Menopause and Sexuality

Bheemsain Tekkalaki, Swati Ravindran
Department of Psychiatry, KLE University's J.N Medical College, Belagavi, Karnataka, India

ABSTRACT
Menopause heralds the end of the female reproductive cycle. It is marked by a number of hormonal and psychological changes, many of which have direct implications on a woman's sexual well-being. A progressive decline in sex hormones like oestrogen and testosterone affect both the frequency and the quality of sexual experiences in menopausal women. Sexual dysfunction in menopausal women is a relatively understudied area which is becoming increasingly relevant, with the changes in population dynamics and attitude towards sexuality. A number of biological, psychological and socio-cultural factors aggravate the sexual dysfunction in this population. Treatment options include both pharmacological and non-pharmacological modalities. It is prudent of a clinician to routinely assess for sexual dysfunction in menopausal women, and to refer her to a psychiatrist for detailed evaluation and management.

KEYWORDS: Menopause, Sexual Dysfunction, Arousal Disorder, Organic Disorder, Penetration Disorder

INTRODUCTION
Menopause corresponds to the end of the female reproductive cycle. It is characterised by the cessation of the activity of ovarian follicles internally and it is externally manifested by a complete cessation of menstrual flow for a period of at least 12 consecutive months [1]. Menopause is associated with several biological and psychological changes, with gradually progressive hormonal instability. Some of the common complaints these women present with include vasomotor symptoms, urogenital atrophy, increased risk of cardiovascular disease , osteoporosis and sexual dysfunction, which is the topic of discussion of this chapter [2].

NEURO-ENDOCRINE CHANGES DURING MENOPAUSE
The menopausal transition is characterised by endocrine changes that are secondary to reducing number of ovarian follicles. The fall in the number of ovarian follicles is the most consistent factor during menopausal transition. Late reproductive ageing has been recognised as a rise in early cycle FSH(Follicular Stimulating Hormone) level beyond the normal levels as seen in young women with regular menstrual cycles. Elevated FSH is also associated with reduction in levels of Inhibin B. Inhibin B level reduction is considered to be the first neuroendocrine marker of early menopausal transition and is a

marker for the function of antral follicles. Elevated FSH levels also help maintain levels of Estradiol (E2), till late in menopausal transition. At the level of the HPA (Hypothalamic - Pituitary Axis), there is a failure of positive and negative feedback of oestrogen. Menstrual cycles shift from ovulatory type to non-ovulatory type in the last 30 cycles prior to the Final Menstrual Period (FMP). Menopause is also associated with a gradual fall in testosterone as well in females which also leads to worsening of sexual dysfunction. It is the deficiency in oestrogen that causes a milieu of symptoms ranging from vasomotor disturbances, urogenital atrophy, osteoporosis, cardiovascular diseases, psychiatric morbidity like anxiety and depression and sexual dysfunction [3].

SEXUALITY AND MENOPAUSE

Sexuality is characterised by anatomical, physiological and psychological conditions that pertains to each gender. Human sexuality in particular, is influenced, apart from biological factors, by socio-cultural factors, religious beliefs, morality and core beliefs that differ from one individual to another [3]. Studies have consistently showed a decline in sexual activity with advancing age in both men and women. In women, in particular, the occurrence of menopause affects various components of sexual activity such as the desire, frequency and overall pleasure from the experience. Studies reveal that sexual dysfunction is known to affect almost 68-85% of post-menopausal women [4]. Sexual dysfunctions in post menopausal women is also known to affect self esteem and quality of life [5].

FACTORS AFFECTING SEXUAL FUNCTIONING IN MENOPAUSAL WOMEN

Biological Factors: As mentioned earlier, menopause is characterized by gradual decline in sex hormones, mainly oestrogen and testosterone in women. Decline in oestrogen leads to reduced lubrication of vaginal walls, thinner vaginal mucosa and hence affecting the sexual functioning directly. Indirectly, oestrogen deficiency leads to post-menopausal syndrome, psychological features like anxiety and depression, which can also affect sexual functioning. Lack of testosterone may lead to lack of sexual desire [5].

Other biological factors that play role are chronic co-morbid conditions like diabetes mellitus, hypertension, cardio-vascular illnesses, hypothyroidism etc. which may affect sexual functioning either directly by affecting the neuro-vascular and endocrine mechanisms or indirectly by leading to chronic suffering and debilitation. Many medications, commonly used in older adults can add to sexual problems further. Antihypertensive medications are the commonest culprits.

