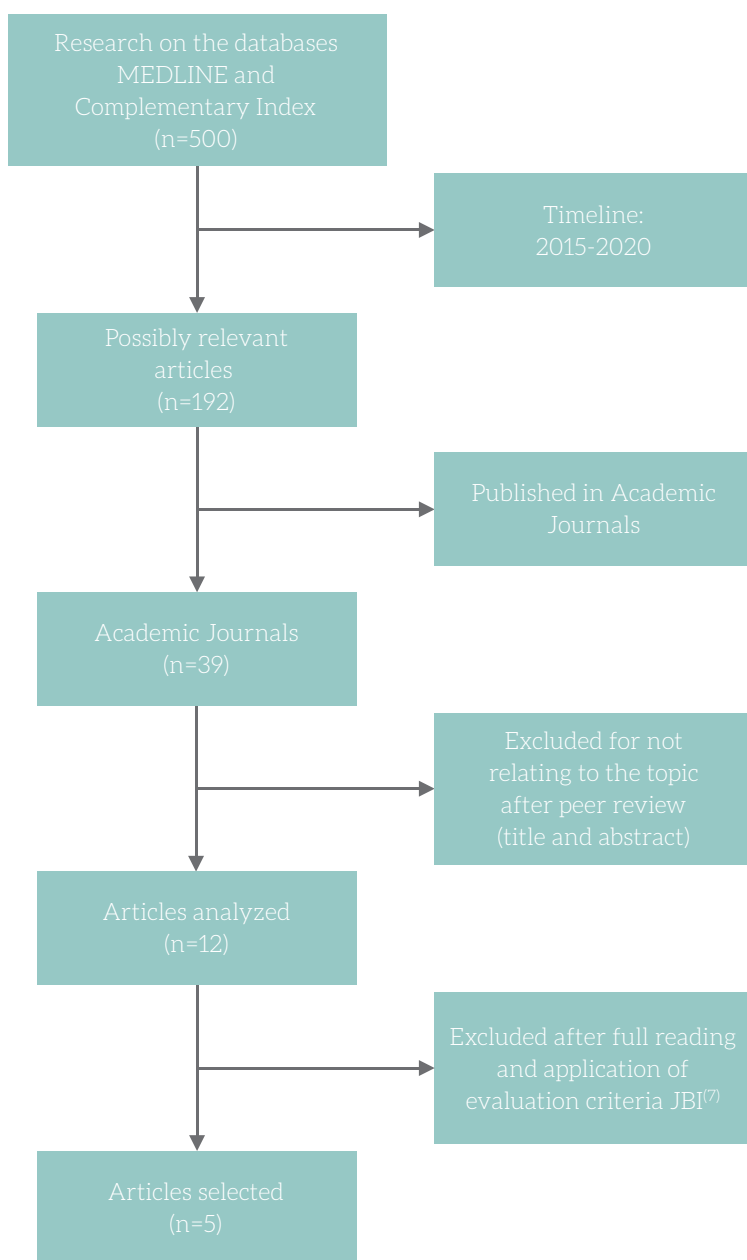


Figure 1 - Flowchart of selection criteria for scientific articles.<sup>5</sup>

Table 1 - Critical evaluation according to checklist JBI<sup>(7),κ</sup>

References	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	%
Gazestani T <i>et al</i> <sup>(8)</sup>	S	S	S	S	NA	NA	S	S	-	-	-	75%
Wang P <i>et al</i> <sup>(9)</sup>	S	S	S	S	NA	NA	S	S	-	-	-	75%
Steinke E <i>et al</i> <sup>(10)</sup>	S	S	N	N	S	S	S	N	S	NA	-	60%
Steinke E & Jaarsma T <sup>(11)</sup>	S	S	S	S	S	NA	-	-	-	-	-	83.3%
Jelavic M <i>et al</i> <sup>(12)</sup>	S	S	S	S	S	NA	-	-	-	-	-	83.3%

