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Prevalence of Sexual Dysfunctions:

Results from a Decade of Research

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Abstract

Ten years of research that has provided data regarding the prevalence of sexual dysfunctions is reviewed. A thorough review of the literature identified 52 studies that have been published in the 10 years since an earlier review by Spector and Carey (1990). Community samples indicate a current prevalence of 0 - 3% for male orgasmic disorder, 0 - 5% for erectile disorder, and 0 - 3% for male hypoactive sexual desire disorder. Pooling current and 1-year figures provides community prevalence estimates of 7 - 10% for female orgasmic disorder and 4 - 5% for premature ejaculation. Stable community estimates of the current prevalence for the other sexual dysfunctions remain unavailable. Prevalence estimates obtained from primary care and sexuality clinic samples are characteristically higher. Although a relatively large number of studies have been conducted since Spector and Carey's (1990) review, the lack of methodological rigor of many studies limits the confidence that can be placed in these findings.

Keywords

sexual dysfunction; prevalence; epidemiology; sexuality

Prevalence of Sexual Dysfunctions: Results from a Decade of Research

Sexual dysfunctions are believed to be among the more prevalent psychological disorders in the general population (Spector & Carey, 1990). The sales data and media attention associated with recent biomedical treatments (e.g., Viagra ®) corroborates the commonness of such dysfunctions. Despite their apparent prevalence, however, sexual disorders have typically not been included in large scale epidemiologic studies such as the Epidemiologic Catchment Area (ECA) Study (Regier et al., 1990). Lacking such large-scale epidemiologic data, sexual health practitioners and scientists must attempt to integrate smaller studies to obtain population estimates regarding the prevalence of sexual disorders. To this end, the current paper provides an updated review and methodological critique of the published empirical studies that provide epidemiologic data as a resource for professionals who are investigating the etiology, assessment, or treatment of these disorders as well as for those involved in the allocation of resources for prevention, treatment, and research.

Research on the sexual dysfunctions has increased dramatically since Spector and Carey's (1990) review. During the last 10 years, there have been 52 empirical studies providing epidemiologic data on sexual dysfunctions (see Table 1). This compares to 47 studies that were published in the 50 years (1940 - 1989) previously. In the current paper, we review these 51 studies published since the Spector and Carey (1990) review. To identify this research, we searched Medline and PsychInfo databases for articles appearing between 1990 and 1999 using

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the following key words: (epidemiology OR incidence OR prevalence) AND (premature ejaculation OR impotence OR erectile dysfunction OR erectile disorder OR hypoactive sexual desire disorder OR sexual aversion disorder OR sexual arousal disorder OR orgasmic disorder OR inhibited female orgasm OR inhibited male orgasm OR dyspareunia OR vaginismus OR frigidity OR inhibited sexual desire OR anorgasmia OR ejaculatory dysfunction OR erectile incompetence OR aspermatism OR retarded ejaculation OR ejaculatory inhibition OR absence of ejaculation). Studies were excluded if they examined dysfunctions exclusively among surgical patients (e.g., radical prostectomy), examined erectile dysfunction among diabetics (for a recent review see Weinhardt and Carey, 1998), examined sexual dysfunction among patients with cancers (e.g., prostrate or ovarian cancer) or undergoing chemotherapy, or dysfunctions resulting from medication side effects (e.g., selective serotonin reuptake inhibitors). In addition to the database search, the reference sections of the included papers were reviewed for additional studies.

We review the studies separately by gender, type of sample (i.e., clinical, community, comorbid disorders), and the phase of sexual response cycle (i.e., desire, arousal, orgasm) that was investigated. In reviewing studies of each dysfunction, we first review prevalence in clinical and community samples without comorbid disorders. We then review prevalence rates in subpopulations when these were available.

We have chosen to use the Diagnostic and Statistical Manual of Mental Disorders - IV (DSM - IV; American Psychiatric Association [APA], 1994) nomenclature because it provides a standard set of definitions with which to structure the review. However, only eight of the 51 studies (16%) used the diagnostic criteria found in the DSM. More than a third of the studies did not provide any operational definition of the dysfunction being investigated. Thus, there exists the potential for great variation in the object of investigation within each of the sections that we have labeled according to the DSM-IV nomenclature. We discuss the potential influence of such variation when non-standard or non-existent criteria coincide with extreme prevalence estimates. However, at the outset, it should be noted that lack of standard criteria is an important factor affecting comparisons among the majority of studies reviewed. Terminology utilized by the respective investigators is retained in Table 1. Prior to each section we provide a brief description of the respective dysfunctions as defined in the DSM - IV. It is understood that in addition to the sexual dysfunction the DSM system uses two additional criteria to determine a sexual disorder, (1) the disturbance causes marked distress or interpersonal difficulty, and (2) the dysfunction is not better accounted for by another Axis I disorder (except another sexual dysfunction) and is not due to the physiological effects of a substance or general medical condition. Thus, despite our adoption of the DSM nomenclature the majority of the prevalence data pertain to sexual dysfunctions rather than DSM disorders.

Female Dysfunctions

Female Orgasmic Disorder is characterized by unusual difficulty in attaining orgasm. Determination of dysfunction depends upon age, sexual experience, and the adequacy of sexual stimulation. Prevalence rates of female orgasmic disorder range from 4% - 7% across three large population samples (Ernst et al. 1993; Lindal & Staffansson, 1993; Ventegodt, 1998). Each of these studies was conducted in a northern European country. Ernst et al. (1993) and Fugl-Meyer and Sjogren Fugl-Meyer (1999) report 1-year prevalence statistics, Lindal and Stefansson (1993) lifetime prevalence, and Ventegodt (1998) current prevalence. Despite the more restrictive time frame, Ernst et al. (1993), Fugl-Meyer and Sjogren Fugl-Meyer (1999), and Ventegodt (1998) report higher prevalence rates (7 - 10%) than do Lindal and Stefansson (4% lifetime, 1993). An fifth study in the U.S. reports that 24% of women have been unable to reach orgasm for several months over the past year (Laumann et al., 1999). Only Lindal and Stefansson (1993) used DSM criteria whereas the other investigators used idiosyncratic

definitions. These studies demonstrate the potential influence of nonstandard diagnostic criteria on prevalence estimates. It is uncertain whether the high estimate obtained by Laumann and colleagues (1999) reflects differences in assessment technique or population differences.

