SLJOM The Sri Lanka Journal of Menopause

Review

Sexual Functions in Perimenopause

Randombage P[1], Jayawardane M[2]

[1]Senior Registrar in Obstetrics and Gynaecology, Colombo South Teaching Hospital, Kalubowila.

[2]Consultant Obstetrician and Gynaecologist and Senior Lecturer, Faculty of medical sciences, University of Sri Jayewardenepura

***Corresponding Author** - Dr. Prabath Randombage*

E mail - prabathrandombage@gmail.com

No conflicts of interest

Abstract

Sexual dysfunction is a rising problem especially in those who are at perimenopausal age. It goes hand in hand with aging, medical and surgical comorbidities, psychological factors as well as relationship factors. More and more women seek the opinion of doctors since it has disrupted their quality of life. The prevalence is hard to determine since women are reluctant to come up with the complaint of sexual dysfunction. Remedies have been coming up such as topical moisturizer applicants to newer hormone replacement therapies. Psychological phenomenon has been further explored since many women are suffering from depression and other infirmities of the mind. Even though studies have been done, the problem is far from resolved and further studies and newer methods should be produced to improve quality of life and provide a long lasting solution for sexual dysfunction.

Key words

Sexual functions, perimenopause

Introdution

Sexual functions of women's life have received increased attention from medical, pharmaceutical and public health fields during recent decade. It is regarded as an integral part of a woman's life and studies are being conducted to access the sexual functions and their quality of life. In the Study of Women's Health Across the Nations in America (SWAN) has revealed that more than 75% of women in their middle age think sex is either moderately or extremely important to their functioning of life[(1)].

Menopause is a physiological phenomenon of women. However beyond that it causes many biopsychological changes which results in reduction of quality of life. Sexual dissatisfaction leads among these changes[(2,3)].

Sexuality is an important aspect of life. It is affected by biological, physical, hormonal, emotional and social factors[(4)]. Moreover current relationship with the partner, male sexual dysfunctions and polypharmacy at this age also affect sexual behavior[(5)].

Sexual dysfunction increases with age due to reduction of Estrogen which is physiological during menopausal transition. Thus both aging and natural menopause have negative effect on aspects of sexuality like libido, arousal, desire, orgasm and sexual activity. If the physical activity of women remain high it will positively affect the sexual functions[(6)]. Estrogen is also important for awareness and receptivity of sexual functions. Further the depletion of Estrogen results in vaginal dryness and deep dyspareunia. Other than that urogynaecological issues like pelvic muscle weakness, prolapse and urinary incontinence have negative impact in sexuality and quality of life[(7,8)].

It has proven that use of HRT improves the sexual functions in many aspects like orgasm, lubrication and pain relief. It has also shown among the sexually active women the hormonal treatment may result in sexual dysfunction due to the decline in androgen levels. So the exact role is still unclear[9].

Relationship between sexual function and severity of menopausal symptoms can be assessed using the Female Sexual Function Index (FSFI) and the Menopause Rating Scale (MRS).

Prevalence

It is a difficult task to measure the exact prevalence of sexual dysfunction in community since many women are reluctant to disclose their personnel and private information. A study done recently showed 24 percent of Caucasian and African American women aged between 20 and 65 years reported distress associated with sexual relationship[13].

Sexual dysfunction and frequency of symptoms increase directly with age in both men and women whereas the personal distress about these symptoms diminishes as women age.

Most women had never spoken to a doctor about their sexual functions and Nusbaum and colleagues found that only 14% to 17% of women reported their sexual functions. The patient was nearly twice as likely as the physician to have initiated the discussion on their sexual functions if the topic has been raised[14].

Menopause vs. Perimenopause

Consecutive 12 months of amenorrhea in the absence of physiological causes like pregnancy and lactation, and in the absence of pathological causes like hysterectomy which results in termination of menstruation and declining of ovarian functions epidemiologically defines the menopause. Perimeopause however is not clearly defined in the literature. It is manifested with menstrual irregularities and occurrence of vasomotor symptoms during the transitional period to menopause. More recent research has distinguished between early and late perimenopause based on a more rigorous, consensus-based staging system (Stages of Reproductive Aging Workshop - STRAW) for reproductive aging in women[15].