Table 2 - Classification level of evidence JBI<sup>(7),κ</sup>

Study	Evidence Level
Gazestani T <i>et al</i> <sup>(8)</sup>	4b - Cross-sectional study
Wang P <i>et al</i> <sup>(9)</sup>	4b - Cross-sectional study
Steinke E <i>et al</i> <sup>(10)</sup>	3e - Observational study without a control group
Steinke E & Jaarsma T <sup>(11)</sup>	5 - Expert Opinion
Jelavic M <i>et al</i> <sup>(12)</sup>	5 - Expert Opinion

Table 3 – Data Extraction. →<sup>κ</sup>

Author	Aim	Total of participants	Results	Time course
Gazestani T <i>et al</i> <sup>(8)</sup>	To determine the performance, responsibility and confidence of nurses in sexual counseling for patients with Acute Myocardial Infarction (AMI).	169 nurses from the cardiac care unit in Hospitals locate in the southwest of Iran (15 male and 154 female).	This study revealed that nurses do not feel confident in providing sexual counseling to patients with AMI, which may contribute to recurrent AMI or sudden death. It becomes necessary for nurses to participate in workshops and/or courses related to sexual counseling to fill this gap.	2018
Wang P <i>et al</i> <sup>(9)</sup>	To describe the practice and perception of cardiology nurses regarding care regarding sexuality in patients with cardiovascular diseases in China and to explore existing barriers in interventions at the level of sexuality.	268 cardiology nurses from seven tertiary hospitals in five cities in Henan Province.	Nurses rarely address the issue of sexual concerns. Fear of offending users, lack of safe and private environments and lack of knowledge are barriers that impede nurses' interventions at the level of sexuality. Educating nurses and creating a culturally safe environment are essential components of helping nurses overcome these barriers.	From June 2017 to July 2017
Steinke E <i>et al</i> <sup>(10)</sup>	To increase the knowledge of health professionals about what to discuss and how to approach the issue of sexuality.	It is not applicable	This case study demonstrated that health professionals have an important role in assessing, counseling and promoting the quality of sexual life of patients with cardiovascular disease. Individual sexual counseling to the needs, concerns and issues of both patients and partners. It is critical that health professionals are proactive in introducing and providing counseling about sexuality.	It is not applicable
Steinke E & Jaarsma T <sup>(11)</sup>	To provide evidence-based practical strategies for sexual assessment and counseling for cardiac patients and partners, specifying counseling in patients with ischemic disease, heart failure and implanted devices.	It is not applicable	Sexual counseling for cardiac patients is of high importance. Through selected questions or standardized assessment instruments, an assessment can be made that determines the sexual concerns of patients and their partners. Knowledge of the patient's individual medical condition and the application of specific and personalized sexual counseling strategies can be effective in addressing the quality of the patients' sexual life.	It is not applicable

Table 3 - Data Extraction.<sup>←κ</sup>

Author	Aim	Total of participants	Results	Time course
Jelavic M <i>et al</i> <sup>(12)</sup>	Describe the most recent guidelines published by the American Heart Association on sexual activity in patients with coronary disease, heart failure, valvular disease, arrhythmias, implanted devices [definitive pacemaker (PMD) or implantable cardioverter-defibrillator (ICD)] and options for treating sexual dysfunction.	It is not applicable	A complete assessment of physical condition is recommended before the patient initiates sexual activity. It is important to stratify the risk for the decision to start the activity. Psychological conditions (anxiety and/or depression) can influence sexual function. Sexual counseling has an important role in the recovery of sexual function and habits. More research is needed on this topic especially in women and the elderly. It is important to raise awareness of a multidisciplinary approach, including sexual counseling as one of the most important items for these patients and their partners.	It is not applicable

Table 4 – Adapted table on the evaluation of sexual activity<sup>(10-12), κ</sup>

