

## The DSM Diagnostic Criteria for Female Sexual Arousal Disorder

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**ABSTRACT**

This article reviews and critiques the DSM-IV-TR diagnostic criteria for Female Sexual Arousal Disorder (FSAD). An overview of how the diagnostic criteria for FSAD have evolved over previous editions of the DSM is presented and research on prevalence and etiology of FSAD is briefly reviewed. Problems with the essential feature of the DSM-IV-TR diagnosis--“an inability to attain, or to maintain...an adequate lubrication-swelling response of sexual excitement”--are identified. The significant overlap between “arousal” and “desire” disorders is highlighted. Finally, specific recommendations for revision of the criteria for DSM-V are made, including use of a polythetic approach to the diagnosis and the addition of duration and severity criteria.

**KEY WORDS:** Sexual Arousal Disorder; DSM-V; sexual problems; women

## INTRODUCTION

“...diagnostic categories are simply concepts, justified only by whether they provide a useful framework for organizing and explaining the complexity of clinical experience in order to derive inferences about outcome and to guide decisions about treatment.” (Kendell & Jablensky, 2003, p. 5)

The third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (American Psychiatric Association, 1980) was the first to include the category of Psychosexual Disorders, defined as “inhibitions in sexual desire or the psychophysiological changes that characterize the sexual response cycle” (p. 261). Utilizing the human sexual response cycle (HRSC) model developed by Masters and Johnson (1966) as the framework, “inhibition” could occur at any one or more of the following “phases”: appetitive, excitement, orgasm, and resolution. The most recent edition of DSM (DSM-IV-TR) (American Psychiatric Association, 2000) preserved this basic structure, classifying sexual dysfunctions into the following categories: Sexual Desire Disorders, Sexual Arousal Disorders, Orgasmic Disorders, Sexual Pain Disorders, Sexual Dysfunction due to a General Medical Condition, Substance-Induced Sexual Dysfunction, and Sexual Dysfunction Not Otherwise Specified.

The purpose of this paper is to review and critique the DSM diagnostic criteria for Female Sexual Arousal Disorder (FSAD). An overview of how the diagnostic criteria for FSAD have evolved over the last three editions of the DSM will first be presented. Following this, research on the prevalence and etiology of FSAD will be reviewed, and the relationship between arousal problems and distress discussed. Previous critiques of DSM and revised definitions that have been put forward will be reviewed. The specific diagnostic criteria for FSAD will be critically examined and key issues that should be considered for DSM-V identified. Finally, recommendations will be made for revision of the criteria.

## REVIEW OF THE DIAGNOSTIC CRITERIA FOR FSAD (DSM-III, DSM-III-R, AND DSM-IV)

The DSM-III diagnostic criteria for “Inhibited Sexual Excitement” are presented in Table 1. Note that, unlike subsequent editions of DSM, the same diagnostic label was used for men and women. This reflected the assumption at the time that male and female sexual response were similar and that vaginal lubrication was the counterpart to male penile erection. Although the DSM-III text described the excitement phase as consisting of “a subjective sense of sexual pleasure and accompanying physiological changes” (p. 276), the diagnostic criteria themselves only required impairment in genital arousal (penile erection in the male and lubrication/swelling in the female).

In DSM-III-R (American Psychiatric Association, 1987), the Sexual Arousal Disorders were subdivided into Male Erectile Disorder (302.72) and Female Sexual Arousal Disorder (302.72). There was one important change in the diagnostic criteria for both sexes: Criterion A now required *either* impaired genital response (lubrication/swelling in the case of women, erection for men) or “persistent or recurrent lack of a subjective sense of sexual excitement and pleasure...during sexual activity” (see Table 2). The DSM-III-R text noted that, “In most instances there will be a disturbance in both the subjective sense of pleasure or desire and objective performance” (p. 261).

In DSM-IV and DSM-IV-TR (American Psychiatric Association, 1994, 2000), lack of subjective excitement and pleasure was dropped from Criterion A for both male and female arousal disorders. Thus, in women, the diagnosis of FSAD could be made solely on the basis of impairment of “an adequate lubrication-swelling response” (see Table 3). In contrast with earlier DSM-III and III-R texts (which referred to subjective pleasure and non-genital physiologic changes such as breast tumescence), the emphasis in the DSM-IV text also shifted to *genital* changes associated with sexual arousal. For example, the “major” changes associated with sexual excitement were described as: “vasocongestion in the pelvis, vaginal lubrication and expansion, and swelling of the external genitalia” (p. 494). The one mention

of subjective response in the text on FSAD reflects the lesser importance ascribed to subjective pleasure and excitement compared to genital arousal: “The individual with Female Sexual Arousal Disorder *may* have little or no subjective sense of sexual arousal” (p. 501) (my emphasis). The Work Group recommended that rather than retain the concept of subjective excitement and pleasure in the diagnostic criteria, diminished subjective sexual feelings are listed as an example of a Sexual Dysfunction Not Otherwise Specified (SDNOS) (302.70).

It is interesting to consider the rationale for this increased focus on genital indicators of arousal and the removal of subjective feelings of sexual excitement and pleasure from the DSM-IV criteria. The DSM-III-R criteria were considered problematic for two reasons: (1) the vagueness of the criteria and the extent to which clinician judgement was required to make a diagnosis and (2) the combination of both subjective and physiological symptom criteria, particularly when studies had found poor concordance between subjective measures of arousal and genital measures, such as vaginal pulse amplitude (VPA), in women (Segraves, 1996a). Examination of the DSM-IV Sourcebook (Segraves, 1996a) reveals that, in the lead-up to DSM-IV, three options were considered: (1) *deletion* of the FSAD diagnosis (on the grounds that there was little evidence either of the clinical utility of the diagnosis or that FSAD existed as a “discrete syndrome”); (2) *retention* of the FSAD diagnosis and the DSM-III-R criteria; (3) *modification* of the criteria so that Criterion A include only impaired vaginal lubrication and not subjective response. Interestingly, although a literature review carried out supported deletion of the FSAD category (Option 1), the Work Group recommended Option 3 on the grounds that this would maintain “compatibility between the sexes and between the DSM-IV and ICD-10” (Segraves, 1996a, p. 1006). The Work Group recommendations pertaining to Male Erectile Disorder (ED) also called for the diagnostic criteria to be modified so that only erectile failure (and not reduced subjective excitement)

was required. The justification here was that in research studies the diagnosis of ED was based on “objective criteria alone” and that, clinically, “there is no evidence that men exist who have decreased sexual arousal in the absence of desire or orgasm dysfunction” (Segraves, 1996b, p. 1110).

The International Statistical Classification of Diseases and Related Health Problems (ICD-10) (World Health Organization, 1992) does have a diagnostic category of “Failure of Genital Response” (F52.2), but there is also a separate category labelled “Sexual Aversion and Lack of Sexual Enjoyment” (F52.1). Thus, although the Work Group sought “full compatibility with ICD-10” (Segraves, 1996a), this was not, in fact, what was achieved by removing subjective excitement and pleasure from the FSAD criteria.

Another major change in DSM-IV was the inclusion of Criterion B (i.e., the requirement that the problem causes “marked distress or interpersonal difficulty”); this criterion was added to the criteria sets for all the sexual dysfunctions in DSM-IV. The relationship between distress and symptoms of FSAD will be discussed below.