Overview of Sexual Functions

Sexual performance according to the perspectives of Masters and Johnson, illustrates a linear model. It reflects male sexuality more accurately than female, where it is more qualitative. The linear model being a progression from desire to arousal and excitement leading to orgasm followed by a refractory period.

This complex subject is usually studied in aspects of desire with sexual thoughts and fantasies, arousal, frequency and sexual activity which includes intercourse, masturbation, orgasm and satisfaction. However there are wide variations among attitudes towards sexuality and pathologies like pain during intercourse and difficulty to reach the orgasm, which also affect negatively for the poor functioning[16].

Some studies have broadly divided this into two: libido and potency. Libido comprises sexual interest, desire, drive, motivation and pleasure and potency is the physiologically measurable events like arousal, activity, and overall sexual response. Also the other measures of potency like dyspareunia and vaginal dryness has clear relationships with the menopause[17].

An international consensus group has highlighted the importance of intimacy and sexual stimuli for innate female sexual drive, which is an expansion to the already developed models in the latter part of 20th century. In a woman's perspective, it is not necessary to have an innate sexual drive or libido for a healthy and satisfying sexual life. This grants the improved understanding of true female psychosexual disorders that represents the reality of woman's sexual lives. Sexual motivation of a relationship includes the desire to reinforce physical and emotional intimacy and sexual stimuli then can be processed in the mind, influenced by biological and psychological factors. As a result

arousal and desire occur, which could easily disrupted by physical and mental pain[18].

Factors Contributing to Sexual Dysfunction

There are several factors that contribute to sexual dysfunction among women. Hormonal effects have a major impact on sexual response as it alters the normal physiology of a woman and cause adverse effects.

Different non communicable diseases such as diabetes mellitus and communicable diseases also have an effect on sexual functions on both genders. Side effects of pharmaceuticals for the diseases might have an adverse effect on sexual functions and may cause a significant deterioration as the disease and the drugs having a synergistic effect.

Psychosocial and aging factors are often reported as more important determinants than ovarian function among mid-aged women. Aging is inevitable and with it the overall sexual function deteriorates significantly.

Factors such as availability of a partner, previous sexual behaviour and enjoyment, relationship quality, psychological function, general physical health and ethnicity also contribute to the sexual functioning of a woman[19].

Women tend to disregard the psychological factors as well as infirmities in the mind due to the stigma that is present in the community. Depression and other psychological symptoms cause less desire and lower frequency of sexual intercourse. Smoking is one of the important factor related to reduced desire and frequency of sexual intercourse due to the negative effects on sex steroids[20].

Sexual satisfaction promotes further sexual activity by breaking the cycle of negative feedback. Pressures from other influences, including the media, proposing alternative criteria for 'normal' sexual behavior can increase performance anxiety and dissatisfaction in women as well as in men.

Painful intercourse is a common complaint in particular among perimenopausal women. Study done on middle aged women found an inverse relationship between sexual desire and painful intercourse beginning in the late perimenopause, as well as an increase in masturbation during early perimenopause. Also vaginal dryness was highly associated with pain and lower sexual arousal and pleasure.

Wide understanding of these factors and how it affects normality of the sexual functions are paramount important in patient counselling and deciding future management options[21].