Initial Approach	<ul style="list-style-type: none"> <li>To use physical exercise as a bridge to the topic of sexual activity.</li> </ul>
Return to sexual activity – sexual concerns	<ul style="list-style-type: none"> <li>To identify patient and/or partner concerns related to returning to sexual activity, according to the specific heart condition. Anxiety related to sexual activity is common. The ability to practice moderate physical exercise is a way for the patient to assess their tolerance for sex.</li> </ul>
Current level of sexual activity	<ul style="list-style-type: none"> <li>Before sexually active patient and/or partner, questions should be asked: <ul style="list-style-type: none"> <li>– usual frequency of sexual activity related to pre-heart disease frequency;</li> <li>– in the event of a reduction in frequency, which could be the cause.</li> </ul> </li> <li>To address the level of sexual satisfaction and, in case of dissatisfaction, ask the patient/partner what could contribute to an improvement in their sex life. Answering this question is helpful in counseling to particular concerns and desired level of sexual activity.</li> </ul>
Types of activities sexual	<ul style="list-style-type: none"> <li>To evaluate the types of sexual activities typical of patients and/or partners, as well as those most important to them. Assessing the type of sexual activity helps the practitioner to characterize the effort involved and the person's capacity according to their particular heart condition.</li> </ul>
Sexual problems	<ul style="list-style-type: none"> <li>To evaluate if the patient noticed any change in sexual interest, satisfaction or orgasm and if he tried to solve the problem: <ul style="list-style-type: none"> <li>– Men: questions related to the type and frequency of problems with erection or ejaculation;</li> <li>– Women: questions about vaginal lubrication problems, sexual intercourse painful or difficulty reaching orgasm.</li> </ul> </li> </ul>
Medication review	<ul style="list-style-type: none"> <li>To address the issue of therapy and its possible influence on sexual function. If the patient manifests sexual side effects, alternatives should be sought, such as reducing the dose or changing the type of drug.</li> <li>It should be emphasized the importance of not interrupting the therapy, this is used to improve cardiac symptoms and/or reduce the progression of the disease. The benefit of such drugs outweighs the risk related to sexual dysfunction. It is important to look for alternatives to minimize the impact on sexual function.</li> <li>To inquire about possible use of supplements for sexual dysfunction and inform about possible adverse cardiac effects. medical discussion about this topic is essential.</li> </ul>



Table 5 – Adapted table on recommendations/information aimed at sexual counseling<sup>(10-12)</sup>. →κ

Therapeutic	<ul style="list-style-type: none"> <li>• PDE5 (phosphodiesterase-5) inhibitors are generally safe in most patients with stable CVD, compensated heart failure, and systemic arterial hypertension. Studies suggest that there is not an increased risk of cardiac events when taking PDE5 inhibitors.</li> <li>• PDE5 inhibitors should not be used in patients medicated with nitrates due to the increased risk of arterial hypotension, which may precipitate hypotension in cardiac patients with low baseline blood pressure.</li> <li>• QTc prolongation (corrected QT interval) has occurred with vardenafil specifically; thus, this drug should be avoided in patients with torsades de pointes, congenital prolonged QTc, and with drugs that prolong the QTc interval.</li> <li>• Drugs such as beta-blockers, thiazide diuretics and ACE inhibitors (inhibitors of angiotensin converting enzyme) may impact erectile function.</li> </ul>
Environment for sexual activity	<ul style="list-style-type: none"> <li>• It may be beneficial to encourage the use of a comfortable environment, a familiar concept to minimize any cardiac stress associated with sexual activity.</li> <li>• Data suggest that sexual intercourse with an extramarital partner, and particularly in the presence of CVD, increases the risk of death with sexual activity.</li> <li>• Sexual activity combined with the patient's peace of mind is essential for the return of this activity.</li> <li>• The patient must avoid heavy meals or excessive alcohol before sexual activity, as they may contribute to adverse cardiac events.</li> </ul>
Coital positioning	<ul style="list-style-type: none"> <li>• The patient and his partner should be encouraged to assume their usual coital position or a comfortable position.</li> <li>• Most studies show that there are no significant fluctuations in blood pressure and heart rate with different positions during intercourse sexual.</li> </ul>
Energy consumption	<ul style="list-style-type: none"> <li>• Patients who do not experience symptoms during exercise testing rarely experience symptoms during sexual activity. They can be encouraged to resume sexual intercourse when they are able to spend 3-5 METs (Metabolic Task Equivalents). Example: walking on a treadmill approximately 5-8 km per hour or climbing 2 flights of stairs quickly.</li> <li>• In patients with heart failure, the 6-minute walk test is a useful clinical tool in assessing exercise capacity.</li> </ul>
Risk Assessment	<ul style="list-style-type: none"> <li>• It may be useful to assess and inform patients about the level of risk related to sexual activity. It is helpful to encourage those at low risk to initiate or resume sexual activity. Patients at high risk or those symptomatic during sexual activity should cease this activity until their condition is stabilized.</li> <li>• Patient with severe coronary disease, for whom light physical activity precipitates ischemic symptoms, anginal pain during intercourse is more common.</li> <li>• The risk of AMI with sexual activity is quite low, 0.9% of cases.</li> <li>• The absolute risk with 1 hour of sexual activity is estimated to be approximately 2 to 3 per 10,000 people per year.</li> </ul>

