



New management approaches for female sexual dysfunction

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Purpose of review

The goal of this paper is to review the most recent studies evaluating treatments for female sexual dysfunction (FSD), including distressing symptoms of desire, arousal, and orgasm disorder. We divide the sections into psychological and pharmacological.

Recent findings

There is excellent evidence in favour of mindfulness, cognitive behavioural therapy, and psychoeducation for improving low sexual desire in women, and less evidence in support of these approaches to address other sexual dysfunctions in women. There are two US Food and Drug Administration (FDA) approved pharmacological treatments for low desire in premenopausal women that have modest benefits above placebo, and a significant proportion of users will experience side effects. Evidence also supports the use of transdermal testosterone for low desire in postmenopausal women.

Summary

Sexual dysfunction in women is common and distressing, and there are a variety of psychological and pharmacological treatments. More research is needed to better understand the predictors of a positive treatment response in order to deliver more personalized care.

Keywords

pharmacological treatments, psychological treatments, sexual desire, sexual dysfunction, sexual response

INTRODUCTION

Sexual dysfunction in women is common and can impact many facets of the individual's mood, health, and quality of life. Difficulties in sexual function may impact the individual's motivation for sex (i.e., sexual desire, libido, interest), ability to become sexually aroused (sexual arousal, sexual excitement), as well as capacity for orgasm (i.e., muted, delayed, or absent orgasm). Unfortunately, many women suffer in silence due to the lack of universal training in managing sexual dysfunction in contemporary healthcare and medicine training programmes. The goal of this review is to provide an overview of the major evidence-based psychological and pharmaceutical treatments for sexual dysfunction in women with a focus on studies published since 2010.

OVERVIEW OF MAJOR PSYCHOLOGICAL TREATMENTS

Psychoeducation

Psychoeducation, or the blending of education with psychological information, has long been recognized as a valuable approach in managing sexual

problems. Psychoeducation is a 'combination of information and education with elements of psychological therapy' [1]. This is, in part, related to the fact that sexuality is a highly stigmatized topic, which limits an individual's general understanding about their own normal sexual function. In turn, this lack of information/education can directly impact sexual function through psychological, and even biological mechanisms (e.g., lack of information about the importance of building arousal as a trigger for orgasm may impede orgasm function when the individual does not allow for adequate sexual stimulation). Psychoeducation can be an effective way to deliver both sexual health

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KEY POINTS

- Female sexual dysfunction is common and negatively impacts quality of life.
- Validating and addressing sexual health concerns in the clinical setting is important.
- There is strong evidence in favour of mindfulness-based therapy and cognitive behavioural therapy, and fewer studies but still strong evidence in favour of psychoeducational approaches.
- Pharmacologic options exist for managing female hypoactive sexual desire disorder. FDA-approved flibanserin and bremelanotide may benefit premenopausal women, while transdermal testosterone improves desire in postmenopausal women.
- It is important for healthcare providers to explore potential contributing factors and determine management from a patient-centred, shared decision-making model.

education and the fundamentals of psychological therapy. Additionally, psychoeducation can be packaged and delivered in a cost-effective manner, and does not require health professionals extensively trained in psychological therapy.

Once psychoeducational material addressing sexual dysfunction is created, its delivery may be provided by different healthcare professionals, including physicians and other medical practitioners, such as nurse practitioners, physician assistants, midwives, and so on, or by mental healthcare professionals, such as psychologists or counsellors. Depending on the specificity of the patient education module (e.g., whether the material is specific to low desire in women, or generalizable to all female sexual dysfunctions), the treatment parameters (such as whether the material is intended for self-help or incorporates question and answer or in-person teaching), and the population the module is intended for, these elements may be delivered by the gynaecologist in a community or hospital setting.

Psychoeducation has the advantage of being potentially widely available and accessible, as it can be created, then disseminated as a curricular module, or as a preprinted pamphlet or prerecorded video, and then can be provided in-clinic or online, to individuals or to groups of patients that share a diagnosis. Unfortunately, there are few scientific data on whether delivery of sexual health psychoeducation is covered by insurance coverage.

To date, published evaluations of psychoeducation, either as a stand-alone treatment or as a component of a larger intervention, have shown

consistently positive results [2,3]. The inclusion of psychoeducation could be most helpful for populations with little exposure to or understanding of sexual health education and/or mental health treatments. Across a large number of studies for female sexual dysfunction, psychoeducation was shown to improve sexual function across life stages [4–12].