Results from three studies in four primary care populations (Chandraiah et al., 1991; Read et al., 1997; Shahar et al., 1991) estimate the prevalence of female orgasmic disorder between 5% (lifetime) (Chandraiah et al., 1991) and 42% (current) (Read et al. 1997). Chandraiah et al. (1991) was the only study to use DSM-III criteria and reported a 5% lifetime prevalence in 43 women attending a premenstrual syndrome (PMS) clinic. As expected, the prevalence of female orgasmic disorder appears to be higher in primary care settings compared to the general population. However, methodological problems, especially poorly defined criteria, preclude definitive conclusions in this regard. Two studies in primary care settings report high prevalence rates but do not report the criteria used for assessing the dysfunction. In contrast, Chandraiah et al. (1991) report a prevalence estimate based upon DSM - III criteria that is within the range of recent northern European population based estimates.

Prevalence estimates of female orgasmic disorder obtained in sexuality clinics are 0% (Bhui et al., 1994), 22% (Goldmeier et al., 1997), and 41% (Bhui et al., 1994; Jindal & Dhall, 1990). However, Bhui et al. (1994) has a sample of three women and thus can not be taken as a useful estimate of prevalence. Neither Jindal and Dhall (1990) nor Goldmeier and colleagues (1997) used DSM criteria, making these estimates difficult to reconcile.

Female Sexual Arousal Disorder is characterized by an insufficient lubrication-swelling response to sexual excitement. Little research has been conducted on female sexual arousal disorder. Lindal and Stefansson (1993) reported a lifetime prevalence of 6% in a large random population sample. This study used DSM-III criteria enhancing confidence in this estimate. Fugl-Meyer and Sjogren Fugl-Meyer (1999) report a 1-year prevalence of 8% in a large Swedish sample. In contrast, Laumann and colleagues report a 1-year prevalence of 19% in a representative U.S. sample. Lack of standard criteria across studies makes this large disparity difficult to interpret. Chandraiah et al. (1991) reported a lifetime prevalence of 21% in a primary care setting based upon DSM-III criteria. One study examined women attending a sex therapy clinic (Verma et al., 1998). This was a small sample from a North Indian clinic, in which no cases of female dysfunctions were reported. Thus, more research on the prevalence of arousal disorders in women is needed.

Hypoactive Sexual Desire Disorder (HSDD) is defined as deficient sexual fantasies and desire for sexual activity. Determination of dysfunction is relative to age and the context of the person's life. Prevalence estimates for HSDD among females range from 5% (Ventegodt, 1998) to 46% (Chiechi et al., 1997) across seven studies. The two highest estimates (46%; Chiechi et al., 1997; 37%, Wasti et al., 1993) are from samples of postmenopausal women. The other studies report 1 - year estimates ranging from 14% (Fugl-Meyer & Sjogren Fugl-Meyer) to 33% (Laumann et al., 1999). Only Lindal and Stefansson (1993) used DSM - III criteria, and they reported a significant higher lifetime prevalence among women (16%) than men (4%). The many methodological differences across few studies makes interpretation of this large range difficult.

Six studies examined HSDD among women in primary care settings. Brown and colleagues report a current prevalence of 20% and 31% among HIV+ women (Brown & Rundell, 1993; Brown & Rundell, 1990). It should be noted that these two studies are part of a five year longitudinal study and may reflect overlap of participants between studies. Jamieson and Steege (1996) report a current prevalence of 10% among women in a gynecology clinic. Goggin et al. (1998) reported a positive relation between HSDD and depressive symptoms, low life satisfaction, and perceived risk for HIV infection. This study reported a current estimate of

39% in a sample obtained from the community and HIV/AIDS health clinics. Chandraiah et al. (1991) studied women in a PMS clinic and reported a lifetime prevalence of 21% based upon DSM-III criteria. Chiechi et al. (1997) report a current prevalence of 46% among post-menopausal women. Thus, current estimates range from 10% (Jamieson & Steege, 1996) to 46%.

Dyspareunia is characterized by persistent genital pain during sexual intercourse. Dyspareunia is not diagnosed if the pain is exclusively due to vaginismus or lack of lubrication. Sexual pain disorders have been the focus of a relatively large number of studies. Prevalence estimates range from 3% (Lindal & Stefansson, 1993; Ventegodt, 1998) to 18% (Moody, 1993) in the general population. This relatively large range is difficult to explain in terms of methodological differences. For example, percentages at the high end were reported by Moody (1993) and Glatt et al. (1990), who report point prevalence as opposed to the 3% lifetime prevalence reported by Lindal and Stefansson (1993). Similarly, both high (Glatt et al., 1990; Laumann et al., 1999; Moody, 1993) and low (Ernst et al., 1993; Rekers et al., 1992; Ventegodt, 1998) estimates have been reported based on operational as opposed to DSM criteria. Only Lindal and Stefansson (1993) used DSM-III criteria. The only consistent difference is that the lower estimates are from Northern European countries whereas the higher ones are from the U.S.

In general practice settings, current estimates range from 3% (Heisterberg, 1993) to 46% (Jamieson & Steege, 1996) across six studies. Jamieson and Steege (1996) report point prevalence in a large primary care sample of “pain during or after intercourse”. The high prevalence in this and the Weber et al. (1995) sample (41%) are three times greater than the next highest estimate of 14% (Heisterberg, 1993). These high estimates may be due to the operational definition of the disorder. The DSM - IV diagnostic criteria exclude pain that is associated exclusively with lack of lubrication or vaginismus. Neither of these high estimates exclude pain secondary to these causes. In fact, Weber and colleagues (1995) specifically include vaginal dryness as a sufficient criterion. Chandraiah et al. (1991), using DSM - III criteria, report a lifetime prevalence of 12%. The range of estimates obtained illustrate the differences that result from nonstandard definitions and the importance of clearly specifying the definitions used.

