

Prevalence of Women's Sexual Desire Problems: What Criteria Do We Use?

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Abstract Problems of sexual desire are often cited as the most prevalent of the female sexual dysfunctions. Despite this finding, considerable variability exists when comparing prevalence figures across studies, highlighting the inconsistency in how these problems are defined and therefore measured. The current study was designed to determine how the prevalence estimates of women's sexual desire problems varied according to the diagnostic criteria adopted to define such problems. The sample consisted of 741 women from Australia, the Americas, Europe, and Asia. Participants were between 18 and 71 years of age and were involved in a heterosexual relationship spanning between 3 months and 49 years duration. Sexual desire problems were defined using a variety of criteria, including (1) meeting DSM-IV-TR criteria for Hypoactive Sexual Desire Disorder (HSDD), (2) meeting DSM-IV-TR criteria for HSDD, removing the sexual thoughts/fantasy requirement, (3) self-identified "lack of sexual interest," and (4) low average ratings of sexual desire levels, as assessed using the Female Sexual Desire Questionnaire. The prevalence of sexual desire problems varied from 3.0 to 31.0 % depending upon the criteria used to define such problems. It is important to reach a consensus with regard to the criteria used to define sexual desire problems, in order to standardize and compare studies investigating these problems. How women's sexual desire problems are conceptualized has implications for their treatment. Therapists may or may not need to address absent sexual thoughts/fantasies and may be working with low normative levels of desire versus subjective evaluations of low desire.

Keywords Hypoactive Sexual Desire Disorder · Sexual dysfunction · Women · DSM-5

Introduction

The prevalence of women's sexual desire problems varies widely across different studies (Basson, 2007). Reported prevalence rates within clinical populations range from 8 % to as high as 64 % (Avis et al., 2005; Deeks & McCabe, 2001; Fugl-Meyer & Fugl-Myer, 1999; Hayes, Dennerstein, Bennett, & Fairley, 2008; Laumann, Paik, & Rosen, 1999; Richters, Grulich, de Visser, Smith, & Rissel, 2003). These discrepancies may, in part, be attributed to the methodological inconsistencies between studies of female sexual dysfunction (FSD), but may also relate to the disparities that exist in how we define sexual desire problems. These differences in definitions may also be due to cultural differences in how sexual desire and low sexual desire problems are defined. Some of the challenges in defining women's sexual desire were recently outlined in a review by Meana (2010).

One of the most widely cited studies that provided prevalence estimates of sexual problems in a sample of American adults was the 1992 National Health and Social Life Survey. This study, which collected epidemiological data from 1,749 women (Laumann et al., 1999), reported that sexual problems were more prevalent in women (43 %) than in men (31 %). With regard to sexual desire specifically, a lack of or diminished "sexual interest"—this being defined as a lack of interest in sexual activity for a period of several months in the past year—was reported by just under a third of the women surveyed. The incidence of this varied little across age groups, making it the most common sexual problem identified by women aged 18–59 years.

Empirical studies that have investigated women's sexual desire have varied widely in their selection of participants (e.g., different age groups, general/clinical populations), assessment

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methods, period of time that participants are asked to recall information over, and the operational definition of sexual desire used (Hayes et al., 2008). These and other factors make it difficult to compare estimates across studies (for reviews of FSD prevalence studies, see Simons & Carey, 2001; West, Vinikoor, & Zolnoun, 2004). Regardless of these variations, it is consistently reported that sexual desire problems constitute the most common category of sexual disorder among women, in epidemiological studies from the U.S., Europe, and Australia (Dunn, Croft, & Hackett, 1998; Ellison, 2001; Fugl-Meyer & Fugl-Meyer, 1999; Giles & McCabe, 2009; Hayes, Bennett, Fairley, & Dennerstein, 2006; Laumann et al., 1999; Najman, Dunne, Boyle Cook, & Purdie, 2003; Richters et al., 2003; Rosen, 2002; Simons & Carey, 2001).