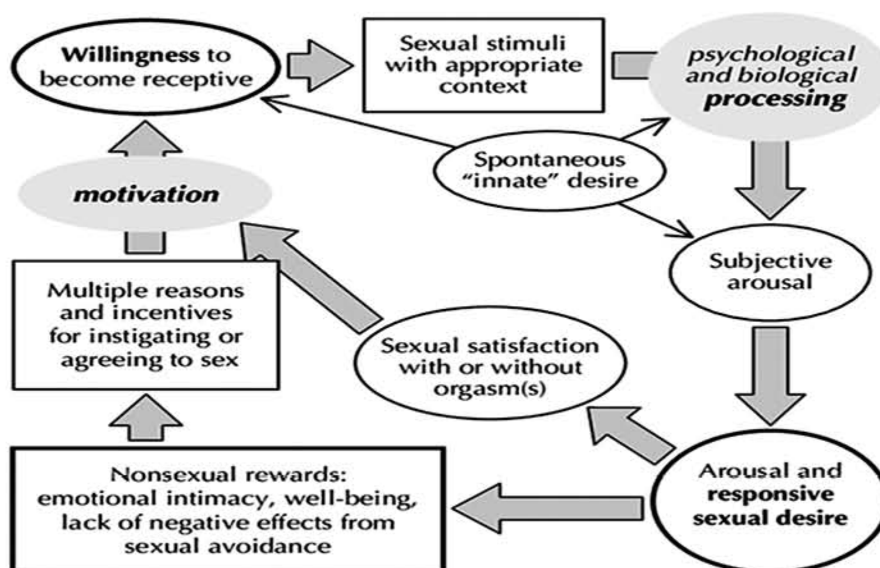

Figure 1: International consensus model of female sexuality[22].

Diagnosis

The doctor should be mindful enough to ask the sexual problems as the patients may be reluctant to discuss them. Developing trust between patient and healthcare professional allows greater exploration of fears, fantasies and difficulties that often do not need referral. Taking a good sexual history is the corner stone and another way is by using questionnaires.

Female Sexual Function Index (FSFI) and the Menopause Rating Scale (MRS) can be used to assess the problems of these aspects[10]. The MRS has been standardized and translated into many languages and widely used in many researches. It has Subjective complaints of which 11 items are classified into 3 domains[10]:

- Psychological (4 symptoms: depressed, irri table, anxious, exhausted)
- Somatic (4 symptoms: sweating or hot flushes, cardiac complaints, sleeping disorders, joint and muscle complaints)
- Urogenital symptoms (3 symptoms: sexual problems, urinary problems, and vaginal dryness).

Female Sexual Function Index (FSFI-19) is used to assess sexual functions among women aged 18 to 70 years. FSFI consists of 19 questions evaluating 6 domains of female sexual function: sexual desire, arousal, lubrication, orgasm, satisfaction and pain in the previous 4 weeks[11,12].

Management Options

Increasing number of women seeks medical advice for sexual dysfunction. There are several treatment modalities available. However there is a paucity of research on the treatment of sexual dysfunction, specifically in the perimenopause.

Estrogen therapy in all forms (i.e. oral, transdermal and vaginal) is effective in treating vaginal pain and dryness. However it is less effective in other aspects of sexual function[23,24].

Even a good doctor patient relationship can allow resolution of the symptoms of a woman. Concomitantly, hormonal and pelvic interventions can act synergistically to improve the sexual dysfunction of the woman.

For urogenital symptoms, treating vaginal atrophy and urinary tract infections is the mainstay. As last resort, surgery can be considered.

Psychological Treatment

Psychological treatment itself can improve the well being of a woman. As the first step, education of anatomy, physiology, and expectations can be addressed. Next, disparities in sexual desire between partners can be addressed in couple's therapy. For women whom never had or rarely experienced orgasm, a technique which is known as directed masturbation can be used either alone or with the partner and has shown a success rate of 65%[25].

Other women who are able to have an orgasm while masturbating, but find the pressure of a sexual encounter with their partner too anxiety provoking, Masters and Johnson's sensate focus (SF) method can be a useful tool. It consists of progressive levels of touching, starting with nonsexual touching, progressing to more sexual touching, and eventual intercourse or other direct genital stimulation.

For women experiencing pervasive anxiety, or other mood symptoms, cognitive behavioral therapy (CBT) can be used[26].

Non Hormonal Pharmacotherapy

In a study done on premenopausal women who is with SSRI induced arousal or orgasmic problems, Sildenafil has been found to have a superior effect than placebo on arousal and orgasmic dysfunction. Despite more than 80% of the women complaining of decreased desire at study baseline, low desire was unaffected by sildenafil treatment[27].