Sensate focus

Sensate focus is one of the oldest evidence-based approaches to treat sexual difficulties [13]. Sensate focus is a targeted behavioural approach meant to be used by couples (but can be used individually). The goal of sensate focus is to reduce couples' attempts to 'fix' unsatisfactory sexual interactions that tend to be performance-focused and stress-filled (e.g., both partners believe they must experience high levels of arousal and reach orgasm, or the interaction is a "failure"), which leads to 'spectatoring', instead of being focused on their sensations, they view themselves from a judgemental third-person perspective, increasing distraction and decreasing awareness of sensation [14].

The second goal is to provide a structure through which couples can rebuild a satisfying sexual relationship that includes a sense of safety and exploration, open communication of sexual preferences, flexible behavioural repertoires regarding sex, and accepting awareness of their physical sensations. Sensate focus involves a series of structured behavioural exercises where partners exchange potentially pleasurable touch. While the approach is grounded in behavioural therapeutic techniques, its integration of nonjudgmental awareness attention of subjective experience has led authors to argue that it may represent the first use of mindfulness in sexual therapy.

According to Avery-Clark and Weiner [15], sensate focus can be framed in two phases that are differentiated by the focus of the intervention and the language used by the therapist. Phase 1 aims at addressing current impairments in sexual function. The language used by the clinician focuses on the sensations experienced during touch, with the aim of reducing anxiety related to expectation of arousal or pleasure. Phase 2 is focused on couple's processes, such as communication, and the clinician should use language that favours maintaining mutuality of positive experiences over time.

Sensate focus procedures are widely accessible as they are described publicly available books [13,16]. For patients, sensate focus may be available through primary or specialized care in the national public health system when they have sexology or sexual medicine services [17].

Despite the lack of recent high-quality treatment outcome research evaluating sensate focus, it continues to be widely practiced, often being seen as the default of what constitutes 'sex therapy' and recent controlled trials of low-to-moderate quality provide evidence of efficacy [18]. Considering that sensate focus is a behavioural technique that aims to overcome both negative patterns of attention and distraction from erotic cues during sexual interaction and promote mindful focus and awareness of odily sensations, the clinician should consider sensate focus for patients where the following problems are involved: lack of body awareness; high anxiety levels; cognitive distraction during sexual activity related to performance demands; avoidance of sexual activity; a rigid repertoire of sexual behaviours; and patients who avoid sexual communication.

The accessibility of sensate focus guidelines, the consistency of its use for over 40 years, and the relative simplicity of the approach make it a valuable treatment option despite the lack of recent higher-quality evidence. Because its primary focus is on helping couples create satisfying sex lives independent of objective levels of sexual function, it can be considered a 'first line' intervention regardless of whether suspected cause is psychological or biological.

Cognitive-behavioural therapy

Cognitive-behavioural therapy (CBT) is a widely used psychological treatment based on learning principles and empirical evidence that highlights the interplay between cognitive processes (e.g., attention; expectations), emotions (e.g., anxiety), and behaviours (e.g., avoidance) in explaining psychological distress. It is an evidence-based treatment, as its core processes (cognition and behaviours) have proven to be effective in promoting positive therapeutic change, which has contributed to its status as one of the most widely used and well tested therapies for a wide range of behavioural health concerns.

CBT for sexual dysfunction has been evaluated in randomized trials targeting specific sexual dysfunctions, as well as to improve sexual function broadly or address a range of sexual problems that accompany particular health conditions [19–21]. CBT usually entails any combination of psychoeducation, identification/challenging of thoughts/beliefs regarding sex or sexual function, specific behavioural recommendations such as sensate focus, and sometimes couple-focused components.

CBT arises from conceptual models that emphasize cognitive, behavioural, and emotional causal

and maintaining factors of sexual problems such as rigid sexual beliefs, cognitive interference/distraction during sexual activity, negative self-schemas, negative outcome expectancies, worry, and disengagement/avoidance [22,23,24]. While cultural and relational context is typically considered important, these categories of factors are thought to operate through proximal intrapersonal process such as specific interpretations of events and behavioural choices. When assessment indicates that sexual problems stem primarily or entirely from cultural (e.g., homophobia) or relational (e.g., interpersonal violence) sources, individual CBT may be less appropriate. In some situations, it may be appropriate to deliver CBT to a couple.