Table 5 – Adapted table on recommendations/information aimed at sexual counseling<sup>(10-12)</sup> ←κ

Warning signs	<ul style="list-style-type: none"> <li>• To encourage the patient to describe symptoms that arise with sexual activity.</li> <li>• Nitroglycerin (if it is prescribed) can be a resource in the presence of chest pain, however, as soon as possible; the patient should seek medical assistance.</li> <li>• Warning symptoms such as precordial pain, dyspnea, tachycardia/irregular heart rate, extreme fatigue the day after sexual activity, dizziness or insomnia should be reported to the physician.</li> <li>• In the presence of coital chest pain without spontaneous relief within 15 minutes or 5 minutes after taking nitrate, you should seek urgent medical assistance.</li> <li>• In the case of patients medicated with PDE5 inhibitors with coital chest pain (contraindicated taking nitrates) they should seek urgent medical assistance.</li> </ul>
Return of sexual activity	<ul style="list-style-type: none"> <li>• To encourage the patient/couple to engage in activities that require less energy expenditure (for example, hugs, kisses, caresses and sexual touches). These activities can be used as a bridge to intercourse or as an alternative when intercourse is not possible due to compromised heart function.</li> <li>• To choose less strenuous sexual activities allows the couple to assess tolerance for sexual activity, and also alleviates anxiety about resuming sex.</li> <li>• To encourage the return to sexual activity gradually, starting with activities that require less effort and gradually increasing in order to gain confidence and allow an assessment of your tolerance for sexual activity.</li> </ul>
Physical exercise	<ul style="list-style-type: none"> <li>• Regular physical exercise is associated with a low risk of cardiovascular events triggered by sexual activity, so this should form an integral part of sexual counseling.</li> <li>• Regular exercise results in a decreased risk for CVD triggered by sexual activity.</li> </ul>

Table 6 – Adapted table on recommendations for sexual activity according to clinical diagnosis and cardiac intervention<sup>(10-12)</sup>,<sup>κ</sup>

Angina	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable for patients with stable angina.</li> <li>• Patients with unstable or refractory angina should postpone sexual activity until the condition is stabilized and best managed.</li> </ul>
Acute myocardial infarction	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable one or more weeks after uncomplicated AMI and if the patient is without cardiac symptoms during light to moderate physical activity.</li> </ul>
Percutaneous coronary revascularization	<ul style="list-style-type: none"> <li>• Complete coronary revascularization: sexual activity can be resumed several days after percutaneous coronary intervention if the vascular access has no complications.</li> <li>• Incomplete coronary revascularization: tests for ischemia may be considered to assess the extent and severity of residual ischemia.</li> </ul>
Revascularization surgical coronary	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable and can be resumed 6-8 weeks after surgery and if the sternotomy has healed.</li> </ul>
Valvular replacement surgery/ Surgical valvuloplasty	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable and can be resumed 6-8 weeks after surgery and if the sternotomy has healed.</li> </ul>
ICD	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable for patients with an implanted ICD for primary prevention.</li> <li>• Sexual activity is considered acceptable for ICD patients for secondary prevention if moderate physical activity (<math>\geq 3-5</math> METs) does not precipitate ventricular tachycardia or fibrillation, and if the patient has not received frequent appropriate shocks. In patients who have received multiple shocks, sexual activity should be postponed until the causative arrhythmia is stabilized and optimally controlled.</li> </ul>
Cardiac insufficiency	<ul style="list-style-type: none"> <li>• Sexual activity is considered acceptable for patients with compensated and/or mild heart failure (NYHA class I or II).</li> <li>• Sexual activity is not advised for patients with decompensated or advanced heart failure (NYHA class III or IV) until their condition is stabilized.</li> </ul>