Hormonal treatments

Menopausal replacement therapy (MRT) is the current treatment of choice. There is an increased risk of having a serious side effect of hormone replacement therapy such as cardiovascular disease, cerebrovascular disease, deep vein thrombosis and breast and ovarian cancers. Risks versus benefits should be compared if the patient has severe postmenopausal symptoms, as the risk of the adverse effects occurs in a very small percentage. This issue was addressed by the Women's Health Initiative. Due to the benefits of MRT, clinicians and patients warrant the use of exogenous hormones as a treatment, at least through the perimenopause(28). Several trials have reported that MRT leads to increased desire for sex in postmenopausal women(29).

For women experiencing vaginal atrophy and who do not wish to take systemic Estrogen, topical Estrogen creams has remarkable effects improving symptoms. Low-dose local vaginal Estrogen delivery as treatment for vaginal atrophy is effective and well tolerated(30).

However, clinicians should be more aware of the risk of breast cancer, even can be attribute by vaginal Estrogen according to the recent meta-analysis of epidemiological studies(31).

A recent study has shown an increase in sexual desire and frequency of satisfying sexual encounters by using a testosterone patch in surgically menopausal women. Though androgenic adverse events (e.g. acne, hirsutism) was higher in the testosterone group, most were mild. Although it improved sexual functions, the testosterone patch failed to gain FDA approval in 2004 due to concerns over long-term safety(32).

Tibolone is a synthetic steroid sex hormone with Estrogenic, Androgenic, and Progestogenic effects. Studies have shown Tibolone to be superior to HRT in improving of sexual performance, including general sexual satisfaction, sexual interest, sexual fantasies, sexual arousal and orgasm, with decreased frequency of vaginal dryness and dyspareunia(33).

Upcoming Methods

Vaginal lubricants and moisturisers have a place in reducing vaginal dryness and pain during intercourse in women with mild to moderate valvo-vaginal atrophy. Lubricants and moisturisers work in different ways and are particularly helpful for women who are not medically suitable to take Estrogen. Although lubricants do not have long-lasting effects; it mainly provides short-term relief during intercourse.

Vaginal erbium and CO2 lasers have been used to treat valvo-vaginal atrophy and studies suggest a significant improvement in symptoms, including vaginal dryness and dyspareunia. However larger studies and strong evidence are lacking how these treatment options improve the sexual functions among perimenopause(34).

Selective Estrogen receptor modulators (SERMs) act as Estrogen agonists / antagonists. Raloxifene and Tamoxifen are well known SERMs, but are not effective in the treatment of valvo-vaginal atrophy. Recent studies have shown reduced dyspareunia in postmenopausal women treated with Lasofoxifene. The Selective Estrogen Menopause and Response to Therapy 1 (SMART-1) study have shown that Tissue-selective estrogen complexes improved vaginal atrophy with reduced incidence of dyspareunia at 2 years compared with placebo(35).

Conclusion

Sexual dysfunction among women is a rising problem especially those who are at perimenopausal age. The dysfunction can be related to the anatomy, physiology or the psychological factors of the woman. Many studies have been done to seek the root cause of the pathologies as well as to seek management modalities. Newer methods have risen as management options, but the problem seems far from being solved. Studies should be done addressing different aspects of a woman's life to conjure an effective treatment, to improve their quality of life significantly.

References

1. Cain VS, Johannes CB, Avis NE, Mohr B, Schocken M, Skurnick J, et al. Sexual functioning and practices in a multi-ethnic study of midlife women: Baseline results from swan. Journal of Sex Research 2003; 40(3):266–276. Available from: https://doi.org/10.1080/00224490309552191

2. Dąbrowska-Galas M, Dąbrowska J, Michalski B. Sexual Dysfunction in Menopausal Women. Sexual Medicine 2019; 7(4):472–479.

3. Dennerstein L, Dudley E, Burger H. Are changes in sexual functioning during midlife due to aging or menopause? Fertil Steril 2001; 76(3):456–460. Available from: http://www.sciencedirect.com/science/article/pii/S0015028201019781

4. Yánez D, Castelo-Branco C, Hidalgo LA, Chedraui PA. Sexual dysfunction and related risk factors in a cohort of middle-aged Ecuadorian women. Journal of Obstetrics and Gynaecology 2006; 26(7):682–686. Available from: https://doi.org/10.1080/01443610600914021

5. Thornton K, Chervenak J, Neal-Perry G. Menopause and Sexuality. Endocrinology and Metabolism Clinnics of North America 2015; 44(3):649–661. Available from: https://doi.org/10.1016/j.ecl.2015.05.009

6. Jamali S, Rahmanian A, Javadpour S. Examining the sexual function and related attitudes among aged women: A cross- sectional study. International Journal Reproductive Biomedicine 2016; 14(1):29–38.