Although the available evidence varies in strength, high-quality clinical trials exist, and older trials remain relevant. Still, in recent years, the field has been marked by the increase of iCBT (CBT delivered through digital means). In sum, CBT is recommended to treat a wide range of sexual dysfunctions, namely when other options are not available, desired or feasible. Domain-specific recommendations for female sexual dysfunctions are presented below.

Cognitive-behavioural therapy for orgasm difficulties in women

Even though cross-sectional research has supported the association of individual and interpersonal factors to women's experience of orgasm [25–27], a review [28] of treatments for female orgasmic problems revealed a scarcity of RCT's in this field. Newer RCTs framed by CBT were developed and published in English in group or individually, one directed at women with hypothyroidism targeting all domains of sexual function [21,29]. Both studies were face-to-face, had a small number of participants across groups, and showed CBT had an effect on orgasmic function, but the studies presented low power.

Cognitive-behavioural therapy for low sexual desire in women

In the last decade, there has been considerable research evaluating CBT for low desire in women [30–32] and finding it to be effective with large effect sizes.

Mindfulness

Over the past four decades, mindfulness has gained widespread interest from researchers, clinicians, and the public. Mindfulness-based approaches, part of the third wave of cognitive behavioural therapies, foster a nonjudgmental and compassionate awareness of the body. Mindfulness-based approaches

encourage the individual to cultivate the skill of observing present-moment thoughts, emotions, and bodily sensations, often focusing on the breath, body sensations, sounds, and with practice, thoughts themselves. It encourages gentle redirection of attention when the mind wanders and cultivates equanimity toward all objects of attention [33]. There is considerable evidence that one of the mechanisms by which mindfulness improves many domains of health and well being is through its direct effects on the brain [34]. Over the past 20 years, there has been a growing body of research evaluating mindfulness for sexual dysfunctions in women.

Mindfulness can be delivered by any practitioner trained in mindfulness-based therapies, and does not depend on any religious affiliation as it is entirely secular. Many providers delivering these interventions to clients seeking treatment for sexual dysfunction are trained first in sex therapy, and then acquire additional training in mindfulness-based interventions either through a certified mindfulness training centre, or through individualized training and workshops. There is very good evidence that mindfulness-based sex therapy can be delivered in person or online, individually, to couples, or in groups. The costs for such treatments depend on the individual clinician and their fee model (e.g., they may be a salaried clinician and able to cover services for free as part of their clinical appointment, or they may be a mental health practitioner offering services on a fee-for-service basis). Of note, many community centres offer mindfulness-based drop-in groups free of charge, but these will not focus on sexual dysfunction.

Most of the studies evaluating mindfulness for sexual problems in women have delivered mindfulness to the individual, or to a group of women, not to couples, and a number of studies have found excellent effects. More recently, adaptations of these effective face-to-face mindfulness interventions have been adapted into a digital health tool. Preliminary studies find this to be feasible, satisfying to participants, and show preliminary evidence of efficacy [35], though larger randomized trials are needed.

Sexual stimuli are very important for triggering sexual motivation [36], regardless of whether one experiences sexual difficulties. Cognitive distractions during sex can significantly contribute to sexual difficulties [37], as they hinder the awareness of bodily sensations and the emergence of desire following arousal, also known as responsive sexual desire. Distraction, inattention, and self-judgment all play roles in sexual desire and arousal challenges [38], which sets up a strong rationale for the use of mindfulness-based approaches to improving desire and arousal difficulties in women.

In a well powered randomized trial evaluating eight-session group mindfulness for women with sexual interest/arousal disorder, mindfulness produced strong effect sizes for improving sexual desire and distress, and these improvements were fully sustained a year later [11]. A number of systematic reviews and/or meta-analyses further support this finding.

Although psychoeducation is often woven into a mindfulness-based intervention, there is also evidence that mindfulness alone, without any additional therapeutic ingredients, also significantly improves sexual function in women [39].