Various other groups of medications like cardiovascular drugs (such as disopyramide), and anticancer agents can also cause SD(Sexual Dysfunction). Many psychotropic medications can also cause SD(Sexual Dysfunction). Antipsychotics, antidepressants, benzodiazepines and mood stabilizers are known to cause varieties of SD [5].

Psychological Factors: There are a few psychological theories that explain the sexual decline seen in menopausal women. The *self-perception* theory states that if the partner is usually the initiator in sexual activity, a woman may perceive herself as having lower sexual desire as compared to her partner. The *over-justification* hypothesis states that if sexual activity in these women are associated with an external reward (complaining husband, less fighting at home), it will affect the woman's sexual desire adversely as she will start associating the sexual activity more with the reward than the intrinsic pleasure she would derive from the experience [6]. The presence of psychiatric co-morbidities such as anxiety and depression may significantly reduce sexual desire due to pervasive mood state.

Socio-cultural Factors: Socio-cultural factors played a crucial role in the perception of sex amongst older men and women and varied depending on age, race and religious beliefs. As women reach menopause, there is a gradual but certain decline in sexual activity. There are multiple causes for this association between age, menopause and sexual function. The younger population has always viewed older women as motherly and the image that comes to one's mind is not sexual. This attitude led to the belief that as one grows older one is less sexually active as compared to when they were younger. However there is a socio-cultural paradigm shift, at least in west. Current generation of menopausal women belongs to the rebellious 'Baby Boomer Generation of the 1960s' which was associated with freedom of speech, religion and sexuality [7]. The women attaining menopause today are very different from their own mothers and grandmothers when they attained menopause. Over the years, there has been significant interest in defining and assessing sexual health and sexual well being of the aging population. This can be partly due to a change in the age pyramid structure due to increased life expectancy and also due to a change in attitudes amongst people while discussing sexuality amongst the elderly. The availability and the quality of a stable relationship is one of the most important factors impacting sexual functioning in women of menopausal age. Other relationship characteristics such as intimacy, love and anger towards the partner, the duration of the relationship, as well as overall health of the partner and sexual desire in the partner also played a role in the sexual activity amongst older

women. Past history of sexual violence also impacted sexual functioning negatively amongst women in menopause. Life events too were known to impact the sexual activity in women, with sexual agency, no fear of pregnancy and no children in the house positively impacting sexual desire. Parents assuming the role of care-givers, retirement and financial changes in this phase of life as well as new onset illness and death could negatively affect sexual desires.

MENOPAUSE AND THE FEMALE SEXUAL RESPONSE CYCLE

The sexual response cycle was described as having 4 stages by William Masters and Virginia Johnson in 1966. In 1980, Zilbergeld and Ellison described a fifth stage, i.e. Desire [5]. This encompasses the physiological and psychological changes that underlie sexual response. The stages of sexual response cycle and how each stage is affected by menopausal changes are described inTable No.1.

SEXUAL DYSFUNCTION IN MENOPAUSAL WOMEN

Some of the commonly seen disorders of Sexual function in menopausal women are:

Female Sexual Interest/Arousal Disorder: It is characterised by reduced libido in menopausal women secondary to hormonal changes and self perceived loss of beauty with increasing age. The DSM-5 criteria [8] for this disorder is as follows:

A. Lack of, or significantly reduced, sexual interest/arousal, as manifested by at least three of the following:

1. Absent/reduced interest in sexual activity.
2. Absent/reduced sexual/erotic thoughts or fantasies.
3. No/reduced initiation of sexual activity, and typically unreceptive to a partner's attempts to initiate.
4. Absent/reduced sexual excitement/pleasure during sexual activity in almost all or all (approximately 75%-100%) sexual encounters (in identified situational contexts or, if generalized, in all contexts).
5. Absent/reduced sexual interest/arousal in response to any internal or external sexual/erotic cues (e.g., written, verbal, visual).
6. Absent/reduced genital or non-genital sensations during sexual activity in almost all or all (approximately 75%-100%) sexual encounters (in identified situational contexts or, if generalized, in all contexts).

B. The symptoms in Criterion A have persisted for a minimum duration of approximately 6 months.

C. The symptoms in Criterion A cause clinically significant distress in the individual.

D. The sexual dysfunction is not better explained by a nonsexual mental disorder or as a consequence of severe relationship distress (e.g. partner violence) or other significant stressors and is not attributable

to the effects of a substance/medication or another medical condition.

