



Review

Spanish consensus on sexual health in men and women over 50



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ABSTRACT

Sexual health has been defined as “the state of physical, emotional and social wellbeing related to sexuality. However, there are medical, psychological and social reasons that complicate full sexual health that are frequently not attended to sufficiently. The objective of this guide will be to analyze the factors that impact the sexual health of men and women over 50 and to provide recommendations for the most appropriate diagnostic and therapeutic measures for this age group. A panel of experts from various Spanish scientific societies related to sexual health (*Spanish Menopause Society, SMS; Asociación Española de Andrología, Medicina Sexual y Reproductiva, ASESA; Federación Española de Sociedades de Sexología, FESS; and Sociedad Española de Médicos de Atención Primaria SEMERGEN*) met to reach a consensus on these issues and to decide the optimal timing and methods based on the best evidence available.

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1. Introduction

Sexual health has been defined as “the state of physical, emotional and social wellbeing related to sexuality.” Consequently, sexual health is not simply the absence of disease, dysfunction or sexual inability; rather, it is a right that should be respected, protected and exercised fully [1].

In this sense, the increased life expectancy and liberation from sexual traditions that characterize modern society have also changed the sexual landscape for mature adults, who are now able to enjoy sexual relations of increased quality for extended periods of time. However, there are medical, psychological and social reasons that complicate full sexual health that are frequently not attended to sufficiently [2].

The objective of this guide will be to analyze the factors that impact the sexual health of men and women over 50 and to provide recommendations for the most appropriate diagnostic and therapeutic measures for this age group. A panel of experts from various Spanish scientific societies related to sexual health (*Spanish Menopause Society, SMS; Asociación Española de Andrología, Medicina Sexual y Reproductiva, ASES; Federación Española de Sociedades de Sexología, FESS; and Sociedad Española de Médicos de Atención Primaria SEMERGEN*) met to reach a consensus on these issues. The consensus considers it appropriate to develop its own recommendations based on the GRADE (*Grading of Recommendations Assessment, Development and Evaluation*) system to elaborate clinical practice guidelines and to classify the quality of the evidence and the strength of the recommendations [3].

2. Factors that impact the sexual health of men and women over 50

After 50 years of age, physiological, psychological and socio-cultural changes can have significant effects on sexual relations. Occasionally, these changes can promote sexual relations, but it is more common for these factors to impair sexual relations or even to interrupt them completely. Sexuality at this age is conditioned by previous experience and is frequently affected by the health problems and pharmacological treatment of conditions that often afflict older adults. Indeed, the use of chronic medication is frequent in individuals over the age of 50. Several types of these medications (for example antihypertensive and antidepressants) are known to affect sexual responses. The use of other drugs can also affect sexual responses and can contribute to changes in sexual experience, risky sexual behaviors and social conflicts between the couple [4].

Age fundamentally modifies the sexual response, just as it affects multiple other physical abilities in humans. Women are more likely than men to experience specific hormonal changes throughout their life that temporarily alter their sexual responses [5]. However, strong evidence has shown that neither age nor hormonal changes themselves are solely responsible for the decline of sexual health observed in individuals over 50. Rather, this decline is thought to occur in response to a number of other factors that are psychological, relational or socio-cultural in nature [6,7].

In addition, sexual health can deteriorate because of a variety of medical or psychiatric problems that become increasingly frequent over an individual's lifespan. This deterioration in sexual health results not only from the primary effects of the disease and its treatment on sexual responses but also from the negative psychological consequences that occur secondary to the development and pharmacological management of disease (i.e., decreased self-esteem, changes in body image or depression) [8]. However, evidence is scarce regarding the impact of disease on sexual health. Furthermore, much of the evidence that is available is heterogeneous and of low quality. Even the guidelines for clinical practice rarely

mention sexual health unless the course of treatment directly targets sexual dysfunction.

Genitourinary pathology deserves special mention, especially if its treatment is surgical or the basis of the pathology is oncological, in which case sexual health can be compromised by alterations in the anatomy, physiology and psychology of the individual suffering the disease [9,10]. The same can be said regarding breast cancer: even if a condition does not directly affect the genital area, female sexual health can be greatly impaired due to the physical and psychological pain that results directly from the disease process itself or as an indirect consequence of various treatment regimens. For example, drugs with anti-estrogen activity can compromise sexual health by greatly increasing vaginal atrophy [11].

Sexology should accept the peculiarities of older people and integrate them holistically without separating the physical from the psychological and social. The ability of an individual to adjust his or her sexuality to the physical changes associated with aging and the alterations in other life circumstances associated with increased age is conditioned by psychosexual health. In turn, maintaining psychosexual health is dependent on avoiding myths and unrealistic expectations. It is common for the expression of sexuality to be repressed in certain cultures once an individual has lost his or her reproductive capacity. This frequently occurs with older or sick people, for whom sexuality can be experienced as something dark or shameful. In contrast, accepting the physical changes that occur in a couple and a history of good sexual experiences can have a positive influence on maintaining sexual health with age [2].

