Female Sexual Dysfunction — How Can Gynaecologists Help?

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Sexual dysfunction in women is common; gynaecologists are appropriate to provide initial management. Screening questions for sexual well-being should be included as a standard of practice to encourage women to initiate the discussion. A comprehensive sexual history and thorough examination is needed when evaluating a patient for sexual dysfunction. Psychometric tools can be used in special circumstances. Providing simple advice and information on intercourse position, anatomy, human physiology and human sexual response is adequate in managing most sexual complaints. Women with more complex conditions such as underlying psychosocial problems and a history of sexual trauma or marital problem should be referred for counselling and sex therapy.
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Introduction

Sex is a basic human instinct and a good sex life contributes to the physical and emotional wellbeing of men and women. The breakthroughs in the treatment of male sexual dysfunction over the past 20 years have restored men's confidence and dignity and revived marriages. Awareness of and interest in male sexual dysfunction has also fuelled the study of female sexual dysfunction (FSD). The first drug for treating premenopausal hypoactive sexual desire disorder, Flibanserin (Addyi; Sprout Pharmaceuticals, Raleigh [NC], US), was marketed in 2015.

Gynaecologists are in an appropriate position to address women's sexual concerns and help them fulfil their sexual needs. 42% of women with sexual difficulties seek help from their gynaecologists[1]. 98.8% of 1480 women discuss sexual concerns with their gynaecologists during routine checkups[2]. All gynaecologists should be able to take a sexual history; recognise, counsel and plan initial management for sexual difficulties; and know when to refer a case[3].

Understanding Female Sexual Response

Masters and Johnson[4] were pioneers in the study of human sexual response. They proposed a linear model of human sexual responses that begins with excitement, pauses at the plateau, climaxes with orgasm and ends with resolution[4]. In 1979, Kaplan[5] added desire to human sexual responses and condensed the linear model into a tri-phasic model that begins with desire, followed by arousal, then concludes with orgasm. The diagnostic categorisation of FSD is largely based on the Kaplan's model.

Over the years, both models have been criticised for being male-oriented and may thus misjudge and pathologise normal female behaviour[6,7]. For example, many women do not progress sequentially; some skip the desire phase and start from arousal and progress to orgasm, whereas others experience desire and arousal without orgasm[7]. Basson[8] pointed out that female sexual desire is usually a response to the partner's sexual proposal or sexual aids rather than being spontaneous. Both models focused only on biological responses and ignored elements such as pleasure, satisfaction, and the couple's relationship.

In 1997, Whipple and Brash-McGreer[9] proposed a circular sexual response pattern for women. This circular model comprises four stages: seduction (encompassing desire), sensations (excitement and plateau), surrender (orgasm), and reflection (resolution). Pleasure and satisfaction during the resolution phase provide a positive stimulus to the seduction phase of the next sexual cycle. If a woman has had a bad sexual experience, she may not have any desire to repeat sex. In 2001, Basson[8] proposed a non-linear model that incorporates emotional intimacy, sexual stimuli, and relationship satisfaction into the biological responses. This model shifts the focus of female sexual activity away from achieving orgasm alone to gaining personal satisfaction that can manifest as emotional

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satisfaction (a feeling of intimacy and connection with a partner) and/or achieving orgasm.

Diagnostic Classifications of Female Sexual Dysfunction

Some women experience difficulties with sexual function at some point in their lives, but they do not necessarily have FSD. The diagnosis of FSD is based on the diagnostic classifications and definitions of sexual dysfunction listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) or the World Health Organization's International Classification of Diseases (ICD).