The criteria also comes with specifiers like:

Lifelong: The disturbance has been present since the individual became sexually active.
Acquired: The disturbance began after a period of relatively normal sexual function.
Generalized: Not limited to certain types of stimulation, situations, or partners.
Situational: Only occurs with certain types of stimulation, situations, or partners.
Severity specifiers are:
Mild: Evidence of mild distress over the symptoms in Criterion A.
Moderate: Evidence of mild distress over the symptoms in Criterion A.
Severe: Evidence of severe or extreme distress over the symptoms in Criterion A.

Treatment of this disorder begins with counselling of the woman, to reduce the stigma associated with sexuality in the older population.This should be combined with Hormonal Replacement Therapy and Androgen Therapy which helps with restoring libido. Side effects such as virilisation and clotting factor deficiency must be watched out for, when starting a patient on androgen therapy.

Female Orgasmic Disorder: It is defined as a persistent or recurrent delay in achieving orgasm or an absence of orgasm from normal sexual excitement. It is usually seen in women of all ages. However, women in menopause who tend to experience these problems do not seek treatment for the same, as they feel it does not interfere with their relationship.The DSM -5 Criteria for this disorder [8] is as follows:

A. Presence of either of the following symptoms and experienced on almost all or all (approximately 75%-100%) occasions of sexual activity (in identified situational contexts or, if generalized, in all contexts):

1. Marked delay in, marked infrequency of, or absence of orgasm.
2. Markedly reduced intensity of orgasmic sensations.

B. The symptoms in Criterion A have persisted for a minimum duration of approximately 6 months.

C. The symptoms in Criterion A cause clinically significant distress in the individual.

D. The sexual dysfunction is not better explained by a nonsexual mental disorder or as a consequence of severe relationship distress (e.g., partner violence) or other significant stressors and is not attributable to the effects of a substance/medication or another medical condition.

Specifiers:

Lifelong: The disturbance has been present since the individual became sexually active.
Acquired: The disturbance began after a period of relatively normal sexual function.
Generalized: Not limited to certain types of stimulation, situations, or partners.
Situational: Only occurs with certain types of stimulation, situations, or partners.
Specify if: Never experienced an orgasm under any situation.

STAGES OF SEXUAL RESPONSE	NORMAL CHANGES DURING EACH STAGE	EFFECT OF MENOPAUSE ON EACH STAGE	RESULTING SEXUAL DYSFUNCTION
Desire	Corresponds to the natural urge with which one responds to or seeks sexual activity. It is controlled by the limbic system in the brain and the hormone responsible is testosterone.	Reduced testosterone resulting in Reduced Libido	-Hypoactive Sexual Desire Disorder -Sexual Aversion Disorder
Arousal or Excitement	Desire paves way for the second stage of arousal. This stage occurs as a result of either sexual fantasies or direct physical stimulation. It is characterized by increased blood flow into the genital tissues leading to clitoris engorgement and vaginal lubrication.	-Delayed Arousal (due to reduced testosterone) -reduced vasocongestion of pelvic floor musculature -reduced lubrication (estrogen deficiency) -thinner vaginal mucosa -lesser swelling of clitoris -Shorter, narrower Vagina	Female Sexual Arousal Disorder
Orgasm	Peaking of sexual pleasure associated with release of sexual tension and rhythmic contraction of perineal and pelvic floor muscles. Ejaculation in men. Sense of euphoria in both the sexes. Women and are capable of having multiple, successive orgasms, whereas men have refractory period of few minutes to hours.	-Reduced strength and number of pelvic floor contractions. -Lesser pleasure derived from orgasm.	-Anorgasmia -Dyspareunia

Table No. 1: stages of sexual response cycle and effect of menopause on these stages.

The **PLISSIT** Model
P-Permission giving: Allowing the patient to bring up sexual complaints, and to continue regular healthy sexual activities for e.g. masturbation. **LI-Limited Information**: Giving the patient relevant but limited information about the anatomy and physiology of sex. **SS-Specific Suggestion:**Making specific suggestions to the patient and her partner using the complaints she has presented with, for e.g. specific positions considering the physical limitations. **IT-Intensive Therapy:** To refer the patient to a specialist – a gynaecologist/sex therapist/ psychiatrist/geriatric psychiatrist for detailed evaluation and treatment.