Two studies report prevalence of dyspareunia in sexuality clinic settings. No female dysfunctions were reported in a large sample of women attending a North Indian clinic (Verma et al., 1998). Jindal and Dhall (1990) report a current prevalence of 13% in an infertility clinic. In relation to other sexual dysfunctions, dyspareunia appears to be a less common presenting problem at sexuality clinics. This may be because pain disorders are more likely to present at primary care rather than sexuality specific clinics.

Older women have been a population in which dyspareunia has been a focus of research. There is evidence that dyspareunia is more prevalent in post-menopausal women (Rekers et al., 1992). Prevalence estimates in community samples of postmenopausal women range from 2% (Barlow et al., 1997) to 21% (Wasti et al., 1993). Barlow et al. (1997) report 2-year prevalence data of “painful intercourse”. However, only 19% of the sample reported having penetrative intercourse. Thus, the prevalence of pain during intercourse may be more appropriately estimated at nine percent. Thus, prevalence estimates range from 9% - 21% across five studies (Barlow, et al., 1997; Diokno et al., 1990; Ramoso-Jalbuena, 1994; Rekers et al., 1992; Wasti et al., 1993).

Vaginismus is defined as persistent involuntary spasm of the vagina interfering with intercourse. Prevalence data for vaginismus are scant without the benefit of multiple studies within populations. Read et al. (1997) report a current estimate of 30% in a primary care setting. Community estimates range from 0.5% - 1% (Fugl-Meyer & Sjogren Fugl-Meyer, 1999;

Ventegodt, 1998). Verma et al. (1998) report a prevalence of 0% in a sexuality clinic sample. (Goldmeier et al., 1997) reports a current prevalence of 25% in a STD clinic. Thus, no clear estimate emerges.

Male Dysfunctions

Male Orgasmic Disorder is characterized by persistent difficulty in attaining orgasm. Determination of dysfunction depends upon age and the adequacy of sexual stimulation. The limited data available regarding male orgasmic disorder suggest that prevalence rates are relatively low. Community estimates of male orgasmic disorder range from 0% (Schiavi et al., 1995) to 3% across six studies (Fugl-Meyer & Sjogren Fugl-Meyer, 1999; Lindal & Stefansson, 1993; Singer et al., 1992; Solstad & Hertoft, 1993; Ventegodt, 1998). A much higher 1- year prevalence estimate of 8% is reported by Laumann et al. (1999). Estimates from eight primary care samples across four studies range from 0% (Catalan et al., 1992a) to 36% (El-Rufaie et al., 1997) with a median of 9% (Shahar et al., 1991).

Estimates from four studies in sexuality clinics report current prevalence estimates from 0% (Bhui et al., 1994) to 38% (Catalan et al., 1992b). One study reported a lifetime prevalence of 39% in gay men (Rosser et al., 1997). Estimates from samples of gay men were notably higher than other samples (i.e., ≥ 38% Catalan et al., 1992b; Rosser et al., 1997 vs. ≤ 6% Bhui et al., 1994; Verma et al., 1998). We hypothesize that this difference may reflect greater recognition of the threat of infection with HIV. In this regard, two studies report an increased prevalence of male orgasmic disorder among men with HIV. Current estimates were 20% (vs. 0%) (Catalan et al., 1992a) and 38% (vs. 9%) (Catalan et al., 1992b).

Premature ejaculation is defined as ejaculation with minimal stimulation before the person wishes it. Age, novelty of the sexual situation, and recent frequency of sexual activity are considered in determining premature ejaculation. Community estimates of the current / 1- year prevalence of premature ejaculation range from 4% (Ernst et al., 1993; Fugl-Meyer & Sjogren Fugl-Meyer, 1999) - 5% (Schiavi, 1995; Ventegodt, 1998) across three studies. Two additional studies report significantly higher 1-year estimates of 14% (Solstad et al., 1993) and 29% (Laumann et al., 1999). The reason for these discrepant estimates is not clear. Schiavi et al. (1995) report a current estimate of 20% among former alcohol dependent men.

In primary care settings current estimates range from 2% (Nirenberg et al., 1991) to 31% (Read et al., 1997) across four studies. The lowest estimate was among alcohol dependent individuals choosing not to participate in additional research that would have involved intrusive measurements. Volunteers for the study reported a prevalence of 24% (Nirenberg et al., 1991). Thus, prevalence of premature ejaculation may be estimated at between 4% (Catalan et al., 1992b) and 31% (Read et al., 1997) .

There is an extremely large range of estimates of the current prevalence of premature ejaculation in sexuality clinic samples. Current estimates range from 0% (Bhui et al., 1994; Catalan et al., 1992b) to 77% (Verma et al., 1998) across five studies. The highest estimate (77%; (Verma et al., 1998) is from a Northern Indian population. This figures is nearly four times the next highest estimate of 22% (Goldmeier et al., 1997). If the estimate of Verma et al. (1998) is considered an outlier, a more accurate range is 0% (Bhui et al., 1994; Catalan et al., 1992b) to 22% (Goldmeier et al., 1997). Prevalence of premature ejaculation does not appear to be higher among individuals attending sexuality clinics than in primary care settings.

Erectile Disorder is characterized by inadequate erections for sexual activity. The individual may have difficulty either attaining or maintaining an erection. Current / 1 - year prevalence estimates in the general population range from 0% (Ernst et al., 1993) to 10% (Laumann et al., 1999) across ten studies. The prevalence of erectile disorder increases with age; history of heart

disease; diabetes; treated hypertension; untreated ulcer; arthritis; allergy; and smoking (Feldman et al., 1994; Mannino et al., 1994; Panser et al., 1995; Ventegodt, 1998).

Five studies have examined current erectile disorder in older men in the community (Cogen & Steinman, 1990; Feldman et al., 1994; Jonler et al., 1995; Panser et al., 1995; Schiavi et al., 1991). Estimates range from 20% reporting erections less than half the time when sexually stimulated in the last year (Jonler et al., 1995) to 52% (Feldman et al., 1994). The estimate by Feldman et al. (1994) combines "minimal, moderate, and complete" erectile dysfunction. The prevalence of moderate erectile dysfunction in the sample is 25%, closer to that of Jonler et al. (1995).