According to the fifth edition of the DSM[10] released in 2013, the diagnosis of FSD is made when symptoms are severe enough to cause clinically significant distress in over 75% of sexual activities for at least 6 months. The more precise severity criteria help to distinguish transient sexual difficulties from more persistent sexual dysfunction. Another major change from previous versions of the DSM is the combination of desire and arousal disorders into interest/arousal disorder. Sexual response is non-linear, and the distinction between desire and arousal may be artificial[6-9]. Sexual aversion disorder has been removed because the diagnosis is rarely made and supporting research is lacking. The definition of orgasmic disorder remains unchanged. The diagnoses of vaginismus and dyspareunia are merged into a new genitopelvic pain/penetration disorder because they are highly co-morbid and difficult to distinguish. In this version, the subtypes of sexual dysfunction due to medical disease, psychological illness or combined factors are removed because both organic and psychological factors co-exist in most cases. Other contributing factors such as partner factors, relationship factors, individual vulnerability factors, cultural or religious factors, and medical factors are also included.

The 10th revision of the ICD[11] released in 1992 defined sexual dysfunction as various ways in which an individual is unable to engage in a sexual relationship as desire. Diagnostic categories include lack or loss of sexual desire, sexual aversion and lack of sexual enjoyment, failure of genital response, orgasmic dysfunction, nonorganic vaginismus, nonorganic dyspareunia, and excessive sexual drive.

Prevalence of Female Sexual Dysfunction

In the 20th century, the prevalence of FSD was variable because different researchers used different definitions of FSD and the assessment tools were not standardised or validated. The US National Health and Social Life Survey reported FSD in 43% of women aged 18 to 59 years[12]. It provided a well-designed survey that included a large randomised sample with ethnic minorities and a good response rate and detailed measures of sexuality.

In the 21st century, psychometric tools or diagnostic classifications (such as the DSM or the ICD) have been used to define FSD in clinical studies. In culturally conservative countries such as India and Bangladesh, the prevalence of FSD among women attending gynaecology outpatient clinics was 55.6%[13] and 51.8%[14], respectively. In Hong Kong, 59% of 2146 sexually active women aged 21 to 40 years who attended the birth control and pre-pregnancy checkup clinics of the Family Planning Association of Hong Kong reported at least one type of FSD for at least three months within the past year[15]. In this cohort, 31.8% reported no desire, 31.7% were not aroused, 40% had anorgasmia, and 33.8% experienced coital pain[15]. Among 371 women aged 40 to 60 years who visited the association, 77.2% reported at least one type of FSD for at least 3 months within the past year[16]. The most common problem was no lubrication, with 42.9% of women being affected. The prevalence of FSD in clinic attendees is usually higher than in the general population. In a local population survey, 38% of married women aged 19 to 49 years had at least one type of FSD. The prevalence increased with age: 34% among women aged 19 to 29 years, 37% among women aged 30 to 39 years, and 39% among women aged 40 to 49 years[17].

Aetiology of Female Sexual Dysfunction

There are limited publications about risk factors for FSD. According to the US National Health and Social Life Survey[12], low desire in women is associated with a history of sexually transmitted infections, emotional problems or stress, >20% drop in household income between 1988 and 1991, thoughts about sex less than once a week, and intercourse less than once a month. Arousal disorder is more common in women who had urinary tract symptoms, emotional problems or stress, infrequent intercourse, or who had been sexually touched before puberty or sexually coerced[12]. Sexual pain disorder correlates with a lower level of education, urinary tract symptoms, emotional problems or stress, poor to fair health, and >20% drop in household income[12]. Low physical and emotional satisfaction and low general happiness are associated with low desire, arousal disorder, and sexual pain[12]. In the Melbourne Women's Midlife Health Study, decline in sexual interest

is associated with natural menopause transition, decreased wellbeing, decreasing employment, increased vasomotor, cardiopulmonary and skeletal symptoms, and hormone therapy[18].

In Hong Kong women of reproductive age, FSD is strongly associated with sex behaviour–related factors (unidirectional coitus initiation, low foreplay enjoyment, low coital frequency); and weakly associated with demographic factors (lower education level, planning for pregnancy, history of medical disease)[15]. Among midlife Hong Kong women, FSD is associated with menopause status: 88.9% of surgically menopausal women have at least one type of FSD, followed by 79.3% of naturally menopausal women, 78.2% of perimenopausal women, and 72.2% of premenopausal women[16].