Regarding gender differences in the experience of sexuality, men of any age are more likely to focus their attention on the genital area, whereas women typically focus on the relationship of the couple and intimacy. Therefore, age and disease often affect desire more in females and erection more in males [12]. In addition to this qualitative aspect, quantitative differences also exist between the genders. Overall, female sexuality is affected more by aging than male sexuality. This likely occurs for several reasons, including the facts that there are more men paired with younger women (or with second partners), children now take longer to emancipate (which affects women more) and women still perform work “exclusive” to their gender, such as caring for the elderly. In addition, one's partner's value of sexuality has an effect on sexual health, which reinforces its relational condition and the need for support and communication with one's sexual partner [13].

In conclusion, neither age nor hormonal changes are the primary determining factor in the cessation of sexual activity. The majority of people with a partner continue to engage in sexual activity. Individuals who do not continue sexual relations tend to end their sexual relations less on account of a lack of interest and more because of a lack of an available partner who is able to have sexual relations. Health professionals must understand that all individuals have sexual needs, and thus all patients should be offered the opportunity to express their concerns regarding sexual matters, especially in situations that are likely to worsen.

3. Sexual dysfunctions in men and women over the age of 50

3.1. Erectile dysfunction

Erectile dysfunction (ED) is defined as the persistent inability to achieve or maintain an erection that allows for satisfactory sexual performance. It affects the physical, the psychosocial and the sexual health of ED patient and his partner. ED is the most frequent sexual problem in males, and it is clearly influenced by age. In Spain, the prevalence of ED increases from 8.6% in individuals between 25 and 39 years to nearly 50% in men between 60 and 70

[14]. In advanced age, ED occasionally coincides with a decrease in the levels of testosterone, which also influences the tropism of the genital organs [15] and has been considered to be an independent risk factor for suffering a cardiovascular event [16].

3.2. Decrease in female sexual desire

Hypoactive sexual desire disorder (HSDD) is the most common female sexual dysfunction. HSDD includes in its definition a decrease or absence of sexual desire along with distress and interpersonal difficulties that occur as a result. HSDD is primarily an acquired condition (i.e., it appears in women with previously normal sexual health), and its reported prevalence varies depending on the study consulted [17]. The PRESIDE study, which included more than 31,000 American women, reported that the incidence of HSDD is highest in middle-aged women (8.9% of the women 18–44 years, compared to 12.3% of women 45–64 years and to 7.4% of those older than 65) and that it increases by 20% following menopause [18]. In the WISHeS study, which examined more than 3500 American and European women between 20 and 70 years of age, the prevalence of HSDD was greater in the United States (12–19%) when compared to Europe (6–13%). In addition, HSDD was reported to affect a significantly higher proportion of women with surgical menopause when compared to controls, regardless of age [19].

3.3. Dyspareunia

Pain disorders associated with sexual activity are other frequent complaints by patients in our setting. According to the DSM-IV, dyspareunia occurs when pain during sexual relations is continuous or recurrent. The most frequent cause of dyspareunia in mature woman is urogenital atrophy secondary to postmenopausal hypoenestrogenism, which is usually accompanied by other symptoms (e.g., dryness, changes in urinary frequency and dysuria) that can also complicate sexual relations [20].

3.4. Orgasmic disorder

The main characteristic of female orgasmic disorder is the absence or persistent delay of orgasm after a phase of normal sexual excitation. Primary orgasmic disorder is more frequent in younger women because orgasmic ability increases with sexual experience. In mature women orgasmic disorder usually occurs secondary to bad relationships, to another illness or to drug consumption [21].

4. Diagnosis of sexual dysfunction

In general terms, diagnoses of sexual dysfunction require the sexual problems to be recurrent, cause distress and produce interpersonal difficulties. This diagnosis is based on criteria described by the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5), which was modified in May of 2013 [22].

Medical histories, physical examination and psychological evaluations are important to ensure correct diagnoses; however, these can be difficult to obtain because they produce discomfort and embarrassment both for physicians and patients. Therefore, it is beneficial to have a sexual history or questionnaire within the clinical history that takes into account concerns or misconceptions of the patient regarding sexuality.

The most widely used questionnaire for assessing male sexual dysfunction is the International Index of Erectile Function (IIEF-5/SHIM) [23], whereas the most utilized questionnaire for women is the Female Sexual Function Index (FSFI) [24]. The FSFI is a simple, self-administered questionnaire that consists of 19 questions

grouped into six domains (desire, arousal, lubrication, orgasm, satisfaction and pain), works with a wide age range and has been validated in several different languages, including Spanish. Other common female questionnaires employed in our setting are the Female Sexual Distress Scale (FSDS), the Brief Profile of Female Sexual Function (B-PFSF) and the Sexual Life Quality Questionnaire (SLQQ).

In addition, a version of the FSDS is available in Spain. This questionnaire, the Questionnaire of Female Sexual Dissatisfaction, consists of 12 questions that examine women's feelings and problems with respect to their sex lives. The questionnaire of Sexual Health and Female Sexual Dysfunctions is also used in primary care settings in Spain, along with quality of life scales, such as the Cervantes scale, which includes domains related to sexuality [25].