In general practice settings, current estimates of erectile disorder range from 0.4% (Wei et al., 1994) to 37% (Singer et al., 1992) across seven studies. This wide fluctuation can be attributed to differences among assessment criteria and presence of important risk factors in the samples, including advanced age, medications (Read et al., 1997), diabetes, and medicated hypertension (Modebe, 1990). The highest rates were reported among patients with Parkinson's disease (60%; Singer et al., 1992) and Alzheimer's disease (55%; Zeiss et al., 1990).

In sexuality clinics current rates of erectile dysfunction range from 1% (Jindal & Dhall, 1990) to 53% (Bhui et al., 1994) across seven studies. The lowest estimate was based upon interviews of women regarding the sexual functioning of both themselves and their male partner. It is of note that not one of these studies utilized DSM criteria and few provided operational definitions. Thus, it is not surprising that there exists such disparity in prevalence estimates. Goldmeier et al. (1997), Rosser et al. (1997), and Verma et al. (1998) may be the most methodologically sound studies in respect to sample size and criteria. These studies provide current estimates of 19%, 15%, and 24% respectively. Rosser et al. (1997) report lifetime estimates of 40% (getting an erection) and 46% maintaining an erection.

Hypoactive Sexual Desire Disorder is characterized by deficient sexual fantasies and desire for sexual activity. Determination of dysfunction is relative to age and the context of the person's life. Estimates range from a current / 1-year prevalence of 0% (Schiavi et al., 1995) to 7% (Ernst et al., 1993) across seven community samples. studies. Panser et al. (1995) report a significant positive correlation between age and HSDD (age 70 and over prevalence = 26%). Laumann et al. (1999) report the highest estimate in the general population (1 - year; 16%)

Three studies report prevalence data on HSDD among men in primary care settings. Estimates range from a current prevalence of 3% (Jamieson & Steege, 1996) to 55% (Catalan et al., 1992a) among individuals with HIV. Three studies also examined HSDD in sexuality clinics (Bhui et al., 1994; Catalan et al., 1992b; Rosser et al., 1997). Current estimates of HSDD ranged from 0% (Bhui et al., 1994) to 75% (among HIV+ males; Catalan et al., 1992b).

Three studies examined HSDD in relation to HIV infection status (Catalan et al., 1992a; Catalan et al., 1992b; Pace et al., 1990). Estimates of current HSDD among HIV+ persons range from 13% (Pace et al., 1990) to 75% (Catalan et al., 1992b). The two studies by Catalan et al (1992a, 1992b) report substantially higher estimates than the other studies (75% and 55% respectively). Unfortunately they do not report any criteria and it is unclear to what extent their "loss of interest in sex" corresponds to HSDD. Catalan and colleagues did not find statistically significant differences of prevalence of HSDD across HIV+/- groups. However, Pace et al. (1990) did find a higher prevalence among HIV+ persons than a control sample from an alcohol treatment center.

Dyspareunia is characterized by recurrent genital pain during sexual intercourse. Sexual pain disorder among men appears to be significantly less prevalent than in women (Fass et al., 1998). Estimates across seven studies range from a lifetime prevalence of 0.2% in a random

population sample (Lindal & Stefansson, 1993) to a lifetime prevalence of 8% in a combined community and clinical sample (Metz & Seifert, 1990). One study examined painful insertive and receptive anal sex in gay men (Rosser et al., 1997). The study reported current prevalence estimates of 3% (insertive) and 16% (receptive).

Discussion

Our review of recent prevalence estimates for the sexual dysfunctions is largely consistent with that reported 10 years ago by Spector and Carey (1990). Community samples indicate a current prevalence of 0-3% for male orgasmic disorder, 0-5% for erectile disorder, and 0-3% for male hypoactive sexual desire disorder (HSDD). Pooling current and 1-year figures provides community prevalence estimates of 7-10% for female orgasmic disorder, and 4-5% for premature ejaculation. For the point of comparison, Spector and Carey (1990) reported a current prevalence of 4-10% for male orgasmic disorder, 4-9% for male erectile disorder, 5-10% for female orgasmic disorder, and 36-38% for premature ejaculation. Thus, only the prevalence of premature ejaculation is markedly different. The high estimate for premature ejaculation reported by Spector and Carey (1990) was based upon two relatively small samples. The much lower estimate obtained in this review is based upon four studies with a total of over 2000 men and is thus more representative of the general population. The current review was able to provide an estimate of the prevalence of male HSDD, a figure unavailable previously. Stable community estimates of other sexual dysfunctions remain uncertain.

Spector and Carey (1990) made four suggestions for new research in this area. Specifically, they called for increased use of (1) stratified samples representative of the general population; (2) psychometrically sound assessment techniques to facilitate interpretation and replication; (3) a common classification system to aid comparison across studies; and (4) collection of incidence data. There are some notable studies over the past ten years that have incorporated these methodological recommendations. For example, Ernst et al. (1993) and Rekers et al. (1992) used stronger sampling techniques, stratifying by psychological distress and age, respectively. The field has also had the benefit of several larger scale (> 1000 participants) random population surveys (e.g., Barlow et al., 1997; Fugl-Meyer & Sjogren Fugl-Meyer, 1999; Laumann et al., 1999; Ventegodt, 1998).

There has also been progress in assessment techniques. For example, Brown et al. (1990) and Goggin et al. (1998) use a modified version of the Structured Clinical Interview for DSM-III-R (Brown & Rundell, 1993). Reports of inter-rater reliability in several studies provide a measure of reliability of diagnoses (Brown & Rundell, 1990; Meyer-Bahlburg et al., 1993). Additional assessment instruments with known psychometric characteristics are also being used (e.g., the DISS-IIIA was used by Robins, 1986; Chandraiah et al., 1991; Lindal & Stefansson, 1993, and Meyer-Bahlburg et al., 1993; the GRISS was used by Rust & Golombok, 1986 and Goldmeier et al., 1997). Review of the studies in which the most psychometrically sound assessment techniques were used also demonstrates a trend toward using the DSM as a common classification system.