Table No. 2: The PLISSIT Model

Specifiers of severity

Mild: Evidence of mild distress over the symptoms in Criterion A.
Moderate: Evidence of moderate distress over the symptoms in Criterion A.
Severe: Evidence of severe or extreme distress over the symptoms in Criterion A.

Support groups can help in psycho education of the couple regarding the problem. Treatment would include sex therapy, with a focus on self stimulation using masturbation using a vibrator or clitoral stimulation. On having an orgasm using this technique, the couple is then taught sensate focus therapy (explained below)to include it in their sexual activity.

Genito-Pelvic Pain/Penetration Disorder:Dyspareunia refers to painful sexual intercourse. It is a common problem seen in menopausal women due to gradual urogenital atrophy. Vaginal dryness, vestibulitis, vulvodynia and surgical treatment for cancer of the urogenital tract are some of the causes associated with dyspareunia in menopausal women. The DSM -5 criteria for this group of disorders [8] include:

A. Persistent or recurrent difficulties with one (or more) of the following:
1. Vaginal penetration during intercourse.
2. Marked vulvovaginal or pelvic pain during vaginal intercourse or penetration attempts.
3. Marked fear or anxiety about vulvo-vaginal or pelvic pain in anticipation of, during or as a result of vaginal penetration.
4. Marked tensing or tightening of the pelvic floor muscles during attempted vaginal penetration.

B. The symptoms in Criterion A have persisted for a minimum duration of approximately 6 months.

C. The symptoms in Criterion A cause clinically significant distress in the individual.

D. The sexual dysfunction is not better explained by a nonsexual mental disorder or as a consequence of a severe relationship distress (e.g., partner violence) or other significant stressors and is not attributable to the effects of a substance/medication or another medical condition.

Specify whether:

Lifelong: The disturbance has been present since the individual became sexually active. Acquired: The disturbance began after a period of relatively normal sexual function.

Specify current severity:

Mild: Evidence of mild distress over the symptoms in Criterion A.
Moderate: Evidence of moderate distress over the symptoms in Criterion A.Severe: Evidence of severe or extreme distress over the symptoms in Criterion A
Treatment starts with gynaecological examination to treat the underlying

condition. Psycho-education and sex therapy of the couple must be done to try and engage in other forms of sexual activity such as foreplay.

ASSESSMENT OF SEXUAL FUNCTIONING IN MENOPAUSE

Assessment of sexual functioning in a menopausal woman would include:

1. History taking:

A. Medical History: A thorough and detailed evaluation of the patient's medical records would shed light on co-morbid medical illness that could be contributing to sexual dysfunction.

B. History of Psychiatric Illness: Psychiatric illness such as depression and anxiety spectrum disorders may contribute to existing sexual dysfunction in menopausal women. In addition to this, any psychotic illness with gross personal and social impairment would also prevent a woman from having a normal sex life.

C. Treatment History: The woman must be asked about all the medications she has been taking, as several of these have sexual dysfunction as a side effect. Details about dosing, duration of illness, duration of treatment with that medication and prior response to other medication must be included.

D. Sexual History: A strong rapport must be established between clinician and the patient before this part of history taking. The clinician must be sensitive about the age of the patient, educational and socio-cultural background while asking questions. Sexual history must include knowledge about sexual practices, current beliefs, any socio-cultural taboos and sexual complaints of the patient.

2. Examination:

A. General physical examination of the patient must be done for any signs of debilitating medical illness that may contribute to sexual dysfunction.

B. Gynaecological Examination: It should include examination of tissues of the urogenital tract, their condition and any co-morbid infection or malignancy that may play a role in causing sexual dysfunction.

C. MSE: A detailed Mental Status Examination to rule out any psychiatric causes of sexual dysfunction must be done.

3. Laboratory Work-up: Routine blood tests including a complete hemogram, renal function tests, thyroid function tests and urine routine examination must be done. A scan to assess the patency of the uro-genital tract may be done if any anomaly is suspected. Prolactin and testosterone levels may also give a clue about underlying cause of sexual dysfunction.

TREATMENT OF SEXUAL DYSFUNCTION IN MENOPAUSAL WOMEN

Non-Pharmacological Interventions

It is essential to build a rapport with the patient and her partner as a first step

to make them understand the problem, the fact that they are not alone and the treatment options available.