Criterion C of DSM-IV criteria for FSAD restricted the diagnosis to those cases where “the sexual dysfunction is not better accounted for by another Axis I disorder (except another Sexual Dysfunction) and is not due exclusively to the direct physiological effects of a substance...or a general medical condition.”

In DSM-III-R (American Psychiatric Association, 1987), subtyping (lifelong or acquired; generalized or situational; psychogenic only or psychogenic and biogenic) had been added. Although these subtypes were retained in DSM-IV-TR, “psychogenic only” was renamed “due to psychological factors” and “psychogenic and biogenic” changed to “due to combined factors.”

Although more precise duration and severity criteria were considered by the DSM-IV Work Group for some of the sexual dysfunctions (e.g., ED) (Segraves, 1996b), the lack of

empirical data on the relationship between severity and duration criteria and treatment outcome ruled this out. For FSAD, however, the DSM-IV text included this statement: “Occasional problems with sexual arousal that are not persistent or recurrent...are not considered to be Female Sexual Arousal Disorder” (p. 501). Similarly, a diagnosis of FSAD should not be given if the problems in arousal are “due to sexual stimulation that is not adequate in focus, intensity, and duration” (p. 501).

## **BACKGROUND**

### **Concept of Sexual Arousal and Underlying Mechanisms**

The term sexual arousal has been used in a variety of ways (Bancroft, 2005; Singer, 1984). Although some authors discuss sexual arousal as if it is synonymous with genital arousal, the concept is much broader than this. It has been defined as “a state motivated towards the experience of sexual pleasure and possibly orgasm, and involving (i) information processing of relevant stimuli, (ii) arousal in a general sense, (iii) incentive motivation and (iv) genital response” (Bancroft, 2005, p. 411). A distinction can be made between the “state” of sexual arousal and “sexual arousability,” with the latter referring to an individual’s disposition to respond to sexual cues with sexual arousal, which varies across and within individuals (Bancroft, 2005; Laan & Both, 2008).

The Masters and Johnson HSRC model and Kaplan’s (1974) model of human sexual response characterized sexual response as a universal, essentially linear progression from sexual desire, through the stages of arousal, orgasm, and resolution. These stages were conceptualized as discrete phases, with the possibility of specific impairments at any one or more of the phases; as discussed above, the DSM-IV classification system is based on this model. The HSRC model has received much criticism, particularly regarding its applicability to women (e.g., Boyle, 1994; Hartmann, Heiser, Ruffer-Hesse, & Kloth, 2002; Levin, 2008; Tiefer, 1991).

Focusing on incentive motivation, the model put forward by Laan and Janssen (2007) defines sexual motivation as “the result of the activation of a sensitive sexual response system by sexually competent stimuli that are present in the environment” (p. 329; see also Laan & Everaerd, 1995). Both sexual arousal and sexual desire are viewed as responses to a sexually relevant stimulus. Sexual “desire” may reflect early arousal processes (Everaerd, Laan, Both, & van der Velde, 2000) and it is argued that there is no such thing as spontaneous sexual desire (Laan & Both, 2008). Sexual thoughts or sexual activity act as stimuli, which then trigger the desire-arousal process. Individuals have variable tendencies to respond to sexual stimuli (often referred to as “arousability”) (Laan & Both, 2008). While the drive model assumes that we have sex because we feel desire (Laan & Janssen, 2007), the incentive motivation model instead suggests that we feel sexual desire because we have sex or think about sex (Laan & Both, 2008). In other words, sexual thoughts or sexual activity act as stimuli, which then trigger the desire/arousal process. Everaerd et al. (2000) suggested that, in comparison with men, genital changes might influence subjective experience of sexual arousal in women to a lesser extent than external, contextual cues. There is now a considerable body of evidence that supports this model (Both, Everaerd, & Laan, 2003; Laan & Everaerd, 1995; Laan & Janssen, 2007; for review, see Toates, 2009).

Another model of female sexual response, similar in some ways to the incentive motivation model, was put forward by Basson (2000), who suggested that women most frequently engage in sexual activity not because of any intrinsic sexual desire, but from a state of “sexual neutrality” and primarily motivated by non-sexual reasons, such as desire for emotional closeness with a partner. According to this model, a combination of incentives for sexual activity, appropriate sexual stimuli for the woman, and a context conducive to facilitating her arousal (e.g., privacy, lack of distractions, etc.) would encourage the experience of sexual arousal. If this sexual arousal was positive for the woman, this then



triggered a “desire” for her to continue the sexual encounter, now for both non-sexual *and* sexual reasons. This emergent desire (which followed arousal) was termed “responsive sexual desire.” Basson (2000) also argued that sexual arousal in women is “more a mental excitement, very much about the appreciation of the sexual stimulus and less about the awareness of genital changes” (p. 63).

A study by Sand and Fisher (2007) challenged the idea that there is one underlying “model” of sexual response that is uniform across women. A group of 111 nurses were asked which of three different models of sexual response—Masters and Johnson’s (1966), Kaplan’s (1974), and Basson’s (2000)—best represented their own experience. Approximately equal proportions of women endorsed each of these three models and, interestingly, those women who endorsed the Basson model had lower scores on the Female Sexual Function Index (FSFI) (Rosen et al., 2000) (indicating worse sexual functioning) than women endorsing one of the other two models.

With regard to the endocrinology of sexual arousal, despite considerable research, our understanding of the relevance of hormones in women’s sexual arousal is still limited. There is minimal evidence of a direct effect of estradiol on sexual arousability in women (Dennerstein, Burrows, Wood, & Hyman, 1980; Sherwin, 1991). Although there has been much interest in the role of testosterone in female sexuality, the evidence is inconsistent, compared to the male data, and there appears to be considerable variability in women’s response to androgens (Graham, Bancroft, Greco, Tanner, & Doll, 2007). The role of peptides, such as oxytocin and prolactin, is also uncertain (Bancroft, 2005).

### **Assessment of Genital Response**

Assessment of genital response in women is considered difficult in comparison with that of men (Bartlik & Goldberg, 2000). Levin (2003) pointed out that the relationship between vaginal lubrication and sexual arousal is uncertain. Although lubrication does

usually increase during sexual arousal, it may not be maintained, especially after a lengthy period of stimulation. It is also worth noting that although the essential criterion for a DSM diagnosis of FSAD is an inadequate “lubrication-swelling” response, the focus in almost all of the research has been on the lubrication aspect, and not on genital “swelling,” which presents considerable challenges in terms of measurement. Moreover, regarding lubrication difficulties, clinical and epidemiological research has relied almost exclusively on women’s subjective *reports* of lubrication, i.e., not on any objective measurement of lubrication.

Rather than measuring vaginal lubrication or swelling, studies dating back to the 1970s investigating genital response in women have mainly assessed pulse amplitude in the vaginal wall (VPA), using vaginal photoplethysmography (Laan & Everaerd, 1995; Sintchak & Geer, 1975). There is now a large literature on VPA, although the methodology has a number of limitations (Levin, 2007). Increases in VPA occur quickly, often within a few seconds, in laboratory studies where women are presented with erotic stimuli (Laan & Everaerd, 1995), suggesting an “automatic” response (Laan & Both, 2008). A consistent observation has been that when subjective reports of arousal are correlated with VPA, the correlations are low in women (Chivers, Seto, Lalumière, Laan, & Grimbos, in press). In contrast, in men, the degree of penile erection correlates highly with subjective ratings of arousal and is usually always significant. In women, the most consistent pattern found in laboratory studies is that VPA occurs in response to sexual stimuli, but subjective sexual arousal is low or non-existent (Everaerd et al., 2000). As Everaerd et al. (2000) observed, “hardly ever was desynchrony between genital and subjective sexual arousal found to be the result of subjective sexual arousal without genital responding” (p. 122).