Incidence data continues to be sparse. Wei et al. (1994) is one exception. These authors report incidence data on erectile dysfunction stratified by age.

There have been a small number of excellent studies that have incorporated many important methodological features into study design (e.g., Fugl-Meyer & Sjogren Fugl-Meyer, 1999; Lindal et al., 1993). However, despite the increased attention in the past decade to the study of sexual dysfunctions there appears to have been relatively little methodological improvement overall. We identify three successive strategies for improvement in relation to assessment criteria. First, the criteria for determining a dysfunction need to be clearly reported. Although

several investigators have used operational definitions, many studies failed to report the criteria they used in the paper. Lack of consistent reporting of assessment criteria make comparisons across studies difficult and hinder the accumulation of data across studies to enhance knowledge. Second, standard criteria for the sexual dysfunctions need to be adopted. The use of standard diagnostic criteria appears to be the exception rather than the rule among the studies reviewed. The DSM and the multiaxial system proposed by Schover et al. (1982) provide two potential options.

The third avenue for development is to examine sexual disorders rather than simply the dysfunction. The omission of psychological sequelae of the sexual dysfunctions is a significant methodological concern. According to the DSM-IV (APA, 1994), sexual disorder diagnoses need to be based on three criteria: (A) sexual dysfunction (i.e., physical / psychological manifestation (e.g., lack of orgasm, lack of erection, pain during intercourse, lack of sexual interest, etc.)), (B) the disturbance causes marked distress or interpersonal difficulty, and (C) the dysfunction is not better accounted for by another Axis I disorder (except another sexual dysfunction) and is not due to the physiological effects of a substance or general medical condition. Criteria A has frequently been incorporated into most investigators' operational definitions. However, criteria B and C are typically omitted from the diagnostic criteria. From a clinical standpoint, the report of accompanying distress and/or interpersonal difficulty is important. However, this criterion was rarely addressed in the reported criteria in the studies reviewed. Typically, only the prevalence of symptoms is reported although some exceptions can be noted. For example, Amr, Halim, and Moussa (1997) report the prevalence of both erectile disorder determined by DSM-III-R criteria as well as prevalence of erectile dysfunction symptoms. The latter led to a prevalence rate of 27% whereas the former resulted in a much lower (5%) rate. This additional level of detail provides especially helpful information regarding the underlying development of the disorder. For example, Amr et al. (1997) reported significant increases in erectile dysfunction symptoms but not erectile disorder in relation to pesticide exposure. Such findings may be informative in understanding the biological and psychological contributions to the development of sexual disorders.

The study by Fugl-Meyer and Sjogren Fugl-Meyer (1999) is particularly informative in respect to the relations between sexual dysfunction and sexual disorder characterized by resultant perceived psychosocial problems. This study assessed the prevalence of the dysfunctions as well as the percentage of participants who perceived their sexual dysfunction as problematic. For some dysfunctions, there was a high concordance between the presence of a dysfunction and perceived problems. For example, sixty-nine percent of the men reporting erectile dysfunction reported that it was problematic. In contrast, only forty-five percent of women with orgasmic dysfunction perceived it as problematic. Thus, in this study, if one defined female orgasmic disorder as the inability to attain orgasm the 1-year prevalence rate is 22%. In contrast, the prevalence rate is only 10% if one defines the disorder as the presence of the dysfunction and the dysfunction causing a problem (marked distress or interpersonal difficulty in DSM-IV terminology). This study clearly differentiates between sexual functioning on the one hand and a psychological disorder defined in part by subjective distress and disturbance in interpersonal relations. This study provides a clear demonstration of how differences in diagnostic criteria can have profound a effect on prevalence estimates. Such differences contribute to the wide discrepancies seen across some studies.

We acknowledge that most studies were designed only to obtain data on the occurrence of a symptom and that investigators did not claim to be assessing a disorder defined in the DSM. Determination of the appropriateness of assessing a sexual dysfunction versus a disorder (in the DSM sense) rests upon the goals of the study. Assessing solely the dysfunction is appropriate if the potential accompanying distress or interpersonal conflict is not of interest. In some cases, the symptom is an important focal point as in the relationship between erectile

dysfunction and health problems such as diabetes mellitus (Weinhardt & Carey, 1996). In such studies, biological precursors are of interest. In more clinically focused research, determination of whether or not the dysfunction is accompanied by significant distress or interpersonal conflict is relevant. It is such psychosocial problems that are the impetus for intervention not variation in sexual functioning per se. For symptoms such as reduced sex drive, the importance of the symptom in isolation from DSM criteria B or C is unknown, and the prevalence estimates are less useful.

The wealth of studies conducted over the past ten years is encouraging as are the adoption of the methodological suggestions that were outlined in Spector and Carey (1990). We note above some of the studies that have particularly sound methodological designs. These studies are exemplars that could guide the continuing development in the study of sexual functioning. These exemplars are unfortunately few in comparison to the full collection of studies. Many continue to have methodological problems that limit their potential usefulness. With continued attention to statistical design, it is hoped that methodologically rigorous studies will no longer be the exception to the rule.

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Table 1

Studies of the prevalence of sexual dysfunction (1990 - 1999)

