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Review article

# A biopsychosocial approach to women's sexual function and dysfunction at midlife: A narrative review

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ABSTRACT

A satisfying sex life is an important component of overall well-being, but sexual dysfunction is common, especially in midlife women. The aim of this review is (a) to define sexual function and dysfunction, (b) to present theoretical models of female sexual response, (c) to examine longitudinal studies of how sexual function changes during midlife, and (d) to review treatment options. Four types of female sexual dysfunction are currently recognized: Female Orgasmic Disorder, Female Sexual Interest/Arousal Disorder, Genito-Pelvic Pain/Penetration Disorder, and Substance/Medication-Induced Sexual Dysfunction. However, optimal sexual function transcends the simple absence of dysfunction. A biopsychosocial approach that simultaneously considers physical, psychological, sociocultural, and interpersonal factors is necessary to guide research and clinical care regarding women's sexual function. Most longitudinal studies reveal an association between advancing menopause status and worsening sexual function. Psychosocial variables, such as availability of a partner, relationship quality, and psychological functioning, also play an integral role. Future directions for research should include deepening our understanding of how sexual function changes with aging and developing safe and effective approaches to optimizing women's sexual function with aging. Overall, holistic, biopsychosocial approaches to women's sexual function are necessary to fully understand and treat this key component of midlife women's well-being.


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## 1. Background

A healthy and satisfying sex life is an important component of overall wellbeing for many midlife women. Multiple studies have shown a strong positive association between sexual function and health-related quality of life [1–4]. Sexual problems are common, estimated to affect 22–43% of women worldwide [1,5,6]. The preva-

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lence of sexual dysfunction peaks at midlife, with 14% of women aged 45–64 reporting at least one sexual problem associated with significant distress [5], yet only 21% of women with persistent sexual problems discuss it with their healthcare provider [7]. The aim of this narrative review is to (a) review the definition of sexual dysfunction, (b) understand the theoretical models of female sexual response, (c) examine the major longitudinal studies to understand how and why sexual function changes as women move through midlife, and (d) review the major treatment options for female sexual dysfunction.

The most recent edition of the Diagnostic and Statistical Manual (DSM 5), the major manual of psychiatric and behavioral disorders, states that sexual dysfunctions "are a heterogeneous group of disorders that are typically characterized by a clinically significant disturbance in a person's ability to respond sexually or to experience sexual pleasure" [8]. As such, "female sexual dysfunction" is an umbrella term for four distinct disorders recognized in the DSM 5: Female Orgasmic Disorder, Female Sexual Interest/Arousal Disorder (FSIAD, which encompasses what were previously termed Hypoactive Sexual Desire Disorder and Female Sexual Arousal Disorder in the DSM IV), Genito-Pelvic Pain/Penetration Disorder (which encompasses what were previously termed vaginismus and dyspareunia), and Substance/Medication-Induced Sexual Dysfunction. To diagnose any one of these disorders, the symptoms must be (a) present at least 6 months, (b) cause *clinically significant distress* in the individual [not solely in the individual's sexual partner(s)], and (c) not be better explained by another issue, such as relationship distress or other stressors [8].

In contrast to a sole focus on sexual dysfunction, researchers and healthcare providers should consider overall sexual health to help women maintain a satisfying sex life. The World Health Organization defines overall sexual health as "a state of physical, emotional, mental and social well-being in relationship to sexuality; it is not merely the absence of disease, dysfunction or infirmary. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" [9]. The focus is not just on physical sexual function – are the genitals "working" – but whether the individual can be fulfilled and satisfied in their physical, emotional, and social experiences with sex.