Clinical Evaluation

During any regular visit for cervical smear or contraceptive counselling, the gynaecologist can open a discussion by asking "Are you happy with your sex life?" "Do you want to talk about it?" If the answer is yes, further evaluation can be made.

Taking a Sexual History

It is important to first define whether the woman has a transient difficulty or a genuine dysfunction. Opening questions in Table 1 help to determine whether FSD is present, whether the dysfunction is lifelong or acquired, whether it is general or situational, and what triggers it.

After the patient has given an account of her difficulties, more detail about her sexual repertoire is needed. The open-ended questions in Table 2 help reveal what happens in the bedroom. Nonetheless, patients may become vague and circumlocutory, and the gynaecologist has to be astute in understanding what the patient is trying to say, clarify any vagueness, and be careful and tactful when interpreting information.

Medical and Drug History

Normal sexual functioning depends on a healthy body and mind. The gynaecologist should take a full history of medical illness, surgery, psychiatric disease, medication and gynaecological detail of menopause, endometriosis, infection, malignancy, radiotherapy and pelvic surgery to exclude organic causes and drugs that contribute to FSD.

Psychosocial Evaluation

An in-depth enquiry about the patient's upbringing, self-image, sexual attitudes, sexual identity, past traumatic

Table 1. Opening questions

Opening questions
What is the problem?
How frequent does it occur?
How long has the difficulty been present?
What do you think triggers the difficulty?
Are you distressed? Please describe how you feel
Does it affect the relationship with your partner? Please elaborate

Table 2. Detailed assessment of a sexual encounter

Detailed assessment of a sexual encounter
When was the last time you have sex?
Who initiates sex? What is the proportion of him initiating? What is the proportion of you initiating?
Are you interested in sex?
Do you feel aroused? Please describe your feelings, both emotional and physical
Do you have an orgasm? Please describe your feelings, both emotional and physical
How do you feel when he penetrates? Please describe your feelings, both emotional and physical
How is the afterplay?
What is in your mind during the sexual encounter?

events such as rape, culture, religion, personality, life stressors, and relationship issues is needed to decipher the underlying causes of FSD. Equally important is evaluation of the impact of FSD on the patient's life, emotions, relationship and psychosocial function.

Physical Examination

A general physical examination is essential to exclude organic causes of FSD. A pelvic examination is performed to look for evidence of endometriosis, infection, atrophy, vestibulitis, vaginismus, and aversion to intromission.

Investigations

Baseline oestrogen, prolactin and thyroid levels are measured to exclude any organic cause of female sexual interest/arousal disorder. Blood glucose should be checked if diabetes mellitus is suspected as an underlying cause for anorgasmia. Vaginal and endocervical swabs should be taken if bacterial vaginosis or sexually transmitted infection is suspected.

Psychometric Tools

Screening instruments such as the Female Sexual Function Index[19] and the Female Sexual Distress Scale[20] are commonly used.

The Chinese version of the Female Sexual Function Index has been translated and validated in an urban Chinese population with high reliability (Cronbach's alpha=0.96) and validity (87.10%)[21]. It comprises 19 questions that assess desire, arousal, lubrication, orgasm, pain, and satisfaction in the preceding 4 weeks. The cut-off is ≤23.45 for overall score; ≤2.7 for low desire; ≤3.15 for arousal disorder; ≤4.05 for lubrication disorder; ≤3.8 for orgasm disorder and ≤3.8 for sexual pain[22].

The Female Sexual Distress Scale[20] is a 12-item questionnaire for sexual distress in women. A total score ≥15 is highly predictive of distress.

After clinical evaluation, the gynaecologist should be able to determine whether a woman has transient sexual difficulty or FSD, the chronology of events that are related to the difficulty, and whether there is any organic and/or psychosocial aetiology. The gynaecologist can provide initial management such as advice about normal sexual responses, basic human anatomy, and various sexual positions. Patients can be taught to master various sexual techniques that can enhance erotic feelings and intimacy. Sex aids such as romantic novels, movies, music, tantalizing aromas, erotic artwork, fresh flowers, and provocative clothing can enhance sexual pleasure and ecstasy. Women who have communication conflicts with their partners or underlying emotional/psychological aetiologies of FSD should be referred for sex therapy.