There has been an implicit assumption in the literature that VPA is a measure of sexual arousal (Bancroft, 2009). However, there is uncertainty about the relationship of increased vaginal blood flow to sexual arousal in women (Levin, 2003). Although it is well

established that VPA increases when women are exposed to sexual stimuli, as noted above, this response appears to be fairly “automatic” (and may occur even when the stimuli are negatively evaluated by women) (Everaerd & Laan, 1995).

More broadly speaking, it has been observed that, in comparison with men, genital arousal appears to be a less important factor in women’s subjective sexual arousal (Everaerd & Laan, 1995). There have been various explanations put forth for the reasons for this gender difference, including social learning theories and biological explanations (e.g., anatomical differences between men and women) (Everaerd et al., 2000).

It is possible that other aspects of genital response (e.g., clitoral blood flow) may be better indices of sexual arousal. There are other methods, such as labial thermistors, clitoral ultrasonography, and pelvic magnetic resonance imaging (for review, see Janssen, 2001) but to date none of these have gained widespread acceptance or been widely used. One major criticism has been the invasive methodology required for their placement on the genitals by the investigator. In two recent studies (Kukkonen, Binik, Amsel, & Carrier, 2007, 2009), genital temperature (assessed using thermal imaging) was significantly correlated with subjective ratings of sexual arousal in women. However, there are practical difficulties (e.g., cost, intrusiveness) with this measure. In addition, it has never been used to compare genital arousal responses between women with and without FSAD, so its diagnostic utility is unknown.

In recent years, researchers have begun to utilize magnetic resonance imaging (MRI) to study the anatomy of the female genital and pelvic organs during sexual arousal (Maravilla & Yang, 2008; Suh, Yang, Heiman, Garland, & Maravilla, 2004). Although this research is at an early stage, findings suggest greater variability of response in women with FSAD, with some women showing virtually no response to sexual stimuli, and others showing responses that are indistinguishable from women without sexual difficulties (Maravilla & Yang, 2008).

## **Prevalence of FSAD**

In an early review of the epidemiology of DSM-III psychosexual dysfunctions, the prevalence of “inhibited sexual excitement” was said to be “indeterminate” for women because so few studies had included questions about female genital response (Nathan, 1986). Since the publication of DSM-IV, there have been several large-scale epidemiological surveys that have reported prevalence rates for lubrication problems in women, many of which have used nationally representative and cross-cultural samples. A criticism of earlier studies that claimed to have used DSM criteria to establish sexual dysfunction was that they did not evaluate the presence of “marked distress or interpersonal difficulty” (Simons & Carey, 2001). More recent studies have assessed the presence of associated distress or impairment (Bancroft, Loftus, & Long, 2003; Oberg, Fugl-Meyer, & Fugl-Meyer, 2004; Shifren, Monz, Russo, Segreti, & Johannes, 2008; Witting et al., 2008).

Notwithstanding these methodological improvements over earlier studies, some of the criteria required to make DSM diagnoses are difficult, if not impossible, to assess in large, population-based surveys (Graham & Bancroft, 2006). For example, while not part of the diagnostic criteria, the DSM text states that “a diagnosis of FSAD is...not appropriate if the problems in arousal are due to sexual stimulation that is not adequate in focus, intensity, and duration” (p. 501). One of the few studies that assessed complaints, such as “too little foreplay before intercourse,” was an early investigation by Frank, Anderson, and Rubinstein (1978). A total of 100 married couples completed a self-report questionnaire that assessed the presence or absence of sexual problems, such as “difficulty getting excited” and “difficulty maintaining excitement.” Almost half (48%) of the women reported difficulty becoming sexually aroused and 33% reported difficulty with maintaining arousal. However, 38% of these women also reported too little foreplay before sexual intercourse and 35% “disinterest.” Nathan (1986) suggested that, to obtain true estimates of the population rates of FSAD,

studies would need to assess the adequacy of sexual stimulation experienced by women. DSM-IV criteria also preclude a diagnosis of FSAD if the dysfunction was judged to be due exclusively to the physiological effects of a substance or a general medical condition, including “menopausal or postmenopausal reductions in estrogen levels” (p. 501). Because prevalence studies rarely obtain information on menopausal status, it is, therefore, important not to regard prevalence rates of lubrication problems as representing clinical diagnoses.

Table 4 presents prevalence data reported by women from eight surveys. Most of these studies assessed problems with lubrication and not with “subjective” arousal or with other indices of genital arousal (e.g., swelling). Exceptions were the study by Dunn, Croft, and Hackett (1998), which asked about “problems being sexually aroused,” and the Bancroft et al. (2003) study, which included a composite variable (labelled “impaired physical response”) that comprised items on lack of subjective arousal, lack of pleasant genital tingling, and lack of enjoyment from genitals being touched. In a review of FSAD prevalence data in European countries since the mid-1980s, Fugl-Meyer and Fugl-Meyer (2006) found no studies that separated genital from “psychologic” arousal or that explicitly combined genital and subjective arousal.

As Table 4 shows, the estimated prevalence rates for lubrication difficulties have varied widely. Although only assessed in a small number of studies, the duration of sexual problems and/or the recall period clearly affects prevalence rates (e.g., Mercer et al., 2003; Oberg et al., 2004). Mercer et al. compared prevalence rates for sexual problems reported as lasting at least one month in the past year (referred to here as “short-term”) with those lasting at least six months (“persistent problems”) in the last year. Although 9.2% of women reported short-term difficulties with lubrication, only 3.7% had persistent problems. Although Mercer et al. did not assess subjective feelings of arousal, the difference in prevalence estimates between short-term and persistent problems related to “lack of interest in sex” were striking

(40.6% vs. 10.2%, respectively). Hayes, Dennerstein, Bennett, and Fairley (2008) found that changing recall from “previous month” to “one month or more” increased prevalence rates for all female sexual dysfunctions.

Almost all of the studies in Table 4 reported significant positive relationships between age and lubrication difficulties (e.g., Laumann, Paik, & Rosen, 1999; Najman, Dunne, Boyle, Cook, & Purdie, 2003; Richters, Grulich, de Visser, Smith, & Rissel, 2003). However, few epidemiological studies have recruited older, postmenopausal women. One recent exception was the Global Survey of Sexual Attitudes and Behaviors (Laumann et al., 2005), which used computer-assisted telephone interviewing and postal questionnaires in a sample of 9,000 women aged 40-80 years from 29 countries. All of the women had had intercourse at least once in the previous year. The overall prevalence of lubrication difficulties (occasionally, periodically, frequently) varied from 16.1% (Southern Europe) to 37.9% (East Asia); the range for “frequent” problems was 4.7%-12.1%. Age showed a curvilinear relationship with the likelihood of lubrication difficulties in most, but not all, countries. Specifically, women aged 50-59 years were twice as likely as those aged 40-49 years to report lubrication problems; however, women in the oldest age group studied (70-80 years) were no more likely to have this complaint than the youngest age group (40-49 years). Although this study had several methodological problems (e.g., low response rate, differences in recruitment and method of assessment across sites), the findings underlined the importance of cultural factors in the experience of sexual problems.