5. Treatment of sexual dysfunctions

Treatments for sexual dysfunctions can be adapted to the patient's needs and can utilize a multidisciplinary approach that involves the couple, physicians, physiotherapists, psychiatrists and sex therapists.

5.1. Counseling

Counseling is a multidisciplinary approach that facilitates patients talking about their sexual problems while simultaneously providing them with the appropriate diagnosis and treatment. One model of counseling is the PLISSIT model (Permission, Limited Information, Specific Suggestions and Intensive Therapy) [26]:

- **Permission:** Because many sexual problems are caused or exacerbated by anxiety or feelings of guilt or inhibition, the fact that patients express their concerns can help them to feel normal and accepted.
- **Limited information:** Offering patients correct information regarding anatomy and sexual physiology can dissipate common myths or misconceptions that can contribute to sexual dysfunction.
- **Specific suggestions:** Practical guidelines should be adapted to each particular case, and if a given course of treatment proves ineffective, potential relationship problems or psychological disorders should be examined by specialists in sex therapy.
- **Intensive therapy:** This type of therapy requires intervention by a sexology expert.

5.2. Treatment of female sexual dysfunction (see algorithms 1–4)

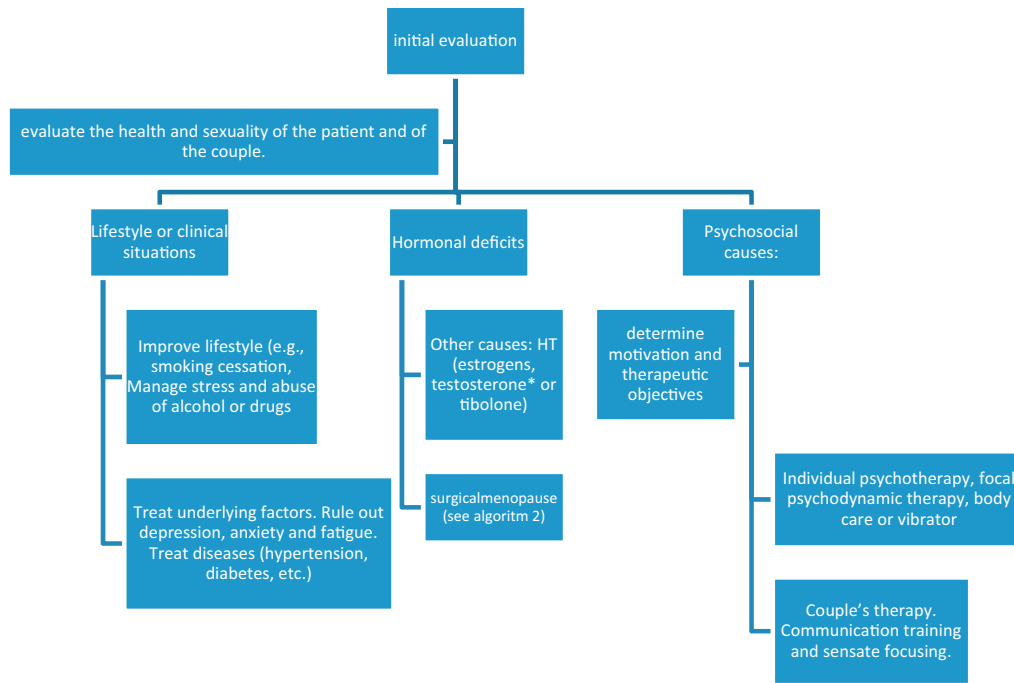
5.2.1. Non-pharmacological treatments

Some sexual habits are suggested: increase in the amount of quality time spent together as a couple, novelty in the sexual repertoire and improvements in one's body image. In addition, the use of hydrating creams, vibrators and clitoral suction devices is recommended when conditions require it [12,27].

5.2.2. Hormonal treatments

According to a Cochrane review, hormone therapy (HT) improves postmenopausal sexual function when used during the five years immediately following menopause [28]. The use of tibolone, a synthetic steroid with diverse actions in different tissues, has proven effective in the treatment of female sexual dysfunction, and its effectiveness is similar to that described for androgens. In some cases, tibolone is considered the best option for postmenopausal women with impaired sexual health [29].

Low-dose estrogens are highly effective treatments for dyspareunia, low interest in sex and sexual dissatisfaction in women with



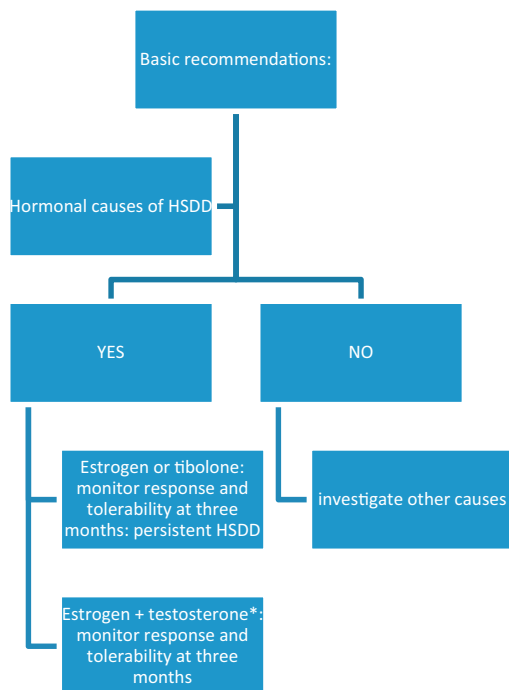
Combinations of therapeutic strategies are frequently necessary in clinical practice

Algorithm 1. Treatment of HSDD. *Testosterone is only available as pharmacist compounded preparation.

atrophic vaginitis. Local estrogen therapy is the treatment of choice for women with vaginal atrophy who do not have any other postmenopausal symptoms. In Spain, the most widely used product is the topical cream Promestriene [20].

