Sexual arousal problems in women: A clinical perspective

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ABSTRACT. The objectives of this paper are 1) to review the latest recommendations for describing and diagnosing arousal disorders in women, 2) to describe a new and perplexing arousal disorder, namely that of persistent sexual arousal, and 3) to discuss psychological and physical treatment options for treating female arousal difficulties.
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INTRODUCTION

In the last six years, disordered, diminished or absent female sexual arousal has become the focus of considerable clinical and research attention. Part of the increased interest may be attributed to the impressive success of sildenafil citrate, a phosphodiesterase-5 inhibitor, in treating male erectile problems, but the increased attention to arousal problems in women is also due to better understanding of the central role of arousal in the female sexual response cycle.

In order to appreciate the importance of sexual arousal for women, it is helpful to review Basson's proposed model (1) of womens' sexual response cycle (Fig. 1). Basson (2, 3) suggests that most women begin sexual activity from an initial stance of sexual neutrality and/or a wish for greater intimacy. With some motivation to be sexual, whether positive or negative, the woman either seeks out or becomes receptive to, and aroused by, sexual caress. It is the subjective awareness of pleasurable feelings, either mentally or physically, that helps launch sexual desire rather than internal sexual drive or feelings of genital tension for many women. This is especially true for peri or post-menopausal women or women in relationships of long duration where there is likely to be less intrinsic desire, decreased hormonal "prompting" for physical release and

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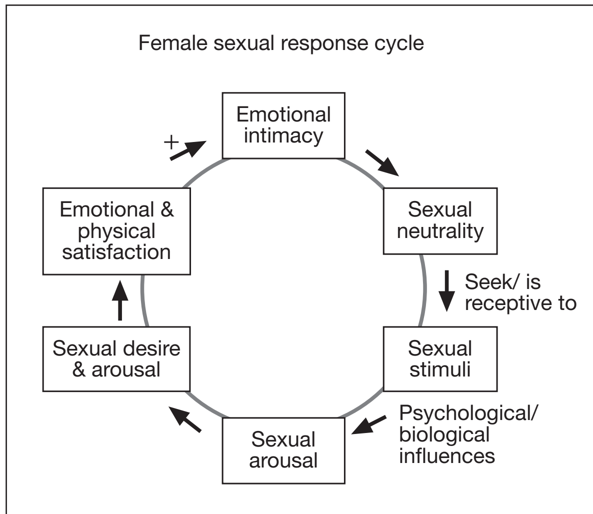

Figure 1 - Basson's model of womens' sexual response cycle. From (1).

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less novelty. Rather, desire is activated by subjective feelings of sexual excitement which occur with sexual stimulation, whether self or partner induced. It is therefore the case that diminished or absent subjective awareness of sexual arousal is likely to interfere with the entire sexual response cycle.

PREVALENCE OF AROUSAL PROBLEMS IN WOMEN

The actual prevalence of arousal complaints is difficult to determine since there is tremendous overlap between arousal and desire problems in women (4). Furthermore, the criteria used to diagnose arousal problems tend to vary across samples and, until recently, there has been a paucity of research specifically focusing on arousal disorders. In a random population sample of post-menopausal women, Lindal and Stefansson (5) reported a lifetime prevalence of arousal problems to be 6%. Laumann et al. (6) reported a prevalence of 19% in a US sample. Fugl-Meyer (7) interviewed a large Swedish sample of women and reported the prevalence of arousal disorders to be 8%. Overall, it may be estimated that, depending on the age and setting of the population studied, prevalence figures can range anywhere from 6-21% (8).

FEMALE SEXUAL AROUSAL DISORDERS: NEW DIAGNOSES

Recently, a group of invited experts in female sexuality recommended modifications and revisions in the DSM-IV description of women's sexual disorders in order to provide more refined and accurate diagnoses (9, 10). For example, one of the biggest shortcomings in the current definition of female sexual arousal disorder is the emphasis on genital lubrication as opposed to an emphasis on subjective feelings of sexual excitement, pleasure or satisfaction. This reliance on genital response ignores research evidence showing a lack of strong correspondence between women's subjective and genital awareness (11). For many healthy women, awareness of genital sensations of lubrication does not correlate with increased vaginal engorgement as measured by vaginal photoplethysmography. Furthermore, the complaint most upsetting to most women seeking consultation is that of diminished or absent subjective feelings of sexual arousal rather than complaints of insufficient genital lubrication.