Other approaches for women's sexual dysfunction

Clinically, some providers have used couples-therapy approaches to treat sexual dysfunction. For example, Emotion Focused Therapy (EFT) [40] and Integrative Behavioral Couple Therapy (IBCT) [41] encourage couples to reconceptualize problematic patterns of interaction as understandable attempts by each partner to manage emotional distress and/or meet relational needs. Both approaches also help partners engage in new methods of communication that include more disclosure of vulnerable emotions and accepting/empathic responses.

Unfortunately, no studies have used EFT or IBCT to treat women individually with formally diagnosed sexual dysfunction. However, a small number of studies with samples of distressed couples (with or without sexual concerns) suggest that these approaches lead to improvements in sexual satisfaction [42,43]. Additionally, more recently, experts in these therapies have produced guidelines for using these approaches to address sexual concerns [44,45].

OVERVIEW OF MAJOR PHARMACOLOGICAL TREATMENTS

Pharmacological approaches for female sexual health often receive less attention compared to medications for male sexual dysfunction. However, there are evidence-based options available for female hypoactive sexual desire disorder (HSDD), the diagnosis that was in the DSM-IV-TR, prior to the DSM-5 diagnosis of Sexual Interest/Arousal Disorder.

While recognizing that sexual desire is complex and multilayered, we know that the central nervous system plays an integral role. Neurotransmitters can have an excitatory (dopamine, norepinephrine or melanocortin) or inhibitory (serotonin, endocannabinoid, opioids) influence on female sexual response [46]. The Food and Drug Administration (FDA) has approved two centrally acting medications,

flibanserin and bremelanotide, for the treatment of generalized acquired HSDD in premenopausal women.

Flibanserin is a mixed serotonin agonist and antagonist, which increases dopamine and norepinephrine. Data from randomized, placebo-controlled studies reported 100 mg flibanserin taken daily prior to bedtime significantly increased sexual desire, the number of sexually satisfying events and reduced distress compared to placebo over 24 weeks [47]. Dizziness, somnolence, and nausea were the most common adverse events reported with 13% of patients discontinuing the medication due to side effects. Studies suggest benefit for postmenopausal women but the use in this population is considered off-label [48]. Flibanserin should not be prescribed to women with liver impairment or those taking moderate to strong CYP3A4 inhibitors. Initial warnings about concomitant alcohol use causing significant hypotension were removed in 2019 following studies demonstrating no change compared to placebo [49].

In 2019, the FDA approved a second medication, bremelanotide, for premenopausal acquired HSDD. Bremelanotide stimulates melanocortin receptors in the brain leading to an increase in dopamine. When compared to placebo, studies demonstrate clinically significant improvement in sexual desire and associated distress. Adverse effects included headache, nausea, and flushing in 10% of study participants [50]. Rather than oral use, 1.75 mg of bremelanotide is self-administered via subcutaneous injection 45 min prior to anticipated sexual activity. Repeat injections cannot be given within 24 h and administration should be limited to eight injections per month. Bremelanotide is contraindicated in women with cardiovascular disease and uncontrolled hypertension [51].

The use of systemic testosterone for postmenopausal women with HSDD is controversial, yet well supported by research. While Australia is the only country with government-approved formulations for women, systemic testosterone is widely used off-label. In 2019, Global Consensus Position Statement on the Use of Testosterone Therapy for Women supported the use of transdermal testosterone for postmenopausal women with acquired HSDD not related to modifiable biopsychosocial factors [52]. This position statement is supported by ten international multispecialty societies. Subsequently in 2021, the International Society for the Study of Women's Sexual Health published clinical practice guidelines outlining prescribing, monitoring and surveillance recommendations [53]. For postmenopausal women with low desire, transdermal testosterone prescribed at one-tenth the dose of

male formulations. The goal is to achieve symptom improvement while remaining within the physiologic premenopausal level of serum testosterone [53]. Using testosterone implants or intramuscular injections to achieve supraphysiologic testosterone levels is not recommended.

CONCLUSION

Female sexual dysfunction, including desire, arousal, and orgasm disorders, profoundly impacts a woman's emotional, mental, and relational well being. Due to its widespread occurrence, healthcare providers are likely to encounter patients presenting with sexual health issues in the clinical setting. Creating a well tolerated and supportive environment to discuss concerns about sexual function is important to remove barriers to accessing care. Being aware of evidence-based treatment options, including psychoeducation, psychological interventions, and pharmacotherapy, enables clinicians to develop an individualized patient-centred approach to management.

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- of special interest
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