### **Comorbidity between FSAD and Other Sexual Dysfunctions**

In the DSM-IV text, under “Associated Features and Disorders,” the issue of comorbidity was noted: “Limited evidence suggests that Female Sexual Arousal Disorder is often accompanied by Sexual Desire Disorders and Female Orgasmic Disorder” (p. 501).

There is now robust evidence indicating a high degree of comorbidity between FSAD and other sexual disorders, particularly Hypoactive Sexual Desire Disorder (HSDD) (Basson et al., 2003; Fugl-Meyer & Fugl-Meyer, 2002; Laumann et al., 1999; Rosen, Taylor, Leiblum, & Bachmann, 1993; Segraves & Segraves, 1991a). In one study of patients with HSDD, 41% of the women had at least one other sexual dysfunction and 18% had diagnoses in all three categories i.e. desire, arousal, and orgasm (Segraves & Segraves, 1991a). A consistent observation in the literature has been that cases of FSAD seldom present on their own or even as the “primary problem” (Bancroft, Graham, & McCord, 2001; Basson, McInnes, Smith, Hodgson, & Koppiker, 2002; Heiman, 2002; Heiman & Meston, 1997; Meston & Bradford, 2007; Rosen & Leiblum, 1995). In clinical settings, it has been pointed out that sexual problems in women most often affect all phases of the “sexual response cycle” (Basson & Weijmar Schultz, 2007). Heiman (2002) noted that there were no controlled treatment studies specifically related to FSAD.

As discussed earlier, questions about whether FSAD should be considered as a disorder distinct from desire and orgasm were raised in the literature before DSM-IV was introduced (Segraves, 1996a). In a clinical series of 532 women with sexual complaints, 40 (7.5%) met DSM-III-R criteria for having an arousal disorder; however, the majority of these women also met criteria for desire or orgasm disorders. Indeed only eight women (1.5%) had a single diagnosis of arousal disorder (Segraves & Segraves, 1991b). It was concluded that “The infrequency with which female arousal disorder is a solitary diagnosis raises the question of whether this should be retained as a diagnostic entity” (p. 9). As discussed above, the main reason that FSAD was retained in DSM-IV was a desire to maintain consistency between male and female diagnostic categories, and between the DSM and ICD-10 classification systems.

### **The Relationship between Sexual Arousal and Sexual Desire**

As stated earlier, sexual desire, as an expression of incentive motivation, can be seen as the first component of sexual arousal and may be experienced together with varying degrees of the other components (e.g., general arousal, genital response) (Bancroft, 2005). Hence, it is not surprising that in addition to significant comorbidity between desire and arousal disorders, there is also increasing support for the idea that arousal and desire are not distinct phases of sexual response and are not experienced as such by women themselves. Evidence comes from a number of sources.

Qualitative research supports the idea that women often do not differentiate between sexual “desire” or “interest” and “arousal” (Beck, Bozman, & Qualtrough, 1991; Brotto, Heiman, & Tolman, 2009; Ellison, 2000; Graham, Sanders, Milhausen, & McBride, 2004). Further, contrary to the assumptions underlying the HSRC model (Tiefer, 1991), there does not appear to be any universal temporal sequence (e.g., from desire to arousal). Women sometimes report sexual interest preceding sexual arousal, and at other times following it (Graham et al., 2004). Other studies have reported significant correlations between sexual desire and arousal (Beck et al., 1991; Sanders, Graham, & Milhausen, 2008), and it has been suggested that sexual desire and arousal may be “two facets of the same process within the sexual response” (Beck et al., 1991, p. 454). This suggestion is consistent with the incentive motivation model. Laan and Both (2008) summarized evidence that the experience of sexual “desire” may follow from rather than precede sexual arousal and concluded that “...there is no good reason to assume that feelings of desire and arousal are two fundamentally different things” (p. 510). Laan and Both suggested that arousal and desire might be distinguished on a phenomenological level in that feelings of arousal might reflect the subjective experience of genital changes, and feelings of desire the “subjective experience of an action tendency, of a willingness to behave sexually” (p. 510).



In contrast with men, studies involving clinical samples of women have also demonstrated a significant overlap between the dimensions of desire and arousal. For example, in their evaluation of the FSFI, Rosen et al. (2000) compared a group of women diagnosed with FSAD with a group of women without sexual complaints. In a principal components analysis of the questionnaire items, the first component included measures of both sexual desire and arousal (particularly in the FSAD group). It was observed that this finding “demonstrates a considerable overlap between the dimensions of desire and arousal in women, consistent with clinical observation and contrasting with findings in studies of sexual dysfunction in men” (p. 202). However, although acknowledging the overlap between desire and arousal, Rosen et al. stated “...a clinically based decision was made to separate the mixed factor of desire/arousal into two measurable dimensions” (p. 202).

In a study that sought to build a model of mid-aged women’s sexual arousal, Dennerstein, Lehert, and Burger (2005) found that items on women’s sexual responsiveness or arousal were not separable from items relating to sexual desire. Measures of sexual functioning developed for use with men (e.g., the Brief Index of Sexual Functioning (BISF)) (Taylor, Rosen, & Leiblum, 1994) have been found to have very different factor structures when they are modified for use with women. Heiman (2001) noted that the female desire factor was “strikingly different” on the female BISF questionnaire from the desire factors on the male questionnaire. Heiman concluded that “the results from these measures ...strongly suggest that women’s sexuality may be organized differently from that of men” (p. 120).

In sum, although there is now good evidence that desire and arousal in women are not easy to differentiate, they continue to be defined, and studied, as independent constructs (Graham et al., 2004). The primary reason for this appears to be the need to maintain the continuity of the current DSM-IV classification of separate desire and arousal disorders

(Basson et al., 2000; Rosen et al., 2000), as well as the strong historical influence of Masters and Johnson (1966), Kaplan (1974), and their associated models.

### **Association between Lubrication Problems and Distress**

A number of recent studies have assessed personal distress (Criterion B) associated with sexual arousal difficulties (e.g., Bancroft et al., 2003; Hayes et al., 2008; King, Holt, & Nazareth, 2007; Oberg et al., 2004; Shifren et al., 2008; Witting et al., 2008). A consistent finding across these studies has been that sexual problems, even if moderate/severe, do not always cause distress. Although lubrication problems appear to be more frequently associated with distress than other sexual problems (Oberg et al., 2004; Witting et al., 2008), in one study, 11% of women classified as having “manifest” lubrication problems (defined as experience of difficulties “quite often,” “nearly all the time,” or “all of the time”) did not report any distress about their symptoms (Oberg et al., 2004). In a study involving 31,581 U.S. women recruited through a national research panel (Shifren et al., 2008), distress was assessed with the Female Sexual Distress Scale (Derogatis, Rosen, Leiblum, Burnett, & Heiman, 2002). Women were classified as having “low arousal” if they responded “never” or “rarely” to three questions: “How often do you become sexually aroused?”, “Are you easily aroused?”, and “Do you have adequate lubrication?” While the age-adjusted prevalence of current “low arousal” was 25.3%, the prevalence of arousal problems with associated distress was considerably lower (3.3%-6.0%, depending on age). Physical health problems and current depression were associated with increased odds of arousal problems, as was menopausal status.