In light of the etiological, clinical and research importance of distinguishing problems involving genital arousal from subjective arousal disorders, three sub-types of arousal disorder are described: genital arousal disorder, subjective arousal disorder and combined genital/subjective arousal disorder (see Table 1 for a description of the diagnoses).

In addition, it is important to recognize the existence of an arousal complaint that has been reported by a small minority of women but one which is greatly distressing, namely persistent genital arousal (12, 13). In this condition, feelings of genital vasocongestion occur without any feelings of conscious desire or actual sexual stimulation and persist despite one or more orgasms. The pulsating and

Table 1 - Subtypes of female sexual arousal disorders.

Subjective sexual arousal disorder
Absence of or markedly diminished feelings of sexual arousal (sexual excitement and sexual pleasure), from any type of sexual stimulation. Vaginal lubrication or other signs of physical response still occur.
Genital sexual arousal disorder
Complaints of absent or impaired genital sexual arousal. Self-report may include minimal vulval swelling or vaginal lubrication from any type of sexual stimulation and reduced sexual sensations from caressing genitalia. Subjective sexual excitement still occurs from non genital sexual stimuli.
Combined genital and subjective arousal disorder
Absence of or markedly diminished feelings of sexual arousal (sexual excitement and sexual pleasure), from any type of sexual stimulation as well as complaints of absent or impaired genital sexual arousal (vulval swelling, lubrication).
Persistent sexual arousal disorder
Spontaneous, intrusive and unwanted genital arousal (e.g. tingling, throbbing, pulsating) in the absence of sexual interest and desire. Any awareness of subjective arousal is typically but not invariably unpleasant. The arousal is unrelieved by one or more orgasms and the feelings of arousal persist for hours or days.

tingling sensations of genital arousal are typically experienced by the woman as being intrusive, insistent and unwanted. They result in frequent masturbation or sex with a partner in order to provide relief. However, orgasms do not quell the sensations of genital vasocongestion for very long. Arousal can reoccur quickly and persist constantly for days, weeks, or even months. Many women do not report this complaint to their physician because of feelings of shame or embarrassment so that the prevalence of this disorder is unknown at present.

ASSESSMENT

A careful assessment of all of the predisposing, precipitating and maintaining causes of the sexual complaint(s) is essential in arriving at an accurate diagnosis of the arousal disorder. Table 2 provides questions that may help guide assessment.

CLINICAL TREATMENTS

Pharmacological/ Physical approaches

For women who complain primarily of "genital arousal disorder" with an emphasis on impaired or absent lubrication, assessment of estrogen levels is important. For those

Table 2 - Assessing sexual arousal complaints.

When did your arousal problem begin? What was different then?
Has your "motivation" or interest in being sexual with your partner changed recently? What might have contributed to your change in sexual interest or desire?
Do you feel sexually excited "mentally" with sexual caress?
Do you feel sexually "turned on" in your genitals, e.g., with feelings of tingling or wetness?
Is there any kind of sexual material or touching that helps you feel sexually aroused?
If your partner provided more of the kinds of touching that you enjoyed, would you still have a problem with sexual arousal?
Do you have difficulty staying focused during sexual activity? If yes, what interferes? Distracting thoughts? Flashbacks? Memories?
Do you experience any alteration in your pulse rate and respiration when stimulated sexually?
Do you experience pleasurable sensations (feelings of warmth, tingling, increased sensitivity) in your clitoris and vagina with sexual stimulation?
Do you become lubricated or "wet" with sexual stimulation? How often is intercourse difficult or painful because your vagina feels dry and tight?
Do you need to use a vaginal lubricant for intromission?
What do you think would need to be different in order for you to be aroused?
Do you ever feel persistent feelings of sexual arousal despite being unaware of feelings of sexual desire?
Are you bothered by constant genital tingling that is unrelieved by orgasm?
Are there any other difficulties you are aware of that are interfering with your sexual interest or arousal?