7. Wróbel B. Assessment of painful sexual intercourse occurrence among women in gynaecological practice Ginekologia Polska 2008; 79(11):762-767. Available from: https://journals.viamedica.pl/ginekologia_polska/article/view/46674

8. Aukee P, Penttinen J, Airaksinen O. The effect of aging on the electromyographic activity of pelvic floor muscles: A comparative study among stress incontinent patients and asymptomatic women. Maturitas 2003; 44(4):253–257. Available from: http://www.sciencedirect.com/science/article/pii/S0378512203000446

9. Schwenkhagen A. Hormonal Changes in Menopause and Implications on Sexual Health. Journal of Sexual Medicine 2007; 4(s3):220–226. Available from: https://doi.org/10.1111/j.1743-6109.2007.00448.

10. Heinemann LAJ, Potthoff P, Schneider HPG. International versions of the Menopause Rating Scale (MRS). Health and Quality of Life Outcomes 2003; 1:1–4.

11. Wiegel M, Meston C, Rosen R. The Female Sexual Function Index (FSFI): Cross-Validation and Development of Clinical Cutoff Scores. Journal of Sex and Marital Therapy 2005; 31(1):1–20. Available from: https://doi.org/10.1080/00926230590475206

12. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, Ferguson D, D'Agostino R. The Female Sexual Function Index (FSFI): A Multidimensional Self-Report Instrument for the Assessment of Female Sexual Function. Journal of Sex and Marital Therapy 2000; 26(2):191–208. Available from: https://doi.org/10.1080/009262300278597

13. Bancroft J, Loftus J, Long JS. Distress about Sex: A National Survey of Women in Heterosexual Relationships. Archives of Sexual Behaviour 2003; 32(3):193–208.

14. Albertsen PC. The Changing Nature of Women's Sexual Health Concerns Through the Midlife Years. Journal of Urology 2005; 174(5):1969.

15. Soules MR, Sherman S, Parrott E, Rebar R, Santoro N, Utian W, et al. Executive summa-

ry: Stages of Reproductive Aging Workshop (STRAW). Climacteric 2001; 4(4):267–272. Available from: https://doi.org/10.1080/cmt.4.4.267.272

16. Davidson JM. Sexual behavior and its relationship to ovarian hormones in the menopause. Maturitas 1985; 7(3):193–201. Available from: https://doi.org/10.1016/0378-5122(85)90040-4

17. Masters WH, Johnson VE. Human sexual response, Boston (Little, Brown and Company) 1966. Available from: https://opus4.kobv.de/opus4-Fromm/frontdoor/index/index/docId/15944

18. Domoney C. Psychosexual disorders. Obstetrics, Gynaecology and Reprodive Medicine 2018; 28(1):22–27. Available from: https://doi.org/10.1016/j.ogrm.2017.10.004

19. Dennerstein L, Dudley E, Burger H. Are changes in sexual functioning during midlife due to aging or menopause? Fertil Steril 2001 [cited 2020]; 76(3):456–460. Available from: https://www.sciencedirect.com/science/article/pii/S0015028201019781

20. Johnston JR CC, Hui Siul, Witt RM, Appledorn R, Baker RS, Longcope C. Early Menopausal Changes in Bone Mass and Sex Steroids*. Journal of Clinical Endocrinology and Metabolism 1985; 61(5):905–911. Available from: https://doi.org/10.1210/jcem-61-5-905

21. Avis NE, Green R. The Perimenopause and Sexual Functioning. Obstetrics and Gynecology Clinics North America 2011; 38(3):587–594. Available from: http://dx.doi.org/10.1016/j.ogc.2011.05.009

22. Damjanović A, Duišin D, Barišić J. The evolution of the female sexual response concept: Treatment implications. Srp Arh Celok Lek 2013; 141(3–4):268–274.