One useful non-pharmacological interventional approach in primary care set upis PLISSIT Model [9]. (Table No. 2)

Sex Therapy is based on the principles of Cognitive and Behavioural therapy [5].

Cognitive therapy: includes changing the negative cognitive distortion that an individual has about their role during sexual activity and changing it towards a more positive role.

Behavioural therapy : It includes Sensate Focus Therapy, which engages couples in using relaxation techniques during non-pressured sensual stimulation. It has been called the art of touching and being touched. It emphasises on the role of non-genital tactile stimulation in sensuality and leads eventually to genital stimulation and finally sexual intercourse. Couples are taught how to relax and not pressurise themselves into expecting a lot from the tactile stimulation at first, but instead let emotions flow and take their own course[5]. Finding a position that is manageable keeping in mind the physical limitations of the couple, and avoiding too much exertion [5].

Addressing resistance by the couple at various steps throughout the treatment and helping them find a solution to their problems or alternative modalities of treatment.

Pharmacological Interventions

Hormone Replacement Therapy: It works on the principle of replenishing the now-depleted stores of oestrogen in the body artificially. Studies show that dyspareunia responds maximally to HRT with a reaction in vaginal dryness and an increase in the blood flow and the number of cells in the vagina. There are a number of women who continue to have sexual dysfunction despite HRT and androgen therapy has proven to be more useful in them [10].

Androgen Therapy: Testosterone is responsible for both male and female libido and a reduction in testosterone during menopause leads to reduced sexual desire. Supplementing this hormone in the form of a transdermal patch has been used recently used and has lead to amelioration in the symptoms of sexual dysfunction, but it comes with its own set of unacceptable side effects such as deepening of voice and hirsute.

Putting the patient on a drug holiday: If he patient is on anti-depressant or an anti-psychotic drug and his symptoms of underlying psychiatric condition are under control, the clinician could consider stopping the implicating drug for some time (drug-holiday) under continuous monitoring of the patient and observe her for improvement of
sexual dysfunction. Antidote is used in case of

sexual dysfunction secondary to use of anti depressants such as amantadine, cyproheptadine and buspirone [5].

CONCLUSION

Menopause marks the end of the reproductive phase of a woman's life and has significant implications on her sexual functioning as well. Sexual functioning in menopausal women had been an under-explored area until recently. Sexual functioning in menopausal women is affected by several biological, psychological and socio-cultural factors. Sexual dysfunction in this age group is secondary to a depletion of oestrogen and testosterone. Treatment modalities include Cognitive and Behavioural techniques such as the use of Sensate Focus Therapy. Pharmacological therapy options include the use of Oestrogen Replacement Therapy and Androgen Replacement Therapy.

REFERENCES

1. Elavsky S, McAuley E.Personality, Menopausal Symptoms, and Physical Activity Outcomes in Middle-Aged Women. Personality and individual differences. 2009 ; 46 (2) : 123 - 128.
2. Dalal PK, Agarwal M. Postmenopausal syndrome. Indian Journal of Psychiatry. 2015;57(Suppl 2):S222-S232.
3. CEPAL. Anuario estad.´stico de Ame´rica Latina y el Caribe. 2007.
4. Sarrel PM. Sexuality and menopause. Obstet Gynecol. 1990; 75(suppl):26S–35S.
5. Argonin M E. Sexual Disorders In: Blazer DG, Steffens DC, (Eds.), The American Publishing Psychiatric Textbook of Geriatric Psychiatry: 4th Edition. The American Psychiatric Publishing, Washington DC;2010: 357-373.
6. Karraker A, DeLamater J. & Schwartz C.R.(2011). Sexual Frequency Decline from midlife to Later life. The Journals of Gerontology, Series B.Psychological Sciences and Social Sciences, 66(4).
7. V Laumann, EO,Gagnon, JH, Michael, RT, Michaels, S. The social organization of sexuality:sexual practices in the United States. University of Chicago Press; Chicago (IL): 1994.
8. Diagnostic and Statistical Manual of Mental Disorders. 5th Edition.
9. Sarrel PM, Whitehead MI. Sex and menopause: defining the issues. Maturitas. 1985; 7:217–24.
10. Harlow SD, Paramsothy P. Menstruation and the Menopause Transition. Obstetrics and gynecology clinics of North America. 2011;38(3):595-607.