Hayes et al. (2008) compared FSD prevalence rates across studies that have used different assessment instruments, finding that when studies included a measure of ‘sexual distress’, lower prevalence estimates of sexual desire disorders resulted. The DSM-IV-TR (American Psychiatric Association, 2000) itself specifies that the individual must be experiencing marked distress or interpersonal difficulty (Criterion B) in order for a diagnosis of Hypoactive Sexual Desire Disorder (HSDD) to be made; however, many studies have not considered whether the woman is experiencing distress in relation to sexual difficulties when assessing for FSDs (Hayes et al., 2008). Furthermore, measures specific to sexual distress have only recently been developed. It may, therefore, be that existing prevalence findings do not, in fact, reflect diagnosable clinical disorders, but are rather representative of women’s subjectively perceived sexual difficulties. For example, the prevalence of lack of, or diminished, sexual interest reported by Laumann et al. (1999) was based on a definition of sexual desire problems that did not correspond to current DSM criteria, and did not assess for distress (West et al., 2008). In fact, to include distress as a criterion would be likely to reduce the prevalence of sexual desire problems as we would expect that some women may meet the criteria for low desire but not experience distress as a result of these low levels of desire. Indeed, Bancroft, Loftus, and Long (2003) have suggested that a significant proportion of women’s sexual problems reported in the research literature are not reflective of clinical disorders; rather, these reflect logical or adaptive reactions to circumstances such as adversity in a woman’s relationship. Brotto (2010) provided an elegant review of the difficulties associated with defining the diagnostic criteria for sexual desire disorders among women.

Taken together, these data point to a lack of coherence with regard to women’s sexual desire problems. While this, in part, stems from a lack of consensus regarding the diagnostic criteria that should be used to define such problems, it may also be the result of a more fundamental inconsistency; namely, an agreed definition with regard to the question of what women’s sexual desire (and so disorders of sexual desire) is, precisely.

Until agreement is reached, estimates of so-called sexual desire problems may be conjectural. With this in mind, the aim of the current study was to investigate how the prevalence rate of women’s sexual desire problems varies depending on the diagnostic criteria adopted to define these problems. In contrast to other studies that have examined the different criteria used to define sexual desire problems, this is the first study to apply the different criteria and examine the impact of these applications in a large sample of women. It was hypothesized that prevalence rates would vary significantly according to the use of the commonly used assessment criteria. Prevalence discrepancies have implications not only for epidemiological researchers, but also for the treatment of sexual disorders in clinical practice; thus a secondary aim was to propose a way forward to advance research in this area and allow for comparisons to be made across studies.

Method

Participants

A total of 741 women from the general populations of Australia (56.8%), North/South America (28.3%), Europe (14.7%), and Asia (2.6%) served as participants for this study. All participants were partnered self-identified heterosexual women aged between 18 and 71 years (M age = 30.02 years, SD = 10.77). The types of relationships were: 35% married and 65% cohabiting. Relationship length varied in duration from 3 months to 49 years (M = 6.88, SD = 8.15). Participants with a major medical condition (e.g., diabetes, multiple sclerosis) or another Axis 1 disorder were excluded from the sample. Just under half of the total sample (46.6%) self-identified the presence of a sexual problem; of these women, 24.5% reported only one sexual problem, while 22.1% reported two or more sexual problems. Of the total sample, 21.9% reported that their partner experienced a sexual problem, and 13.9% reported that both they and their partner were experiencing a sexual problem.

Measures

The Female Sexual Desire Questionnaire (FSDQ)

The FSDQ (Goldhammer & McCabe, 2011) was used to collect information from women relevant to the meaning and experience of sexual desire over the previous month, in addition to factors associated with this experience. This questionnaire was comprised of a total of 50 items, with responses provided on a 6-point Likert scale. Examples of items include: “How often did you want to express yourself sexually with your partner?”; “When you were having enjoyable sexual thoughts/fantasies, how often did these lead you to *desire* self-stimulation?”; and “How often did your partner approach you to participate in

sexual activity when you were clearly not in the mood?” The FSDQ characterizes the experience of sexual desire according to six interrelated domains: Dyadic Desire, Solitary Desire, Resistance, Positive Relationship, Sexual Self-Image, and Concern. The intercorrelations between these sub-scales are summarized in Table 1.