Sex Therapy

Sex therapy is a form of psychotherapy that helps couples overcome their sexual difficulties. It excludes organic causes of FSD, addresses underlying emotional and psychological problems that contribute to FSD, and customises cognitive behavioural therapy for clients. Couple therapy is preferable to woman-alone therapy.

During cognitive therapy, women with interest/arousal disorder are encouraged to develop sexual fantasies by reading romantic novels or watching sexually explicit movies. Cognitive restructuring techniques such as self-instructional training and identification of cognitive distortion help replace sexual anxiety with sexual comfort, correct distorted sexual attitudes, and develop realistic expectations of sex[23].

Depending on the type of FSD, different exercises are prescribed to modify maladaptive behaviour. Sensate focus exercises help couples build trust and intimacy and give and receive pleasure[24]. It is a series of stepwise exercises that help couples re-establish sexual pleasure, appreciate sexual enjoyment, and reduce performance anxiety. It is often prescribed to women with interest/arousal disorder and orgasmic disorder. Women with anorgasmia are taught to practice directed masturbation that comprises education and exercises in self-exploration and self-pleasuring[25]. In a review of nine randomized controlled trials on directed masturbation, 60 to 90% of women with primary anorgasmia can achieve orgasm during masturbation and 33 to 85% became orgasmic during partnered sexual activity[26]. Directed masturbation in combination with sensate focus exercises is more effective than directed masturbation alone in the treatment of anorgasmia[27].

For women who cannot consummate their marriage, a vaginal digital examination that is gauged to their tolerance is itself therapeutic. The examination provides reassurance that the vagina is normal and intromission is possible. Relaxation of pelvic muscles together with slow breathing are taught during the examination and women are encouraged to continue practicing at home using one then two fingers, a vibrator or a toy penis. These women are also encouraged to use tampons during menstruation. Vaginal dilators are not needed in women with a normal vagina. The

aim of the exercise is to desensitise their phobia towards intromission rather than mechanical dilatation.

Perimenopausal and postmenopausal women who complain of painful sex and lack of lubrication should be examined vaginally before vaginal oestrogen cream is prescribed. Vulvovaginal atrophy is seldom the cause for dryness in perimenopausal women or women in their early menopause. Other conditions such as vulvodynia and sexual interest/arousal disorder should be excluded.

Drugs for Female Desire Arousal Disorders

Testosterone therapy has been shown to be effective in improving libido, arousal, orgasm, sexual responsiveness, self-image, and sexual distress in postmenopausal women[28-30]. Nonetheless, no androgen preparation has been approved by the US Food and Drug Administration for the treatment of female sexual interest/arousal disorder.

Tibolone (Livial; Merck Sharp & Dohme [Asia] Ltd., Hong Kong) is a synthetic drug with oestrogenic, progestogenic, and androgenic properties. The Cochrane Review concluded that tibolone was associated with either no effect or a small benefit in sexual function[31].

Flibanserin is the only drug approved by the US Food and Drug Administration for the treatment of premenopausal hypoactive sexual desire disorder. It modulates serotonin to increase sexually satisfying events by 0.5 to 1 count per month[32]. Side-effects of the drug include drowsiness, hypotension, and syncope. Due to the potential serious interaction with alcohol, only certified physicians and pharmacists who have completed training are allowed to prescribe this drug in the US[33]. This drug has not been registered in Hong Kong.

Conclusion

FSD is a prevalent problem among Hong Kong women. Gynaecologists can provide initial management through provision of information about normal sexual responses, anatomy, position, and technique. Women who have deep-seated issues of control and trust, negative attitudes towards sexuality and body image, previous sexual trauma, communication problems with partners, or underlying psychosocial problems should be referred for sex therapy.

Declaration

The author has declared no conflicts of interest in this manuscript.

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