Bancroft et al. (2003) assessed the prevalence of women’s distress about their sexual relationship, as well as distress about “their own sexuality” in the previous month. Among the women who complained of lubrication difficulties (31.2% of their sample), 7.3% reported “marked distress” about their relationship and 6.5% about their own sexuality. In the overall

sample, the best predictors of distress were indicators of emotional and relationship well-being and the quality of the emotional relationship with the partner. “Impaired arousal” (a composite variable including genital symptoms but also subjective response) was a relatively weak predictor of distress about the sexual relationship. It is noteworthy that lubrication and other physical aspects of arousal, such as orgasm, were not significant predictors of distress, leading Bancroft et al. to conclude, “In general, the predictors of distress about sex did not fit well with the DSM-IV criteria for the diagnosis of sexual dysfunction in women” (p. 193).

King et al. (2007) compared ICD-10 clinical diagnoses of sexual dysfunction with women’s own perceptions of whether or not they had a sexual problem and found a significant discordance between the two. Overall, although 38% of women were deemed to have an ICD-10 diagnosis of a sexual dysfunction, only 18% of women received a diagnosis and also perceived that they had a problem (and only 6% considered their problem “moderate” to “severe”). Four percent of women reported lubrication symptoms, but only 2% perceived these as a problem, and even less (0.5%) regarded the problem as “somewhat” or “very” distressing. The lower prevalence of lubrication problems in this study may have been due to the relatively young age of the sample ( $M = 37.8$  years).

Studies that have investigated the relationship between the experience of sexual problems and “satisfaction” with sexual relations have similarly found that women with sexual difficulties do not necessarily report dissatisfaction. In the study discussed earlier by Frank et al. (1978), while close to half (48%) of the married women in their sample reported “difficulty getting excited,” 86% nonetheless described their sexual relationship as “moderately satisfying” or “very satisfying.” Interestingly, however, “difficulty getting excited” was the sexual problem most strongly correlated with sexual dissatisfaction ( $r = 0.41$ ); in comparison, difficulty in reaching orgasm ( $r = 0.22$ ) and inability to have an orgasm (0.18) were less correlated with sexual dissatisfaction. In a recent community-based study of

U.S. women aged 30-79 years, a 38.4% prevalence rate of “sexual problems” was obtained, but only 13.7% of the participants reported both sexual problems *and* dissatisfaction with their sex lives (Lutfey, Link, Rosen, Wiegel, & McKinlay, 2009).

### **Factors underlying FSAD**

Many possible causes of FSAD have been proposed, from physiologic factors (e.g., hormonal, medication, vascular disease) to psychological factors (e.g., anxiety, depression, distraction) (for reviews, see Meston & Bradford, 2007; Nappi, Ferdeghini, & Polatti, 2006; West, Vinikoor, & Zolhoun, 2004). Prior to the introduction of sildenafil to treat male erectile problems, there was little investigation of possible physiological factors underlying sexual arousal problems in women. In the last decade, there has been a focus on possible physiological causes of FSAD (e.g., Berman & Bassuk, 2002; Nappi et al., 2006); despite this, any underlying pathophysiology of sexual arousal problems, if it exists, is not well understood (Bancroft, 2009).

Relationship difficulties and partner variables have consistently predicted reports of sexual problems (Dennerstein et al., 2005; Witting et al., 2008) as well as associated distress (Bancroft et al., 2003; Rosen et al., 2009).

Although reduced vaginal lubrication is often attributed to low estrogen levels in postmenopausal women, there is some evidence that vaginal atrophy but not vaginal dryness is associated with decreased estrogen (Laan & van Lunsen, 1997). Based on findings from a longitudinal dataset involving 438 Australian women who were followed through their menopausal transition, Dennerstein et al. (2005) concluded that prior sexual functioning and relationship variables were more predictive of women’s sexual functioning than hormonal factors. Findings from psychophysiological studies of sexual arousal also suggest that arousal problems in healthy premenopausal women are more often associated with inadequate sexual stimulation than with physical causes (van Lunsen & Laan, 2004).

Regarding psychological factors, there has been less research on variables specifically associated with FSAD. Negative cognitions and attitudes about sexuality may make women more vulnerable to experiencing arousal difficulties (Middleton, Kuffel, & Heiman, 2008; Nobre & Pinto-Gouveia, 2006, 2008). Cognitive distraction from erotic cues, sometimes induced by self-consciousness about body image (Dove & Wiederman, 2000), can also reduce sexual arousal. There is evidence that a history of sexual abuse is more common among women with arousal difficulties (Laumann et al., 1999).

### **PREVIOUS CRITIQUES OF DSM CRITERIA AND ALTERNATIVE CLASSIFICATION SYSTEMS**

The DSM-IV classification system for female sexual dysfunction has received considerable criticism (Bancroft et al., 2001; Boyle, 1994; Tiefer, 1996, 2001). Some authors have suggested revised definitions and diagnostic criteria, while preserving the underlying structure of the DSM system, i.e., desire, arousal, orgasm, and pain disorders (Basson et al., 2000, 2003). Others have called for alternative classification systems (Hartmann et al., 2002; Tiefer, 2001).

The Report of the International Consensus Development Conference on Female Sexual Dysfunction (Basson et al., 2000) was written following a conference funded by the American Foundation for Urologic Disease in which 19 experts reviewed the DSM-IV criteria. Regarding FSAD, the definition was expanded to include nongenital and subjective dimensions of arousal. Sexual arousal disorder was defined as “the persistent or recurrent inability to attain or maintain sufficient mental excitement, causing personal distress, which may be expressed as a lack of subjective excitement, or genital (lubrication/swelling) or other somatic responses” (p. 890). The rationale behind the recommendation to change the DSM requirement from “marked distress and interpersonal difficulty” to “personal distress” was not clear.

In 2002 and 2003, an international multidisciplinary group was convened to further review the definitions of women's sexual dysfunctions and recommendations were made for expansion and revision of diagnostic categories (Basson et al., 2003, 2004). Regarding FSAD, criticism was directed at the DSM-IV focus on women's genital response and the omission of both subjective and non-genital physiological changes from the diagnostic criteria. The committee proposed the following three subtypes of FSAD: (1) *Subjective sexual arousal disorder*; (2) *Genital sexual arousal disorder*; and (3) *Combined genital and subjective arousal disorder*. The third subtype was viewed as being the "most common clinical presentation" and was "usually comorbid with lack of sexual interest" (p. 226). An important addition to the definition of genital arousal disorder was that it included "marked loss of intensity of any genital response including orgasm" (i.e., the focus was not just on lubrication). Other recommendations were to clarify the degree of distress (as none, mild, moderate, or marked) and to include the following "contextual descriptors" of the diagnosis: (1) past factors (e.g., negative upbringing, past trauma); (2) interpersonal difficulties (e.g., partner sexual dysfunction); and (3) medical and psychiatric conditions, medications, or substance abuse.