Estrogens and androgens can also be used in women with surgical menopause and HSDD. Women treated with 300 mcg of

transdermal testosterone per day had a statistically significant increase of the sexual events, the orgasms and sexual desire, as well as a decrease in distress compared with women receiving placebo, although some of these values are not clinically meaningful [30]. However testosterone is only available as pharmacist compounded preparation, therefore, considering the full hormonal deficit of these patients, the use of tibolone has been proven superior to promote improvements in the sexual health of women with surgical menopause [31].



Algorithm 2. Treatment of HSDD in women with surgical menopause. *Testosterone is only available as pharmacist compounded preparation.

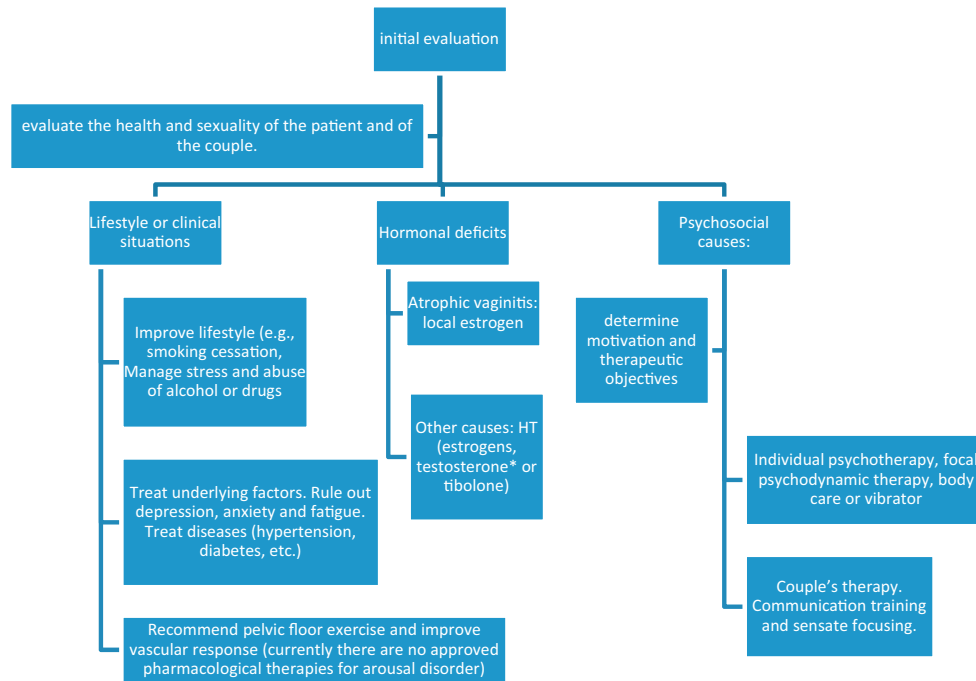
5.2.3. *Ospemifene*

Ospemifene is a selective estrogen receptor modulator (SERM) with estrogen agonist action in the vagina. Although it has not yet been approved by the European Medicines Agency, the FDA approved it in February 2013 for the treatment of moderate-to-severe dyspareunia secondary to atrophic vaginitis. A recent meta-analysis indicates that ospemifene is be an effective and safe treatment for dyspareunia associated with postmenopausal vulvar and vaginal atrophy. [32]

Although preclinical data and those from animal experiments suggest that ospemifene has a neutral or inhibitory effect on mammary carcinogenesis, further studies are necessary to evaluate its safety in women with breast cancer. No thrombotic events have been reported either, although more data are necessary to rule out this complication that occurs with other SERMs. However, ospemifene use is contraindicated in women with breast cancer, endometrial cancer, venous thromboembolism, stroke, or myocardial infarction [33].

5.2.4. *Other pharmacological and natural therapies*

– Phosphodiesterase type 5 (PDE-5) inhibitors are highly effective in ED, but they have generally not shown the same effectiveness in females as in males, and they are only recommended in specific situations (e.g., diabetes, multiple sclerosis and spinal cord injuries) [34,35].



Combinations of therapeutic strategies are frequently necessary in clinical practice

Algorithm 3. Treatment of sexual arousal disorder and anorgasm. *Testosterone is only available as pharmacist compounded preparation.