The Dyadic Desire domain is composed of 16 items (range, 16–96) and measures various aspects of the woman’s sexual desire experience in relation to her partner. The Solitary Desire factor (four items; range, 4–24) characterizes the extent to which a woman finds self-stimulation enjoyable, and the extent to which she experiences sexual thoughts/fantasies around this. The Resistance domain measures the degree to which a woman lacks responsive sexual desire and is composed of 13 items (range, 13–78). The Positive Relationship domain, composed of 10 items (range, 10–60), reflects the level of a woman’s satisfaction with respect to the (general) partner relationship. The Sexual Self-Image domain measures a woman’s body image confidence and acceptance of herself as a sexual being (four items; range, 4–24). Lastly, the Concern domain, composed of three items (range, 3–18), assesses the level of distress a woman experiences in relation to her sexual desire levels. Each domain has demonstrated high reliability, with Cronbach’s Alpha ranging between .80 and .92 (Goldhammer & McCabe, 2011). Construct validity has also been established through convergence with the Sexual Desire Inventory (Spector, Carey, & Steinberg, 1996).

Estimating Prevalence Using Different Criteria to Define Sexual Desire Problems

We first used the DSM-IV-TR (APA, 2000) criteria for HSDD to differentiate women with sexual desire problems from the rest of the sample. Three items designed to evaluate these criteria were embedded in the FSDQ: (1) “How often did you experience sexual desire?” assessed sexual interest; (2) “How often did you have enjoyable sexual thoughts or fantasies that may or may not

have involved your partner?” evaluated whether the woman experienced sexual thoughts/fantasies; and, (3) “How often did your level of sexual desire cause you to feel distressed?” assessed the presence of sexual distress.

The DSM-IV-TR (APA, 2000) indicates that these criteria have to be persistently or recurrently deficient, or absent, to warrant a diagnosis. Accordingly, using the 6-point FSDQ response scale, indicating a 1 (*not at all*), a 2 (*once a month*), or a 3 (*about 1–2 times a month*) on the first two items, and a 4 (*often*), a 5 (*usually*) or a 6 (*always*) on the third item was deemed to correspond to a persistent or recurrent deficit/absence and therefore fulfill DSM diagnostic requirements. More stringent frequency criteria for defining a persistent or recurrent deficit/absence (referred to hereafter as an “extremely persistent or recurrent deficit”) were specified in order to observe the variation in prevalence rates that may occur when making this minor adjustment in the quantification of diagnostic criteria. Correspondingly, a response of a 1 or a 2 on the first two items and a 5 or a 6 on the third item met these criteria.

The second set of criteria used to define women’s sexual desire problems removed the sexual thoughts/fantasy diagnostic indicator specified in the current DSM-IV-TR. These modified criteria reflected the debate in the literature regarding the inclusion of deficient or absent sexual thoughts/fantasies as a criterion for diagnosing HSDD (Meana, 2010). Responding with a 1, 2, or a 3 on the first item (see above), and with a 4, 5, or a 6 on the third item (see above) corresponded to a persistent or recurrent deficit/absence using these modified criteria. The prevalence of extremely persistent or recurrent deficits (i.e., responding with a 1 or 2 on the first item, and with a 5 or a 6 on the third) was also determined according to these modified criteria.