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
Aizenberg et al. (1995)	N = 51 Age = Range NR (M = 36) Gender = Male Race/Ethnicity = NR Health Status: Schizophrenia (on neuroleptic medication) Recruitment: Outpatient N = 20 Age = Range NR (M = 35) Gender = Male Race/Ethnicity = NR Health Status: Schizophrenia (no medication) Recruitment: Outpatient	N = 51 Age = Range NR (M = 33) Gender = Male Race/Ethnicity = NR Health Status: Healthy Recruitment: Military reserve	Structured interview/ questionnaire (Schiavi et al., 1990)	NR Current	Erectile dysfunction:* Premature ejaculation:* Lack of sexual desire:* Retarded ejaculation: Prevalence statistics not reported. * Schizophrenia group significantly more symptomatic than control, p < .05. No differences between treated and nontreated groups	Strengths: Comparative study with a well matched control group. Limitations: Doesn't provide prevalence statistics.
Amr et al. (1997)	N = 208 Age = NR Gender = Male Race/Ethnicity = Egyptian Health Status: NR Recruitment: Pesticide formulators	N = 72 Age = NR Gender = Male Race/Ethnicity = Egyptian Health Status: NR Recruitment: textile factory workers	Random selection of pesticide exposed workers and matched controls. Participants were administered the GHQ (Goldberg & Hillier, 1979), and interviewed.	DSM-III-R Current	Erectile dysfunction disorder: Pesticide formulators 11 / 208 = 5% Textile workers 2 / 72 = 3% Erectile dysfunction symptoms: Pesticide formulators 56 / 208 = 27%* Textile workers 3 / 72 = 4% * significantly greater than control group (p < .001)	Strengths: Large comparative study. Use of DSM-III-R criteria. Use of within group analyses to demonstrate positive relationship between erectile dysfunction length of exposure to pesticide. Limitations: Did not adequately report test statistics. Did not report comparison of additional groups included in the study.
Barlow et al. (1997)	N = 2045 Age = 55 - 85+ (M = NR) Gender = Female Race/Ethnicity = NR Health Status: NR Recruitment site: Community		Representative population sample of older British women. Structured interview	Painful intercourse in the past two years	Painful intercourse: Total: 33 / 2011 = 2% Age 55-64: 23 / 662 = 3% Age 65-74: 8 / 697 = 1% Age 75-84: 2 / 539 = 0.4% Age > 85: 0 / 113 = 0%	Strengths: Representative population sample of older women. Limitations: Large percentage (76%) of women were not sexually active. Prevalence of sexual dysfunctions among those who are active are not reported.
Bhui et al. (1994)	N = 21 Age = 21-60+ (M = NR) Gender = 11% Female	N = 20 Age = 21-60+ (M = NR) Gender = 15% female Race/ethnicity = British	Retrospective analysis of records in sex and marital problems clinic: Referring physician and therapist diagnoses	NR Current	Impotence: General practitioner dx. (GP) Asian: 8 / 18 = 44% Engl.: 9 / 17 = 53% Therapist dx. (TH) Asian: 9 / 18 = 50%	Strengths: Data on an underrepresented population Limitations: Diagnostic criteria are not provided. Small sample of patients in a sex and marital problems clinic.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Race/ethnicity = Asian Health: NR Recruitment: Sex clinic	Health: NR Recruitment: Sex clinic			Engl.: 8 / 17 = 47% Male desire disorder: (GP) Asian: 1 / 18 = 6% Engl. 1 / 17 = 6% (TH) Asian: 0 / 18 = 0% Engl.: 2 / 17 = 12% Female desire disorder: (GP) + (TH) Asian: 0 / 3 = 0%; Engl. 1 / 3 = 33% Premature ejaculation: (GP)Asian: 2 / 18 = 11% Engl.: 1 / 17 = 6% (TH) Asian: 2 / 18 = 11% Engl.: 0 / 17 = 0% Male orgasmic disorder: (GP) Asian: 1 / 18 = 6% Engl.: 1 / 17 = 6% (TH) Asian: 0 / 18 = 0% Engl.: 1 / 17 = 6% Fem. orgasmic disorder: (GP) Asian: 1 / 3 = 33% Engl.: 0 / 3 = 33% (TH) Asian: 0 / 3 = 33% Engl.: 0 / 3 = 33%	
Boulet et al. (1994)	N = 2616 Age = 40 - 60 (M = NR) Gender = Female Race/Ethnicity = 46% Chinese, 38% Malay, 16% other Health Status: NR Recruitment: Community, primary care clinics, Indonesian Menopause Society		Uniform questionnaire distributed in seven Asian countries	NR Current	Dyspareunia: Hong Kong (n = 427) Premenopause: 3% Perimenopause: 10% Postmenopause: 15%** Indonesia: (n = 346) Premenopause: 9% Perimenopause: 48% Postmenopause: 47%** Korea: (n = 500) Premenopause: 20% Perimenopause: 10% Postmenopause: 11%* Malaysia:(n = 401) Premenopause: 4% Perimenopause: 7% Postmenopause: 10%* Philippines: (n = 500) Premenopause: 7% Perimenopause: 27% Postmenopause: 13%* Singapore: (n = 420) Premenopause: 5% Perimenopause: 8% Postmenopause: 8% Taiwan: (n = 398) Premenopause: 11% Perimenopause: 15% Postmenopause: 10% *p < .05 (X^2-test) **p < .05 (X^2-test)	Strengths: Large multinational sample, use of a uniform questionnaire across sites. Limitations: Subsample sizes of menopausal status by country not provided. Time reference not reported.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
Brown & Rundel (1990)	N = 20 Age = 21 - 36 (M = 27) Gender = Female Race/Ethnicity = 50% White, 50% Black Health Status: HIV positive Recruitment: Referrals from U.S. Air Force (USAF) mandatory screening program		Standard assessment battery and semi-structured interview given to referrals from USAF	DSM-III-R Current	Hypoactive sexual desire disorder: 4 / 20 = 20%	Strengths: Use of DSM-III-R criteria. Presentation of interrater reliability. Limitations: Small non-representative sample.
Brown & Rundell (1993)	N = 43 Age = 21 - 36 (M = 29) Gender = Female Race/Ethnicity = 54% White, 42% Black, 4% Hispanic Health Status: HIV positive Recruitment: Referrals from U.S. Air Force (USAF) mandatory screening program		Standard assessment battery and semi-structured interview given to referrals from USAF. Modified the Structured Clinical Interview for DSM-III-R to assess sexual dysfunctions	DSM-III-R Current	Hypoactive sexual desire disorder: 10 / 32 = 31% Sexual aversion disorder: 0%	Strengths: Use of DSM-III-R criteria. Limitations: Small non-representative sample.