23. Huang A, Yaffe K, Vittinghoff E, Kuppermann M, Addis I, Hanes V, et al. The effect of ultra low-dose transdermal estradiol on sexual function in postmenopausal women. American Journal of Obstetrics and Gynecology 2008; 198(3):265-265. Available from: http://www.sciencedirect.com/science/article/pii/S0002937807011830

24. Gast MJ, Freedman MA, Vieweg AJ, De Melo NR, Girão MJBC, Zinaman MJ, et al. A randomized study of low-dose conjugated Estrogen on sexual function and quality of life in postmenopausal women. Menopause 2009; 16(2). Available from: https://journals.lww.com/menopausejournal/Fulltext/2009/16020/A_randomized_study_of_low_dose_conjugated.7.aspx

25. McMullen S, Rosen RC. Self-administered masturbation training in the treatment of primary orgasmic dysfunction. Journal of Consulting and Clinical Psychology 1979; 47:912–918.

26. McCabe MP. Evaluation of a Cognitive Behavior Therapy Program for People with Sexual Dysfunction. Journal of Sex Marital Therapy 2001; 27(3):259–271. Available from: https://doi.org/10.1080/009262301750257119

27. Nurnberg HG, Hensley PL, Heiman JR, Croft HA, Debattista C, Paine S. Sildenafil Treatment of Women With Antidepressant-Associated Sexual Dysfunction: A Randomized Controlled Trial. JAMA 2008; 300(4):395–404. Available from: https://doi.org/10.1001/jama.300.4.395

28. Wassertheil-Smoller S, Hendrix S, Limacher M, Heiss G, Kooperberg C, Baird A, et al. Effect of Estrogen Plus Progestin on Stroke in Postmenopausal WomenThe Women's Health Initiative: A Randomized Trial. JAMA 2003; 289(20):2673–84. Available from: https://doi.org/10.1001/jama.289.20.2673

29. Modelska K, Cummings S. Female sexual dysfunction in postmenopausal women: Systematic review of placebo-controlled trials. American Journal of Obstetrics Gynecology 2003; 188(1):286–93. Available from: http://www.sciencedirect.com/science/article/pii/S0002937802714476

30. The Board of Trustees of The North American Menopause Society (NAMS). The role of local vaginal estrogen for treatment of vaginal atrophy in postmenopausal women. Menopause 2007; 14(3):357–369. Available from: http://content.wkhealth.com/linkback/openurl?sid=WKPTLP:landingpage&an=00042192-200714030-00008

31. Type and timing of menopausal hormone therapy and breast cancer risk: individual participant meta-analysis of the worldwide epidemiological evidence. Lancet 2019; 394(10204):1159–1168. Available from:http://www.sciencedirect.com/science/article/pii/S014067361931709X

32. Braunstein GD, Sundwall DA, Katz M, Shifren JL, Buster JE, Simon JA, et al. Safety and Efficacy of a Testosterone Patch for the Treatment of Hypoactive Sexual Desire Disorder in Surgically Menopausal Women: A Randomized, Placebo-Controlled Trial. JAMA Internal Medicine 2005; 165(14):1582–1589. Available from: https://doi.org/10.1001/archinte.165.14.1582

33. Nijland EA, Weijmar Schultz WCM, Nathorst-Boös J, Helmond FA, Van Lunsen RHW, Palacios S, et al. Tibolone and transdermal E2/NETA for the treatment of female sexual dysfunction in naturally menopausal women: results of a randomized active-controlled trial. Journal of Sexual Medicine 2008; 5(3):646—656. Available from: https://doi.org/10.1111/j.1743-6109.2007.00726.x

34. Khanjani S, Panay N. Vaginal estrogen deficiency. The Obstetrician and Gynaecologist 2019; 21(1):37–42.

35. Mirkin S, Komm BS. Tissue-selective estrogen complexes for postmenopausal women. Maturitas 2013; 76(3):213–220. Available from: http://www.sciencedirect.com/science/article/pii/S0378512213001874