The third method used to estimate prevalence involved self-identification; that is, participants themselves indicated whether they experienced a lack of sexual interest via the FSDQ (Goldhammer & McCabe, 2011). Prevalence estimates were generated based on low average ratings of sexual desire; women who

Table 1 Factor inter-correlation matrix

| | Factor I | Factor II | Factor III | Factor IV | Factor V | Factor VI |
|-----------------------------------|----------|-----------|------------|-----------|----------|-----------|
| Factor I (Dyadic Desire) | 1.00 | | | | | |
| Factor II (Solitary Desire) | .40** | 1.00 | | | | |
| Factor III (Resistance) | -.53** | -.18** | 1.00 | | | |
| Factor IV (Positive Relationship) | .56** | .14** | -.50** | 1.00 | | |
| Factor V (Sexual Self-Image) | .40** | .15** | -.44** | .45** | 1.00 | |
| Factor VI (Concern) | -.49** | -.17** | .70** | -.47** | -.41** | 1.00 |
| Number of items | 16 | 4 | 13 | 10 | 4 | 3 |
| Variance explained | 33.43 % | 8.54 % | 6.29 % | 4.19 % | 3.50 % | 2.92 % |
| <i>M</i> | 59.90 | 13.04 | 30.56 | 47.91 | 15.76 | 14.05 |
| <i>SD</i> | 14.48 | 5.45 | 11.18 | 9.08 | 4.26 | 4.27 |
| Cronbach’s alpha | .92 | .89 | .91 | .91 | .80 | .88 |

perceived that their average sexual desire levels warranted a rating between 0 and 3 (inclusive) on a single item 10-point scale within the FSDQ asking about woman's general level of sexual desire were defined as experiencing low sexual desire.

Procedure

The University Human Research Ethics Committee granted approval to conduct this study. Only women who were aged over 18 years and involved in a heterosexual relationship of 3 months duration or longer were recruited into the study. Participant recruitment was achieved through advertising and posting a link to the questionnaire website on various Internet sites related to women's health and psychological research. The use of the Internet allowed for diversity in the study sample, with women from numerous countries able to participate. Completion of the questionnaire was expected to take approximately 15 min. The FSDQ was made available to participants as an online questionnaire through the University website for a period of 8 months from late 2008 to mid 2009. Participants could use any email address to complete the questionnaire, and so maintain their anonymity. Participants did not receive payment for their involvement in this study.

Results

Prevalence of Sexual Desire Problems Based on Meeting DSM Criteria

The proportion of women who met the DSM-IV-TR criteria for HSDD equated to 9.3 %, by virtue of indicating infrequent or absent experiences of sexual desire and sexual thoughts/fantasies, in addition to frequent distress related to their sexual desire. Of these women, 90.9 % had also self-identified as experiencing a lack of sexual interest. However, only 3.0 % of women warranted a diagnosis of HSDD using the more stringent criteria by virtue of indicating an extremely persistent or recurrent deficit on these same criteria. Of this small percentage of women, 85.5 % had also self-identified experiencing a lack of sexual interest.

Prevalence of Sexual Desire Problems Based on Modified DSM Criteria

Of the women sampled, 11.3 % met modified DSM-IV-TR criteria for HSDD. That is, they met the DSM criteria, removing the sexual thoughts/fantasy requirement; experiencing a lack of sexual interest was also self-identified by 88.1 % of these women. Prevalence of sexual desire problems dropped to 3.8 % using the more stringent criteria when extremely persistent or recurrent deficits criteria were imposed. Of these women, 92.9 % also self-identified that a lack of sexual interest was a problem for them.

The correlation between fulfilling DSM and modified DSM criteria was $r = .88, p < .001$; when women met extremely persistent or recurrent deficit criteria, this correlation was $r = .90, p < .001$.

Prevalence of Sexual Desire Problems Based on Self-Identified "Lack of Sexual Interest"

A total of 230 (31.0 %) women self-identified that they experienced a lack of sexual interest; while 20.4 % ($n = 151$) of women reported its occurrence often, usually, or always. Of these, approximately half (10.4 %; $n = 77$) reported that this experience occurred usually or always.

Prevalence of Sexual Desire Problems Based on Low Average Ratings of Sexual Desire

Approximately one quarter of women reported a low average rating of sexual desire levels, corresponding to a prevalence rate of 26.3 % ($n = 195$) for sexual desire problems. Of these women, 81.5 % also indicated that a lack of sexual interest was a problem, with 67.2 % reporting that it was a problem often, usually, or always. These data indicate that 18.5 % of the women who had reported an average sexual desire level of 3 or lower (out of 10) over the previous month did not also self-identify that a lack of sexual interest was a problem to them.