The above recommendations for revision of diagnostic criteria preserve the main DSM-IV categories of desire, arousal, and orgasm disorders. In contrast, the New View of Women's Sexual Problems (The Working Group for a New View of Women's Sexual Problems, 2001), written by a group of clinicians and social scientists, offered a new classification system and a "woman-centered" definition of sexual problems as: "discontent or dissatisfaction with any emotional, physical, or relational aspect of sexual experience" (p. 5). Criticisms of DSM-IV were that it ignored gender differences in sexuality, relational aspects of women's sexuality, and individual differences in sexual experience among women. The New View classification system is not based on symptom criteria but organized around

four possible categories of causes: sociocultural, political, or economic factors; partner and relationship factors; psychological factors; and medical factors. A study of 49 British women (Nicholls, 2008) evaluated the utility of this system. Women's descriptive accounts of their sexual problems were analysed qualitatively and issues identified in their narratives compared with the New View categories. The findings suggested a "good fit"; the majority of issues raised by women could be classified using the New View scheme. The majority (65%) of women's sexual difficulties were classified as partner- or relationship-related problems. Although this was a small study, it is the only study to date that has evaluated the classification system, and the findings do provide some support for the clinical utility of the New View scheme.

Hartmann et al. (2002) also argued that a new classification system for women's sexual dysfunction was needed and that "...by simply expanding and continuing DSM-IV criteria and the traditional response cycle classification systems, it is impossible to come to diagnostic categories and subtypes that adequately reflect real-life female sexual problems" (p. 85). Hartmann et al.'s major criticism of the DSM classification system, and also of the revised Basson et al. (2000) definitions, was that female sexual problems do not relate to a single phase of a hypothetical response cycle, but instead reflect "a more or less global lack of sexual interest, arousability, and arousal" (p. 85). Hartmann et al. also recommended that a new classification system take etiological and comorbidity factors into account. In two empirical studies of women with low sexual desire, they found significant comorbidity and high rates of psychological distress in their samples. Although Hartmann et al. made some suggestions for classifying hypoactive sexual desire disorders, including arousal complaints as a specifier for some desire disorders, they did not propose a new classification system, emphasizing instead the need for a better understanding of the mechanisms underlying sexual

disorders and, in particular, more qualitative research of women's experiences of sexual problems.

### **CRITIQUE OF SPECIFIC DSM CRITERIA FOR FSAD**

Specific aspects of the DSM-IV-TR criteria for FSAD will now be considered and recommendations made for revision.

#### **Criterion A**

The essential feature of the diagnosis of FSAD is that there is insufficient vaginal lubrication/swelling ("Persistent or recurrent inability to attain or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement").

The requirement that symptoms be "persistent and recurrent" has been criticized as overly vague and likely to lead to undue reliance on clinician judgment, with negative consequences for both clinical and epidemiological research (Segraves, Balon, & Clayton, 2007). As reviewed above, prevalence studies on FSAD have reported rates for short-term problems that are significantly higher compared to persistent problems (Mercer et al., 2003). Although we have little empirical data comparing reports of sexual problems across different time periods, some authors have recommended more specific duration and severity criteria (Balon, 2008; Balon, Segraves, & Clayton, 2007; Segraves et al., 2007). Specific recommendations for all of the sexual dysfunctions have been that symptoms should be present for six months or more and occur in 75% or more of sexual encounters.

The basis for choosing lubrication/swelling as the sole criterion, and the omission of subjective excitement/pleasure from the DSM-IV criteria set, was likely related to the erroneous assumption that vaginal lubrication was the female equivalent of male penile erection. As discussed above, there is evidence that increases in vaginal blood flow in women



may be a relatively “automatic response” (Laan & Everaerd, 1995) and one that women may or may not be aware of (Bancroft, 2009).

Although many authors attribute this emphasis on genital response to Masters and Johnson (1966), their research demonstrated that many “extragenital” physiological changes occurred during sexual arousal (e.g., myotonia, nipple erection). In their book on female sexual behavior, Kinsey, Pomeroy, Martin, and Gebhard (1953) also commented that “sexual responses obviously involve a great deal more than genital structures” and that “every part of the mammalian body may be involved whenever there is sexual response, and many parts of the body may respond as notably as the genitalia during sexual contact” (p. 623). Recent qualitative studies have likewise found that women report a wide range of physical (genital and nongenital), cognitive/emotional, and behavioral changes with sexual arousal, with genital changes only one dimension, and not necessarily the most salient one (Brotto et al., 2009; Graham et al., 2004). In a focus-group study of women aged 18-84 years (Graham et al., 2004), participants described occasions where they experienced vaginal lubrication but were not sexually aroused and other situations where they felt sexually aroused but were not lubricated. Given that sexual arousal clearly involves many physiological and psychological changes, defining problems with sexual arousal only with reference to impaired genital response appears problematic.

Another major problem with the lubrication/swelling criterion is that there is little evidence that women with arousal disorder have impaired genital response. In an early study, Morokoff and Heiman (1980) found no significant differences in VPA between women diagnosed with sexual arousal disorder and a control group of women. In a study of premenopausal women with sexual arousal problems, following suggested definitions of Basson et al. (2003), women were classified into three subtypes: genital, subjective, and combined (subjective and genital) sexual arousal disorder (Brotto, Basson, & Gorzalka,

2004). Only those women in the “genital” subgroup, characterized by self-reports of impaired genital sensitivity, showed evidence of impaired genital response. The VPA response of women with subjective or combined symptoms (believed to constitute the majority of those who seek treatment) did not differ from those of a control group of women. Recently, Laan, van Driel, and van Lunsen (2008) evaluated whether women diagnosed with FSAD using DSM-IV criteria showed less genital response to visual sexual stimuli than a control group of women without sexual problems. They found no significant differences between the groups in VPA; however, women with FSAD reported less positive and slightly more negative affect in response to the erotic films. Laan et al. concluded: “The sexual problems these women report are clearly not related to their potential to become genitally aroused...In medically healthy women, impaired genital responsiveness is not a valid diagnostic criterion” (p. 1424). There is some evidence that VPA may be impaired in women who have chronic physical illness or following pelvic surgery. For example, studies have reported that women with diabetes (Wincze, Albert, & Bansal, 1993) and women who had undergone radical hysterectomy for cervical cancer (but not those having had simple hysterectomies) (Maas et al., 2004) had lower VPA in response to erotic films than control groups of women.

In support of the argument that women’s awareness of genital response should not be the central feature of the diagnosis of FSAD is the fact that phosphodiesterase type 5 inhibitor drugs (PDE-5i), such as sildenafil (Viagra®), met with little success in controlled treatment trials involving women with FSAD (Basson et al., 2002; Laan, van Lunsen, & Everaerd, 2001). Although these drugs increased genital vasocongestion, this was not associated with any perceived increase in subjective arousal by women (Basson et al., 2002).

There is some evidence that the use of personal lubricants has increased in recent years, both for enhancement of sexual pleasure but also to treat problems with vaginal dryness (Herbenick, Reece, Hollub, Satinsky, & Dodge, 2008; Herbenick et al., in press). The

issue of lubrication difficulties may, therefore, be less relevant today, given the wide availability of these products, at least in Western societies. It should also be noted that lubrication as a positive sign of sexual arousal is culture-specific, as some societies, both in Africa and in the Caribbean, value “dry sex,” i.e., the use of plants to dry and contract the vagina, for the purpose of increasing sensation for the man during intercourse (van Andel, de Korte, Koopmans, Behari-Ramdas, & Ruyschaert, 2008).