- Bupropion can be an effective treatment for some sexual dysfunctions in women with or without associated depression and can be a promising treatment for dysfunctions that result from the use of antidepressants [36].
- In a systemic review, the use of Maca (*Lepidium meyenii*) has been found to reduce sexual dysfunctions regardless of hormone levels and to improve HSDD induced by antidepressants. However, the evidence regarding the use of Maca (*L. meyenii*) is very limited [37].
- A randomized controlled trial of 68 women with sexual dysfunction has shown the efficacy of *Ginkgo biloba* in combination with sex therapy [38].
- Phytotherapy and complexes with L-arginine, ginseng, ginkgo, damiana, multivitamins and minerals have been shown to decrease vaginal dryness or increase clitoral sensations, orgasm frequency, the number of sexual encounters and desire [39,40].
- Several vasodilators (including topical prostaglandin E1 and phentolamine) have been proposed as potential agents to improve sexual arousal, but additional data are required to evaluate their efficacy and safety.
- It should not be forgotten that the administration of placebo also has beneficial effects in the treatment of HSDD [41].

5.3. Treatments for erectile dysfunction (see algorithm 5)

The majority of older patients with ED exhibit a positive response to PDE-5 inhibition, an effect that is similar to other patient groups, especially with tadalafil [42]. However, adjustments in the dosage of sildenafil and vardenafil are required in patients over 65 [43].

The complementary use of PDE-5 inhibitors with transdermal or intramuscular testosterone has achieved improvements in sexual responses and mood in males with androgen deficiency, including maintaining secondary sexual characteristics, sexual health and

muscular and bone mass. These effects have been documented in a systemic review [44,45] and in the guidelines for clinical practice in both the US [46] and Europe [47].

In situations where PDE-5 inhibitors have not been shown to elicit a response, the use of elastics, constrictor rings or vacuum systems that allow for an erection to be maintained for a prolonged amount of time can be recommended. In persistent cases, the use of intracavernous vasoactive injections (only PGE1 injections are available in Spain) or penile prosthesis have been proposed.

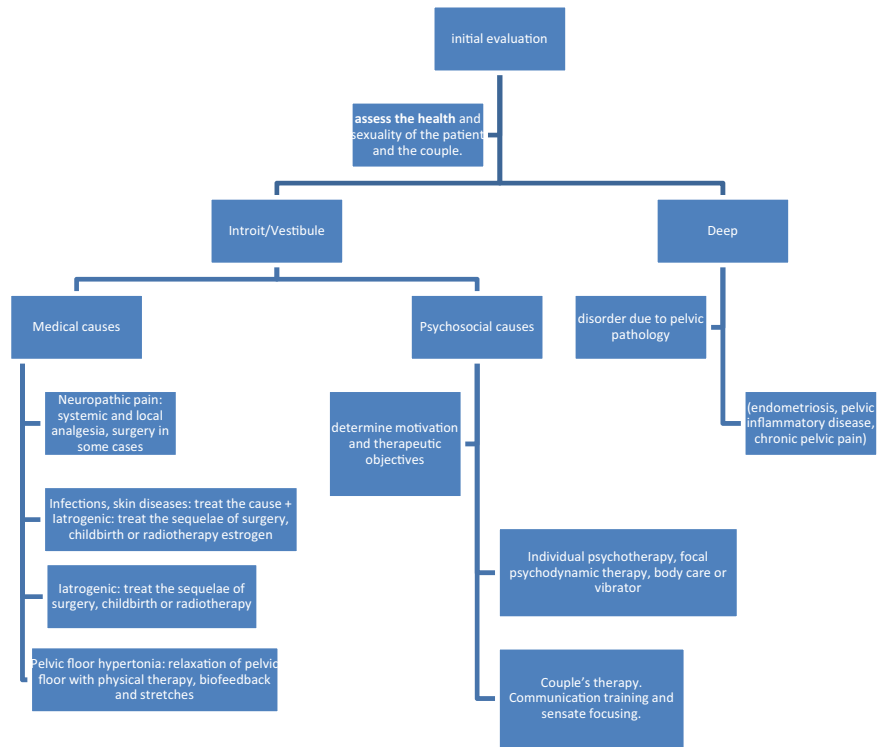
5.3.1. Recommendations

Diagnosis: The first diagnostic step in the study of sexual dysfunctions is to obtain a clinical record, a sexual history and a detailed physical examination (Grade 1A).