Discussion

The purpose of this study was to investigate how using different criteria to define sexual desire problems would influence prevalence estimates; these varied between 3.0 and 31.0 %. Clearly, the implications of these findings are that the criteria used by researchers to define sexual desire problems will have an impact on the prevalence rate defined in the literature as well as in the clinical setting. A clearer definition of sexual desire itself is required, along with consensus regarding the operationalization of HSDD criteria. While the clarity that we are seeking is both conceptually and clinically difficult to navigate, as has been discussed elsewhere (see Meana, 2010), the diagnostic process has implications for the treatment of sexual desire problems. Participants in the current study were drawn from the general population, but the findings from this study demonstrate the difficulties in determining who from this sample would be recommended to seek treatment for their sexual desire problem. It is interesting to note that even for those women who met the DSM-IV-TR diagnostic criteria for HSDD, between 10 and 15 % of them did not self-classify as having desire problems. Should these women be referred for treatment? As Everaerd and Both (2000) commented, there is a need to develop a theory about

sexual desire that explains what it is, how it comes about, and how it is modulated.

So how might we go about achieving such clarity? One solution would be, as noted above, to compare the criteria/definitions used by clinicians to assess sexual desire with how women themselves describe their desire experiences. It may be that, as is reflected in newer conceptualizations of women's sexual response cycles (Giles & McCabe, 2009), women view sexual desire as a non-distinct/integrated aspect of their sexual response, which needs to be assessed within the larger context of their sexual experiences (Tiefer, Hall, & Tavris, 2002). The interrelated nature of a woman's sexual response is reflected in the high comorbidity found between women's sexual dysfunctions, particularly between HSDD and female sexual arousal disorder (FSAD) (Dennerstein, Koochaki, Barton, & Graziottin, 2006; Graziottin, 2007; Hayes et al., 2008; Heiman, 2002; Simons & Carey, 2001; West et al., 2008). For example, in Segraves and Segraves' (1991) report on the prevalence and comorbidity of HSDD in a sample of 906 men and women, approximately 40 % of the women with the primary diagnosis of HSDD had a secondary diagnosis of FSAD or anorgasmia. Certainly recent conceptualization of FSAD and HSDD that have been developed to inform the new DSM-5 criteria suggest that there is a significant amount of overlap in the two disorders (Brotto, 2010; Graham, 2010)

There were a number of limitations to the current study; in particular, the sensitive nature of the topic being investigated may have discouraged participation among some women. Furthermore, as participation required access to a computer in order to complete the FSDQ, women without computer access/skills may have inadvertently been excluded from this research. While the current study attempted to recruit a group of participants that was characteristic of a cross-section of society, it must be noted that the majority of the sample came from a Western background. It is therefore not possible to generalize the findings to women from non-Western cultural backgrounds. It is also important to note that the participants in the current study were heterosexual women who were currently involved in a committed relationship. These same findings may not apply for homosexual or bi-sexual women or women who are not currently in a relationship. Finally, the FSDQ asked about the experience of sexual desire over the past month, whereas a diagnosis of HSDD would generally require problems being present for a longer period of time (Brotto, 2010).

This study demonstrated that the high level of variability in the prevalence of women's sexual desire problems depends on the criteria used to define the problems. Given the value placed on sexual function in today's society, it seems pertinent to unambiguously define what is meant by sexual desire problems (Brotto, 2010); otherwise, we risk inappropriately pathologizing this aspect of a woman's sexual response. Not only do we need to determine the criteria for the diagnosis for HSDD, but we need to examine how a woman's self-classification

of herself as experiencing desire problems fits into this conceptualization. Finally, the definition of HSDD for research and clinical purposes needs to be discussed further, in order to determine if those who are classified with desire problems for research purposes would also be recommended for treatment of their disorder.

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