## 2. Measurement of sexual function

A number of instruments have been developed to measure female sexual function, some of which are summarized in Table 1. A more comprehensive review of available measures was published in 2009 [10]. The most widely used instrument recently has been the Female Sexual Function Index (FSFI), a 19-item scale with six domains: desire, arousal, lubrication, orgasm, pain, and satisfaction. Questions are graded on a Likert scale, and domains are weighted and summed to give a total score ranging from 2 to 36, with a cutoff of less than 26.55 suggesting sexual dysfunction [11]. Subsequent research has shown that mean scores on the FSFI tend to be lower in midlife and older women [12]. Some have advocated for a scoring adjustment in this population [13], calling into question conceptions of normative or ideal sexual function in aging women. The FSFI has been validated in multiple languages, across age groups, and for multiple sexual disorders. Another commonly used instrument in sexual function studies is the Female Sexual Distress Scale – Revised (FSDS-R), which measures sexually related distress using 13 items [14]. As discussed above, a diagnosis of sexual dysfunction requires significant sexually related distress in addition to a sexual problem or complaint. Validation studies for the FSDS-R have focused on women with what was previously termed Hypoactive Sexual Desire Disorder [14,15].

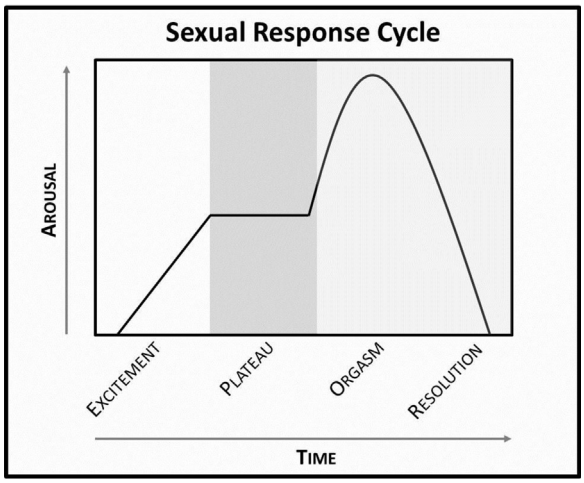


**Fig. 1.** Masters-Johnson Model of sexual response.
Adapted from Masters WH JV. Human Sexual Response. Boston: Little, Brown & Co; 1966.

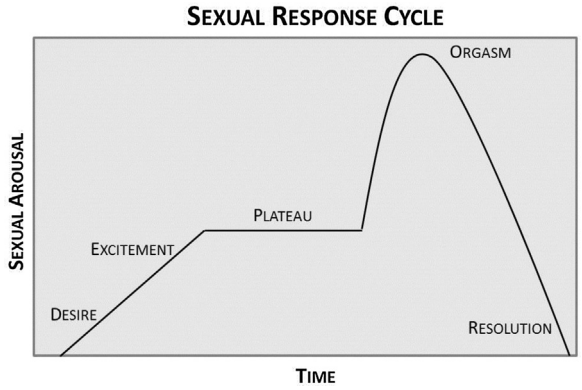


**Fig. 2.** Masters-Johnson-Kaplan Model of sexual response.
Adapted from Kaplan HS. Disorders of Sexual Desire: Simon and Schuster; 1979.

## 3. Models of female sexual response

Theoretical models of women's sexual response can provide a framework for understanding female sexual dysfunction. The Masters-Johnson model was one of the first, developed in the 1960s, and applies to both men and women (Fig. 1)[16]. According to this model, sexual response progresses predictably and linearly from excitement to plateau, orgasm, and resolution. The main focus of this model is on physical response of the genitals. Helen Singer Kaplan, a psychologist and sex therapist, noted that many individuals had problems with sexual desire, denoting the importance of desire to sexual response. In the 1970s she modified the Masters-Johnson model to a three-phase model of desire, excitement, and orgasm (Fig. 2) [17].

In 2000, Rosemary Basson and colleagues proposed an alternative circular model of female sexual response (Fig. 3) [18]. This model has several distinguishing features. First, spontaneous desire (or "sexual drive") on the part of the woman is not always the starting point for sexual activity. Instead, desire may result from feelings of emotional intimacy with one's partner that lead the woman to seek out sexual stimulation or to be more receptive to sexual stimulation initiated by her partner. Second, this model emphasizes that sexual stimuli often *precede* physical arousal and desire, and sexual