5.3.2. Treatment of females

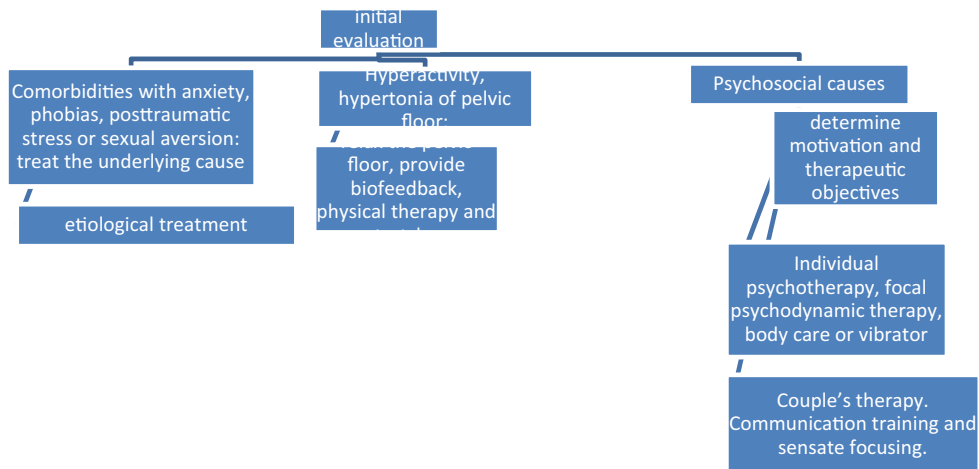
- Pharmacological treatments should be restricted to women with sexual dysfunctions for whom non-pharmacological interventions have proven ineffective.
- A low dose of vaginal estrogen is recommended for postmenopausal women with dyspareunia due to atrophic vaginitis. (Grade 1A)
- The use of aqueous lubricants before or during intercourse is suggested for women with contraindications for estrogen (Grade 2B).
- For postmenopausal women with sexual dysfunctions and vasomotor symptoms, the use of HT is recommended (Grade 1A). Tibolone can be an alternative to HT in the treatment of postmenopausal women with impaired sexuality (Grade 2B) and appears to be more effective than HT in women with surgical menopause (Grade 2C).
- For postmenopausal women with HSDD in whom pharmacological treatments have been unsuccessful, treatment with

a



b

Combinations of therapeutic strategies are frequently necessary in clinical practice



Combinations of therapeutic strategies are frequently necessary in clinical practice

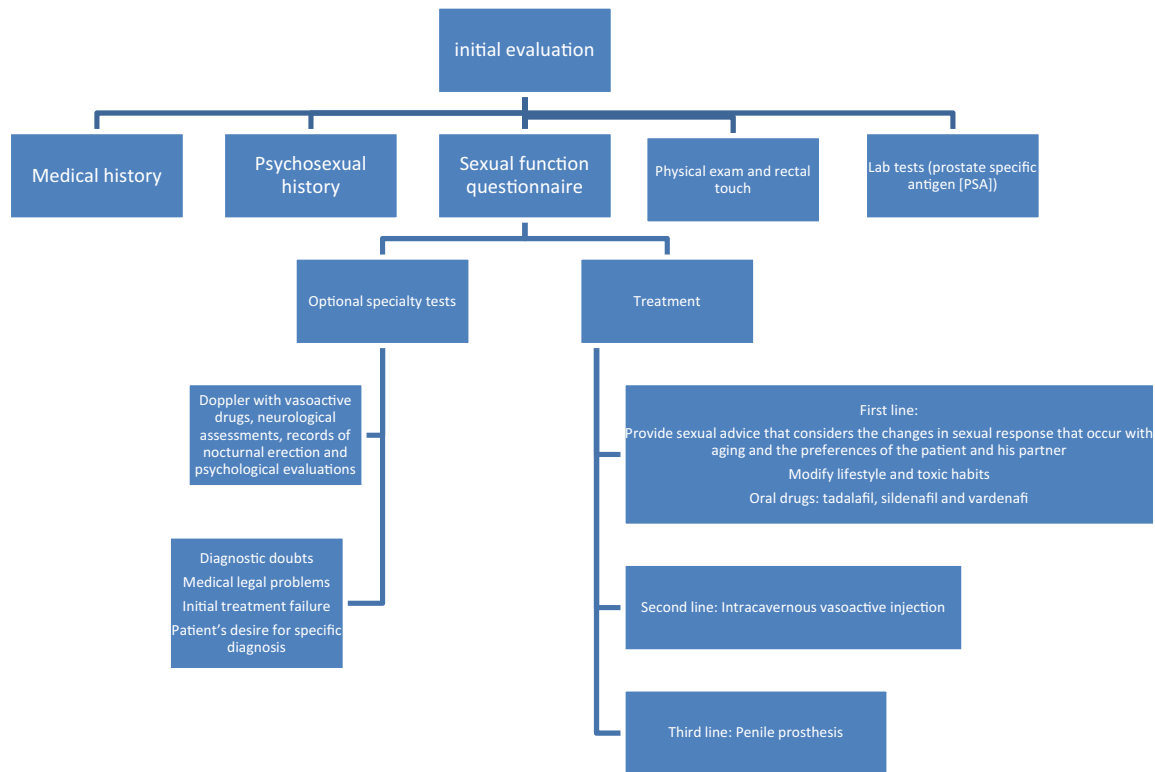
Algorithm 4. (a) Pain disorders: dispareunia. (b) Pain disorders: vaginism.

testosterone is suggested (Grade 2B). However, testosterone is not recommended for premenopausal women with sexual dysfunction (Grade 1B).

- The first line of treatment for vaginal atrophy symptoms in women with breast cancer includes non-hormonal options (i.e., lubricants or hydrating creams). Using vaginal estrogen therapy

is not recommended for women using aromatase inhibitors for breast cancer (Grade 2C). However, low dose estrogen therapy is a reasonable option for those who do not receive aromatase inhibitors or who present a low risk of recurrence.