Catalan et al. (1992a)	N = 37 Age = Range NR (M = 37) Gender = Male Race/Ethnicity = NR Health Status: HIV positive and hemophilia Recruitment: Hemophilia clinic	N = 36 Age = Range NR (M = 38) Gender = Male Race/Ethnicity = NR Health Status: HIV negative and hemophilia Recruitment: Hemophilia clinic	Consecutive attendees at clinic were given questionnaire battery and semi-0structured interview	NR Current	Erectile dysfunction: HIV+ 3 / 20 = 15% HIV- 2 / 24 = 8% Premature ejaculation: HIV+ 6 / 20 = 30%* HIV- 1 / 24 = 4% Delayed ejaculation: HIV+ 4 / 20 = 20%* HIV- 0 / 24 = 0% Loss of interest in sex: HIV+ 11 / 20 = 55% HIV- 8 / 24 = 33% *HIV= significantly greater, p < .05	Strengths: Comparative study with a well matched control group. Limitations: Criteria for dysfunction not reported.
Catalan et al., (1992b)	N = 24 men Age = Range NR (M= 36) Gender = Male Race/ethnicity = NR Health status: HIV positive Recruitment: STD clinic	N = 25 men Age = Range NR (M= 33) Gender = Male Race/ethnicity = NR Health status: HIV positive Recruitment: STD clinic	Recruited gay men from an STD clinic. Semi-structured interview	NR Current	Erectile dysfunction: HIV+ 6 / 16 =38% HIV- 5 / 23 =22% Premature ejaculation: HIV+ 0 / 16= 0% HIV- 1 / 23 =4% Delayed ejaculation:* HIV+ 6 / 16 =38% HIV- 2 / 23 =9% Loss of interest: HIV+ 12 / 16 = 75% HIV- 14 / 23 = 61% *Significant difference (p < .05)	Strengths: Controlled comparison study of HIV+ men. Limitations: Small sample size. Criteria for dysfunction not provided.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
Chandraiah et al. (1991)	N = 43 Age = 15 - 46 (M = NR) Gender = Female Race/Ethnicity = 93% White, 7% Black Health Status: NR Recruitment: PMS clinic		Consecutive new patients at a PMS clinic. NIMH Diagnostic Interview Schedule (Robins, 1981)	DSM-III Lifetime	Inhibited Sexual Desire: 9 / 43 = 21% Inhibited Sexual Excitement: 9 / 43 = 21% Functional Dyspareunia: 5 / 43 = 12% Inhibited Orgasm: 2 / 43 = 5%	Strengths: Use of DSM-III diagnostic criteria, clinical sample Limitations: Generalizability restricted to PMS treatment seekers
Chiechi et al. (1997)	N = 421 Age = Range NR (M = 50) Gender = Female Race/Ethnicity = NR Health Status: Healthy Recruitment: Volunteers at a menopausal center		Volunteers at a menopausal center; interview	NR Current	Decreased libido: 194 / 421 = 46%* Dyspareunia: 105 / 421 = 25% * correlated with age and dyspareunia	Strengths: Examined correlates. Limitations: Self - selected sample, criteria for dysfunction not reported.
Diokno et al. (1990)	N = 744 Age = 60-80+ (M = NR) Gender = 60% female Race/Ethnicity = NR Health Status: NR Recruitment: Probability sample of elderly population in Washtenaw County, Michigan.		Interview	Self-reported difficulty getting or maintaining an erection. Self-reported pain with intercourse Current	Erectile dysfunction: Total : 114 / 283 = 40% Married men: 92 / 240 = 38%* Other marital categories 22 / 43 = 51% Pain with intercourse: Married women: 21 / 164 = 13% Married men: 3 / 214 = 1% *Prevalence positively associated with incontinence, interrupted urinary stream, heart attack, sedative use, caffeine non-use; p's < .05	Strengths: Large stratified population sample of elderly. Strong sample strategy obtained a Limitations: DSM criteria not used. Correlates of erectile dysfunction based upon relatively small subgroups (i.e., 15 to 47 participants)
El-Rufaie et al. (1997)	N = 36 Age = Range NR (M =47) Gender = Male Race/Ethnicity = Arab Health Status: Healthy Recruitment site: Primary health care center in the United Arab Emigrates	N = 39 Age = Range NR (M =49) Gender = male Race/Ethnicity = Arab Health Status: Hypertensives Recruitment site: Primary health care center in the United Arab Emigrates	Semi-structured interview given to consecutive patients	NR Current	Erectile weakness: Hypertensives (H) 12 / 39 = 31% Healthy (C) 4 / 36 = 11% Impaired morning erection: (H) 17 / 39 = 44% (C) 6 / 36 = 17% Complete erectile failure: (H) 2 / 39 = 5% (C) 2 / 36 = 6% Impaired spontaneous erection: (H) 10 / 39=26% (C) 4 / 36 = 11% Ejaculatory disturbances: (H) 7 / 39 = 18% (C) 4 / 36 = 11% Reduced sexual interest:	Strengths: Data on an underrepresented population. Limitations: No diagnostic criteria used. Not a representative sample. Comments: This study was designed to examine relations between diabetes and erectile functioning. Thus, comparisons between the healthy and hypertensive group were not made.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					(H) 8 / 39 = 21% (C) 4 / 36 = 11%	
Ernst et al. (1993)	N = 197 Age = 29 Gender = Male Race/Ethnicity = NR Health Status: Healthy Recruitment: Community	N = 218 Age = 30 Gender = Female Race/Ethnicity = NR Health Status: Healthy Recruitment: Community	Stratified sample based on SCL-90-R (Derogatis, 1977). 2/3 were sampled from the 85th percentile and above. Longitudinal study of a birth cohort (1979,81, 86,88). Semi-structured interview assessing dysfunctions in detail was only conducted at Time 4.	NR 1-year	Women: Sexual difficulties/ Dissatisfaction: 46 / 218 = 21% Impaired interest: 35 / 218 = 16% Orgasmic difficulties: 15 / 218 = 7% Pain / dyspareunia: 13 / 218 = 6% Men: Sexual difficulties/ Dissatisfaction: 41 / 197 = 21% Impaired interest: 14 / 197 = 7%† Erectile dysfunction: 0 / 197 = 0% Premature ejaculation: 8 / 197 = 4% 10-year prevalence of sexual dysfunction/disturbance from age 20/21 to 29/30: Male 74 / 164 = 45% Female 106 / 192 = 55% Chronicity (defined as reporting sexual dysfunction on at least 2 of 4 assessments Male 26 / 164 =16% Female 59 / 192 = 31%* *p < .001 (women report more chronic course of disorder.) † Positively associated with depression, p < .05	Strengths: Stratified sampling of a birth cohort. Longitudinal design provides some information of course of sexual dysfunction. Examined numerous correlates of sexual dysfunction. Limitations: Diagnostic criteria not given. Detailed assessment of sexual dysfunction not included until Time 4.