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women who are clearly estrogen-deficient, estrogen replacement or supplementation may be quite effective in the short-run (14). There are many estrogen delivery systems, including pills, creams, and vaginal rings. However, there are several counter-indications that should be considered with respect to the long-term administration of estrogen replacement therapy. Firstly, systemic estrogen replacement taken via the oral route may increase sex hormone binding globulin resulting in a reduction of bioavailable testosterone. This can have the unwanted effect of impairing sexual desire, further compounding the initial problem. Secondly, the recent results from the Women's Health Initiative study assessing the effects of combined HRT (conjugated equine estrogen 0.625 mg/d plus medroxyprogesterone acetate 2.5 mg) found a small increased risk of breast cancer and cardiovascular disease after five or more years of use (15). Consequently, although estrogen supplementation is very effective in alleviating vaginal atrophy and lubrication inadequacy, it is recommended that it be prescribed at the lowest possible dose and for the briefest possible time.

Fortunately, there are a variety of over the counter lubricants that are quite effective for relieving vaginal dryness as well as a variety of vibrators and/or devices that may facilitate bloodflow to the genitals, e.g. the EROS clitoral device.

Considerable research is also underway exploring the use of phosphodiesterase inhibitors, such as sildenafil, for the treatment of female arousal disorders. Although promising, recent research has not proven clear efficacy for PDE5 inhibitors, although these medications may be helpful for selected populations with the specific complaint of genital sexual arousal disorder (16). Vasoactive drugs may increase clitoral vasocongestion while adrenoceptor agonists such as phentolamine or yohimbine may help with generalized vasodilation. However, to date, these approaches have not proven effective in increasing subjective excitement, the more common arousal complaint.

Psychological approaches

A variety of psychological and interpersonal factors can impede sexual arousal. These include lack of attraction, either sexual or emotional (or both) to the partner, sexual boredom, negative emotions such as guilt, shame, anxiety, anger and resentment, upsetting thoughts or feelings associated with arousal, and most significantly, distraction and/or inattention to the sexual context (17). Mothers of infants, for example, often report an inability to focus and/or attend to their partner or to their sexual sensations. Consequently, even though the woman's body responds appropriately to sexual caresses, she may be mentally disengaged and unaware of any sensations of arousal.

In these cases, it is important to determine the woman's motivation for treatment. A woman may be motivated to be sexually active in order to become pregnant, to avoid punishment or to satisfy a partner. On the other hand, she may be motivated to resist sexual arousal in order to thwart a partner, avoid flashbacks associated with past sexual abuse or to resist feelings of loss of control associated with sexual abandonment. Psychological treatment usually involves exploring the individual inhibitions and/or interpersonal factors that diminish arousal and increasing the conditions that can facilitate arousal, such as the use of erotica, fantasy and/or sexual aids. Therapy is sometimes indicated for resolving such intrapsychic inhibitions as fears of abandonment, loss of control, or feelings of undeserved sexual pleasure.

Treatment for persistent sexual arousal continues to be elusive. A careful and thorough pelvic examination is essential as well as evaluation of hormonal, neurological, anatomical and/or pharmaceutical contributions. Duplex ultrasound may be helpful in identifying abnormal clitoral blood flow. Some authors have reported success with cognitive reframing of

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the arousal as a healthy response (18) while others have tried antidepressants, anti-androgenic agents and anesthetizing gels. To date, no single etiological cause has been identified, so no single treatment can be recommended. Most recently, Goldstein (unpublished material, 2002) described a case of PSAS in a 55 year old woman who complained of clitoral engorgement since the age of 18. An internal pudendal arteriogram revealed a 3 cm pelvic arterio-venous malformation with a single arterial link to the clitoral artery. Following embolization, the woman reported relief. This is the only case report of an obvious physical cause. While not a currently recognized arousal dysfunction, the complaint of persistent genital arousal should be taken seriously and etiological causes investigated since it can be quite distressing.

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CONCLUSIONS

Female sexual arousal disorders constitute a varied spectrum of difficulties ranging from the total absence of genital or subjective pleasurable arousal to the absence of psychological arousal despite normal genital vasocongestion to feelings of persistent genital arousal in the absence of sexual desire. Much remains to be understood about the essential and overlapping etiological contributions to these complaints, but with the newest conceptualization of the female sexual response cycle, the importance of sexual arousal in women is undeniable. Research is required to better understand the potential role of vasomotor drugs, gonadal hormones and contextual factors in facilitating or inhibiting female sexual arousal.

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