In summary, there is strong evidence that the criterion of vaginal lubrication alone is insufficient to diagnose sexual arousal problems in women. The recommendations made below reflect the belief that a woman’s subjective awareness of arousal should be a central component of the symptom criteria and that additional genital and non-genital aspects of physiological response, i.e., not simply lubrication/swelling, also be included. It seems crucial that diagnostic criteria adopted reflect the considerable heterogeneity of women’s experiences of sexual arousal and individual differences across women.

### **Criterion B**

Criterion B requires that “the disturbance causes marked distress or interpersonal difficulty.” There has been considerable discussion in the literature regarding the distress criterion (Althof, 2001; Bancroft et al., 2003; Hayes, 2008; Mitchell & Graham, 2008). Some have argued that personal or interpersonal distress should not be included in the symptom criteria for the diagnosis of sexual dysfunction (Althof, 2001; Segraves et al., 2007). The issue of distress is acknowledged to be a difficult one (Mitchell & Graham, 2008); on the one hand, logically it seems that lack of distress should not preclude a diagnosis from being made (and, as discussed above, we know that some women meet diagnostic criteria for a sexual disorder but report no distress about it [King et al., 2007]). On the other hand, without assessing distress, prevalence rates for sexual problems are markedly higher. Some epidemiological studies, which have not assessed distress, have been criticized for producing

estimates of “sexual dysfunction” that are widely agreed to be inflated. The best example of this was the publication in the *Journal of the American Medical Association* of a study on the epidemiology of “sexual dysfunction” (Laumann et al., 1999). In this widely cited paper, 43% of women and 31% of men were identified as having a “sexual dysfunction,” described as “a largely uninvestigated yet significant public health problem” (p. 544). A 43% prevalence rate of any dysfunction seriously calls into question whether this is indeed pathology or the norm. Distress was not assessed in this study and duration was operationalized as “several months or more” during the past year. As discussed earlier, studies have consistently reported lower prevalence rates for sexual dysfunction when distress is required (Hayes et al., 2008; Oberg et al., 2004; Witting et al., 2008) and the recall period used also affects prevalence estimates (Hayes et al., 2008).

In practice, an individual and/or their partner who is not distressed by a sexual concern is unlikely to seek treatment (Bancroft et al., 2001). Also, Segraves et al. (2007) pointed out that the inclusion of the distress criterion in DSM-IV could be considered an unnecessary addition, given that the introductory text makes explicit that a behavioral pattern can be considered a psychiatric disorder only if it engenders distress or disability. However, assessing distress in a clinical situation, including the distinction between so-called “personal” distress and “interpersonal” distress, is clearly important and can inform treatment decisions.

A distinction might usefully be made between ascertaining a sexual problem is present (based on self-report and behavior) and diagnosing a “sexual dysfunction” on the basis of distress and/or impairment in addition to the relevant symptoms. The recommendation made here is that the requirement that distress or interpersonal difficulty be present be retained as Criterion B; rather than a categorical assessment of whether distress is present or absent, the degree of distress that women (and their partners) are experiencing in

relation to a sexual problem would be assessed on a dimensional scale (Regier, 2008; Widiger & Samuel, 2005).

### **Criterion C**

Criterion C requires that “the sexual dysfunction is not better accounted for by another Axis I disorder (except another Sexual Dysfunction) and is not due exclusively to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.” This criterion seems both unrealistic (in that it is questionable whether it can ever be established that a sexual problem is due *exclusively* to one or another cause) and inconsistent with more recent approaches to therapy, which emphasize the need for an integrated approach (Graham & Bancroft, 2009). One example of this related to male ED is that the earlier focus on physical causes and treatment using PDE-5i has shifted to a greater recognition of the importance of partner variables and relationships in clinical management of cases (Fisher, Rosen, Eardley, Sand, & Goldstein, 2005; Heiman et al., 2007).

In view of the above, I suggest that Criterion C either be revised to acknowledge the fact that, in the majority of cases, the causes of arousal disorders are (1) multifactorial or (2) cannot be specified, or be deleted altogether.

### **DSM-IV-TR Diagnostic Subtypes**

As mentioned earlier, DSM-IV provides subtypes to “indicate the onset, context, and etiological factors associated with the Sexual Dysfunctions” (p. 494).

The first two of these subtypes, “lifelong” vs. “acquired” and “generalized” vs. “situational,” seem potentially useful for clinical purposes, although it is worth noting that, in epidemiological research, these distinctions have very rarely been made. The recommendation made here would be to retain these distinctions, although rather than include these as “subtypes” they could instead be incorporated as specifiers (discussed further below).

The final subtypes, “Due to Psychological Factors” and “Due to Combined Factors,” seem to be less relevant for either clinical or research purposes. As discussed above in relation to Criterion C, in practice it is often impossible to ascertain the causes of sexual arousal problems and, in most cases, both psychological and physical factors are implicated (Basson & Weijmar Schultz, 2007).

### **PROPOSED REVISION TO DSM-IV CATEGORY OF FSAD**

This review has highlighted the longstanding dissatisfaction that both researchers and clinicians have expressed about the DSM-IV diagnostic criteria for female sexual dysfunction. Over a decade ago, Rosen and Leiblum (1995) commented that “...the diagnostic nosology continues to be based on Kaplan’s model...despite a relative paucity of empirical support for this model” (p. 879). There have been several revised definitions and modifications to diagnostic criteria put forward over the last decade but, with one notable exception (The Working Group for a New View of Women’s Sexual Problems, 2001), all of these have retained the basic DSM categories of desire, arousal, and orgasm disorders. Despite the recognition that using the HSRC as the framework for classifying women’s sexual disorders is unsatisfactory, there has been a reluctance to relinquish the diagnostic categories of desire, arousal, and orgasm disorders and “return to the drawing board” (Mitchell & Graham, 2008). In an article on dilemmas in the pathway of the DSM-IV, Carson (1991) discussed the dangers of “...tinkering on a superficial level with operational criteria that tend over time to approach the status of revealed truths, notwithstanding their often patently arbitrary nature and the unproductiveness of their outcomes” (p. 304). This concern seems pertinent in the context of classification of women’s sexual problems; indeed, it appears that the categories of “desire” and “arousal” disorders have been reified to some extent.

In recognition of the empirical research suggesting a lack of differentiation between sexual desire and arousal in women and the high degree of comorbidity between FSAD and HSDD, the proposal here is to merge these two diagnostic categories. The suggested name for the disorder is Sexual Interest/Arousal Disorder.

It is recommended that a polythetic approach to the diagnosis of this disorder be used, consistent with many other categories of dysfunction in the DSM. The advantage of this approach is that it recognizes the heterogeneity inherent in women's sexual experiences, and does not prioritize any one "type" of arousal (e.g., genital, subjective, etc.). A preliminary list of proposed criteria is presented in Table 5. The precise number of symptoms required in order to meet criteria for "Sexual Arousal/Interest Disorder" needs further consideration, and field trials should be conducted to evaluate what number and level of symptoms should be required for a diagnosis.

Although there has been little empirical data to inform the choice of specific, severity, and frequency criteria, in view of the evidence that mild and transient sexual problems are very common, and to avoid pathologizing normal variation in sexual experiences (Segraves et al., 2007), it seems important to specify some level of symptoms that are required for a diagnosis. Field trials should be set up to evaluate the validity of using different severity/duration criteria.