- For women with arousal or orgasm disorders associated with SSRI use, discontinuing the SSRI or changing to another



Algorithm 5. Erectile dysfunction in individuals over the age of 50.

antidepressant is not advisable; it is recommended to add a PDE-5 inhibitor (Grade 2B).

- Bupropion may be an effective treatment for sexual dysfunction in women with or without associated depression. However, no published data have proven the safety and effectiveness of phytotherapy in sexual dysfunction.

5.3.3. Treatment of males

- Men over the age of 50 with ED can be treated with PDE-5 inhibitors, and the responses to this treatment have been reported to be similar to those of younger men.

Contributors

R. Sanchez Borrego and N. Mendoza: conception and design of the idea, data interpretation and preparation of manuscript.

Competing interest

None of the authors have conflict of interest to declare.

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References

- [1] www.who.int/reproductivehealth
- [2] Degauquier C, Absil A, Psalti I, Meuris S, Jurysta F. Impact of aging on sexuality. *Rev Med Brux* 2012;33(3):153–63.
- [3] <http://cebgrade.mcmaster.ca/>
- [4] Degenhardt L, Hall W. Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *Lancet* 2012;379(9810):55–70.
- [5] Mendoza N, Sánchez-Borrego R, Cancelo MJ, et al. Position of the Spanish menopause society regarding the management of perimenopause. *Maturitas* 2013;74(3):283–90.
- [6] Nappi RE, Polatti F. The use of estrogen therapy in women's sexual functioning (CME). *J Sex Med* 2009;6(3):603–16.
- [7] Genazzani AR, Gambacciani M, Simoncini T. Menopause and aging, quality of life and sexuality. *Climacteric* 2007;10(2):88–96.
- [8] Atlantis E, Sullivan T. Bidirectional association between depression and sexual dysfunction: A systematic review and meta-analysis. *J Sex Med* 2012;9(6):1497–507.
- [9] Coyne KS, Sexton CC, Thompson C, Kopp ZS, Milsom I, Kaplan SA. The impact of OAB on sexual health in men and women: results from EpiLUTS. *J Sex Med* 2011;8(6):1603–15.
- [10] Falk SJ, Dizon DS. Sexual dysfunction in women with cancer. *Fertil Steril* 2013;100(4):916–21.
- [11] Sánchez-Borrego R, Mendoza N, Beltrán E, et al. Position of the Spanish Menopause Society regarding the management of menopausal symptoms in breast cancer patients. *Maturitas* 2013;75(3):294–300.
- [12] Goldstein I. Current management strategies of the postmenopausal patient with sexual health problems. *J Sex Med* 2007;4(Suppl. 3):235–53.
- [13] Shaeer O, Shaeer K, Shaeer E. The Global Online Sexuality Survey (GOSS): female sexual dysfunction among internet users in the reproductive age group in the middle east. *J Sex Med* 2012;9(2):411–24.
- [14] Martín-Morales A, Sánchez-Cruz JJ, Saenz De Tejada I, Rodríguez-Vela L, Jiménez-Cruz JF, Burgos-Rodríguez R. Prevalence and independent risk factors for erectile dysfunction in Spain: results of the epidemiología de la disfunción erectil masculina study. *J Urol* 2001;166(2):569–74.
- [15] Corona G, Jannini EA, Lotti F, et al. Premature and delayed ejaculation: two ends of a single continuum influenced by hormonal milieu. *Int J Androl* 2011;34(1):41–8.
- [16] Vlachopoulos CV, Terentes-Printzios DG, Ioakeimidis NK, Aznaouridis KA, Stefanadis CI. Prediction of cardiovascular events and all-cause mortality with erectile dysfunction: a systematic review and meta-analysis of cohort studies. *Circ Cardiovasc Qual Outcomes* 2013;6(1):99–109.
- [17] Dennerstein L, Koochaki P, Barton I, Graziottin A. Hypoactive sexual desire disorder in menopausal women: a survey of Western European women. *J Sex Med* 2006;3(2):212–22.
- [18] Shifren JL, Monz BU, Russo PA, Segreti A, Johannes CB. Sexual problems and distress in United States women: prevalence and correlates. *Obstet Gynecol* 2008;112(5):970–8.
- [19] Leiblum SR, Koochaki PE, Rodenberg CA, Barton IP, Rosen RC. Hypoactive sexual desire disorder in postmenopausal women: US results from the