### **Specifiers**

A major recommendation in the present review is an expanded use of the category of specifiers. Specifiers are typically used to "describe the course of the disorder or to highlight prominent symptoms" or to "indicate associated behavioral patterns of clinical interest" (Beach, Wamboldt, Kaslow, Heyman, & Reiss, 2006, p. 364). Basson et al. (2003) advocated the use of "contextual descriptors"; based on previous research, they suggested the following three categories of descriptors: (1) negative upbringing/losses/trauma, past interpersonal

relationships, cultural/religious restrictions; (2) current interpersonal difficulties, partner sexual dysfunction, inadequate stimulation and unsatisfactory sexual and emotional contexts; (3) medical conditions, psychiatric conditions, medications, or substance abuse. These descriptors are similar to the “three windows approach” put forward by Bancroft (2009). Bancroft suggested that, in a clinical assessment, the following three “windows” be used to consider factors that might alter or impair an individual’s capacity for sexual response: (1) the *current situation* (including factors such as expectations about sex, negative mood, concerns about pregnancy or sexually transmitted infection); (2) *vulnerability to sexual problems* (including negative cognitions, earlier trauma or abuse, propensity for sexual inhibition); (3) *factors that alter sexual function* (including the impact of aging, physical illness, medications).

The recommendation is that, in addition to the subtypes Lifelong or Acquired, Generalized or Situational, the proposed specifiers for Sexual Interest/Arousal Disorder (see Table 5) are: partner factors (e.g., partner’s sexual problems, partner’s health status); relationship factors (e.g., poor communication, relationship discord, discrepancies in desire for sexual activity); individual vulnerability factors (e.g., depression or anxiety, poor body image, history of abuse experiences); and cultural/religious factors (e.g., inhibitions related to prohibitions about sexual activity). These specifiers are proposed based on previous research that suggest these variables are ones that may be relevant to etiology and/or to choice of treatment.



**ACKNOWLEDGMENTS**

The author is a member of the DSM-V Workgroup on Sexual and Gender Identity Disorders. I wish to acknowledge the valuable input I received from members of my Workgroup (Yitzchak Binik, Lori A. Brotto, R. Taylor Segraves) and Kenneth J. Zucker. Feedback from DSM-V Advisors Richard Balon, John Bancroft, Rosemary Basson, Marta Meana, and Leonore Tiefer is greatly appreciated.

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Table 1.

*DSM-III Diagnostic Criteria for Inhibited Sexual Excitement (302.72)*

A. Recurrent and persistent inhibition of sexual excitement during sexual activity, manifested by:

*In Males*, partial or complete failure to attain or maintain erection until completion of the sexual act, or

*In Females*, partial or complete failure to attain or maintain the lubrication-swelling response of sexual excitement until completion of the sexual act.

B. A clinical judgment that the individual engages in sexual activity that is adequate in focus, intensity, and duration.

C. The disturbance is not caused exclusively by organic factors (e.g., physical disorder or medication) and is not due to another Axis 1 disorder.

Table 2.

*DSM-III-R Diagnostic Criteria for Female Sexual Arousal Disorder (302.72)*

## A. Either (1) or (2):

- (1) persistent or recurrent partial or complete failure to attain or maintain the lubrication-swelling response of sexual excitement until completion of the sexual activity
- (2) persistent or recurrent lack of a subjective sense of sexual excitement and pleasure in a female during sexual activity

## B. Occurrence not exclusively during the course of another Axis I disorder (other than a Sexual Dysfunction), such as Major Depression.



Table 3.

*DSM-IV Diagnostic Criteria for Female Sexual Arousal Disorder (302.72)*

- A. Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement.
- B. The disturbance causes marked distress or interpersonal difficulty.
- C. The sexual dysfunction is not better accounted for by another Axis I disorder (except another Sexual Dysfunction) and is not due exclusively to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

*Specify type:*

Lifelong Type

Acquired Type

*Specify type:*

Generalized Type

Situational Type

*Specify:*

Due to Psychological Factors

Due to Combined Factors

Table 4.  
*Prevalence of Arousal Problems in Selected Epidemiological Studies.*

Study	N of women	Country	Age	Method of assessment	Time period	Prevalence
Bancroft et al., 2003	987; all in heterosexual relationships	United States	20-65	Computer-assisted telephone interviewing	Previous month	“Lubrication problems”: 31.2% “Impaired arousal”: 12.2%
Dunn et al., 1998	979	UK	18-75	Postal questionnaire	Last 3 mos.	Vaginal dryness: 28% Arousal problems: 17.0%
Laumann et al., 1999	1,749; all sexually active over last 12 mos.	United States	18-59	Face-to-face interview	Several mos. or more during past 12 mos.	“Trouble lubricating”: 20.6%
Mercer et al., 2003	4,826; all had at least 1 heterosexual partner in last 12 mos.	UK	16-44	Computer-assisted self-interview	Past 12 mos.	Trouble lubricating: Lasted at least 1 mo.: 9.2% Lasted at least 6 mos.: 2.6%
Najman et al., 2003	908	Australia	18-59	Telephone interview	Several mos. or more during past 12 mos.	21-30% (depending on age)

Oberg et al., 2004	1,056, all sexually active during last 12 mos.	Sweden	18-65	Structured face-to-face interview + questionnaires	Past 12 mos.  Past 12 mos.	Insufficient lubrication: Manifest* : 12%; Mild: 50%
Richters et al., 2003	9,134	Australia	16-59	Computer-assisted telephone interview	At least 1 month in the past 12 mos.	Trouble with vaginal dryness: 23.9%
Witting et al., 2008	5,463 women	Finland	18-49	Questionnaires (FSFI + FSDS)	Past month	Lubrication difficulties (met FSFI cut- off of 4.31): 10.9% Met FSFI cut-off <i>and</i> reported distress: 7.0%

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\*Note: manifest = “quite often”, “nearly all the time”, and “all the time”; mild = “hardly ever” and “quite rarely”. \*\* FSFI = Female

Sexual Function Index (Rosen et al., 2000); FSDS = Female Sexual Distress Scale (Derogatis et al., 2002).

Table 5.

*Proposed criteria for Sexual Interest/Arousal Disorder*

A. Lack of sexual interest/arousal, of at least 6 months duration, as manifested by at least three of the following indicators:

1. Absent/reduced interest in sexual activity
2. Absent/reduced sexual/erotic thoughts or fantasies
3. No initiation of sexual activity and is not receptive to a partner's attempts to initiate
4. Absent/reduced sexual excitement/pleasure during sexual activity (on at least 75% or more of sexual encounters)
5. Absent/reduced genital and/or non-genital physical changes during sexual activity (on at least 75% or more of sexual encounters)

B. The disturbance causes clinically significant distress or impairment

*Specifiers:*

- 1) Lifelong or acquired
- 2) Generalized or situational
- 3) Partner factors (partner's sexual problems, partner's health status)
- 4) Relationship factors (e.g., poor communication, relationship discord, discrepancies in desire for sexual activity)
- 5) Individual vulnerability factors (e.g., depression or anxiety, poor body image, history of abuse experiences)
- 6) Cultural/religious factors (e.g., inhibitions related to prohibitions against sexual activity)
- 7) Medical factors (e.g., illness/medication)