- Women's International Study of Health and Sexuality (WISHeS). *Menopause* 2006;13(1):46–56.
- [20] Nappi RE, Kokot-Kierepa M. Women's voices in the menopause: results from an international survey on vaginal atrophy. *Maturitas* 2010;67:233–8.
- [21] Buster JE. Managing female sexual dysfunction. *Fertil Steril* 2013;100(4):905–15.
- [22] American Psychiatric Association. Highlights of changes from the DSM-IV-TR to DSM-5. Washington, DC: American Psychiatric Press; 2013.
- [23] Rosen RC, Riley A, Wagner G, Osterloh IH, Kirkpatrick J, Mishra A. The International Index of Erectile Function (IIEF): a multidimensional scale for assessment of erectile dysfunction. *Urology* 1997;49(6):822–30.
- [24] Rosen R, Brown C, Heiman J, et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital Ther* 2000;26(2):191–208.
- [25] Castelo-Branco C, Palacios S, Ferrer-Barriandos J, et al. Understanding how personality factors may influence quality of life: development and validation of the Cervantes Personality Scale. *Menopause* 2008;15(5):914–8.
- [26] www.arhp.org/core
- [27] Herbenick D, Reece M, Sanders S, Dodge B, Ghassemi A, Fortenberry DJ. Prevalence and characteristics of vibrator use by women in the United States: results from a nationally representative study. *J Sex Med* 2009;6(7):1857–66.
- [28] Nastri CO, Lara LA, Ferriani RA, Rosa-E-Silva AC, Figueiredo JB, Martins WP. Hormone therapy for sexual function in perimenopausal and postmenopausal women. *Cochrane Database Syst Rev* 2013;4(6):CD009672.
- [29] Mendoza N, Abad P, Baró F, et al. Spanish Menopause Society position statement: use of tibolone in postmenopausal women. *Menopause* 2013;20(7):754–60.
- [30] Wylie K, Rees M, Hackett G, et al. Androgens, health and sexuality in women and men. *Maturitas* 2010;67(3):275–89.
- [31] Mendoza N, Suárez AM, Álamo F, Bartual E, Vergara F, Herruzo A. Lipid effects, effectiveness and acceptability of tibolone versus transdermic 17 β -estradiol for hormonal replacement therapy in women with surgical menopause. *Maturitas* 2000;37(1):37–43.
- [32] Cui Y, Zong H, Yan H, Li N, Zhang Y. The efficacy and safety of ospemifene in treating dyspareunia associated with postmenopausal vulvar and vaginal atrophy: a systematic review and meta-analysis. *J Sex Med* 2014;11(2):487–97.
- [33] Wurz GT, Soe LH, Degregorio MW. Ospemifene, vulvovaginal atrophy, and breast cancer. *Maturitas* 2013;74:220–5.
- [34] Schoen C, Bachmann G. Sildenafil citrate for female sexual arousal disorder: a future possibility? *Nat Rev Urol* 2009;6(4):216–22.
- [35] Lamont J, Bajzak K, Bouchard C, et al. Female Sexual Health Consensus Clinical Guidelines. *J Obstet Gynaecol Can* 2012;34(August (8 Suppl. 2)):s1–54.
- [36] Taylor MJ, Rudkin L, Bullemor-Day P, Lubin J, Chukwujekwu C, Hawton K. Strategies for managing sexual dysfunction induced by antidepressant medication. *Cochrane Database Syst Rev* 2013;5:CD003382.
- [37] Lee MS, Shin B, Yang EJ, Lim H, Ernst E. Maca (*Lepidium meyenii*) for treatment of menopausal symptoms: a systematic review. *Maturitas* 2011;70(3):227–33.
- [38] Meston CM, Rellini AH, Telch MJ. Short- and long-term effects of *Ginkgo biloba* extract on sexual dysfunction in women. *Arch Sex Behav* 2008;37(4):530–47.
- [39] Ito TY, Polan ML, Whipple B, Trant AS. The enhancement of female sexual function with ArginMax, a nutritional supplement, among women differing in menopausal status. *J Sex Marital Ther* 2006;32(5):369–78.
- [40] Mazaro-Costa R, Andersen ML, Hachul H, Tufik S. Medicinal plants as alternative treatments for female sexual dysfunction: Utopian vision or possible treatment in climacteric women? *J Sex Med* 2010;7(11):3695–714.
- [41] Bradford A. Listening to placebo in clinical trials for female sexual dysfunction. *J Sex Med* 2013;10(2):451–9.
- [42] Sontag A, Rosen RC, Litman HJ, Ni X, Araujo AB. The role of initial success rates and other factors in determining reliability of outcomes of phosphodiesterase inhibitor therapy for erectile dysfunction: a pooled analysis of 17 placebo-controlled trials of tadalafil for use as needed. *J Sex Med* 2013;10(2):541–50.
- [43] Eardley I, Lee JC, Shabsigh R, et al. Vardenafil improves erectile function in men with erectile dysfunction and associated underlying conditions, irrespective of the use of concomitant medications. *J Sex Med* 2010;7(1 Part 1):244–55.
- [44] Isidori AM, Buvat J, Corona G, et al. A critical analysis of the role of testosterone in erectile function: from pathophysiology to treatment—a systematic review. *Eur Urol* 2013;65:99–112.
- [45] Buvat J, Maggi M, Guay A, Torres LO. Testosterone deficiency in men: systematic review and standard operating procedures for diagnosis and treatment. *J Sex Med* 2013;10(1):245–84.
- [46] Hatzimouratidis K, Amar E, Eardley I, et al. Guidelines on male sexual dysfunction: erectile dysfunction and premature ejaculation. *Eur Urol* 2010;57(5):804–14.
- [47] Bhasin S, Cunningham GR, Hayes FJ, et al. Testosterone therapy in men with androgen deficiency syndromes: an endocrine society clinical practice guideline. *J Clin Endocrinol Metab* 2010;95:2536–59. *J Clin Endocrinol Metab* 2010;95(8):4104.