Fass et al. (1998)	N = 508 Age = 20 - 88 (M = 48) Gender = 72% female Race/Ethnicity = 78% White, 6% Black, 5% Hispanic, 3% Asian Health Status: Irritable bowel syndrome (IBS)/ non-ulcer dyspepsia (NUD) Recruitment site: medical clinic	N = 247 Age = 18-99 (M = 43) Gender = 70% female Race/Ethnicity = 66% White, 8% Black, 3% Hispanic, 12% Asian Health Status: Healthy Recruitment site: community	Consecutive referrals to clinic were evaluated by questionnaire. Community sampling procedure not specified.	Any interference with sexual functioning in past 6 months	Decreased sexual drive: Control 14 / 193 = 7% IBS 29 / 266 = 11% NUD 11 / 85 = 13% IBS + NUD 27 / 157 = 17% IBS (non-patients) 3 / 41 = 7% Dyspareunia: Control 5 / 193 =3% IBS 10 / 266 =4% NUD 1 / 85 =1% IBS + NUD 9 / 157 = 6% IBS (non-patients) 3 / 41 = 7% Dyspareunia significantly more common in females (16 vs. 4%, p < .005). No significant differences across disease subtype. Prevalence of sexual	Strengths: Large clinic sample and control group. Limitations: Poorly specified dysfunction criteria.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					dysfunction higher in patient group ($p < .001$)	
Feldman et al. (1994)	N = 1290 Age = 40 - 70 (M = 54) Gender = Male Race/Ethnicity = 96% White, 2% Black, 2% other Health Status: NR Recruitment: Random sample of non-institutionalized men.		Questionnaire	Categories derived by statistical calibration of measure with self - reported dysfunction. Current	Erectile dysfunction: Overall: 671 / 1290 = 52% Degree: Minimal: 219 /1290 = 17% Moderate: 323 / 1290 = 25% Complete:129 / 1290 = 10% (Complete erectile dysfunction tripled from 5% to 15% between ages 40 and 70) Disease states associated with probability of complete erectile dysfunction: (age adjusted) ($p < .01$): Treated heart disease n = 90 , 39% Treated diabetes n = 52, 28% Treated hypertension n = 200, 15% Untreated ulcer n = 98, 18% Untreated arthritis n = 228, 15% Untreated allergy n = 261, 12%	Strengths: Large community sample, Examined association of multiple aspects of health with erectile dysfunction. Limitations: Categories derived by statistical calibration of measure with a self report-rating. Comments: Study found additional significant associations between erectile dysfunction and other health indices.
Fugl-Meyer & Sjogren Fugl-Meyer (1999)	N = 2810 Age = 18 - 74 (M = NR) Gender = 52% male Race/Ethnicity = Swedish Health Status: ≥ 77% Healthy Recruitment: Community		Random sample drawn from the Swedish Central Population Register; Structured interview	Impaired sexual desire defined as never - rarely experiencing sexual desire; Endorsement of dysfunction occurring and perceiving it as a problem quite often - all the time, Percentages (aside from sexual desire/ interest) based upon sexually active participants; 12 months	Impaired sexual desire:*† (M) 44 / 1475 = 3% (F) 187 / 1335 = 14% Decreased sexual interest:*† (M) 88 / 1463 = 6% (F) 188 / 1285 = 15% Erectile / Lubricative disability:*† (M) 39 / 1288 = 3% (F) 89 / 1108 = 8% Orgasm disability: (F) 111 / 1110 = 10% Premature ejaculation: (M) 51 / 1281 = 4% Retarded ejaculation: (M) 13 / 1265 = 1% Vaginism: (F) 11 / 1102 = 1% Dyspareunia:*† (M) 13 / 1331 = 1% (F) 47 / 1167 = 4% Group differences based on % endorsing dysfunction not associated problems *Significantly more prevalent in women † Prevalence increased with age in women and men	Strengths: large representative population sample, Provides operational definitions of dysfunction criteria, Report percentage of individuals who perceive the reported dysfunction as a problem. Limitations: Assessed group differences based upon symptom endorsement rather than symptom endorsement * perceived problem. **Comments:** Study also examines relationships between sexual dysfunction, partnership status, health, and perceived problems.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					(excluding male dyspareunia)	
Glatt et al. (1990)	N = 313 Age = early 30's Gender = Female Race/Ethnicity = NR Health Status: NR Recruitment site: Community		Anonymous questionnaire mailed to 500 women involved in a study 15 years previously while attending a university.	Pain or discomfort in the labial, vaginal, or pelvic area during or after intercourse. Current	Primary Dyspareunia: Spontaneous resolution 35 / 313 = 11% Resolution with therapy 14 / 313 = 5% Secondary Dyspareunia: Spontaneous resolution 12 / 313 = 4% Resolution with therapy 25 / 313 = 8% Persistent Primary Dyspareunia: 51 / 313 = 16% Persistent Secondary Dyspareunia: 54 / 313 = 17%	Strengths: Clear definition of disorder ; Detailed examination of subtypes and course. Limitations: Poor description of demographics
Goggin et al. (1998)	N = 54 Age = Range NR (M = 36) Gender = Female Race/Ethnicity = 22% White 46% Black, 27% Latina, 3% other Health Status: HIV + Recruitment: Community, HIV/ AIDS health clinics		Structured Clinical Interview for DSM-III-R including a sexual disorders module (Brown & Rundell, 1993)	Criteria established by (Brown & Rundell, 1993) Current	HSDD: 21 / 54 = 39%* *positive relation to depressive symptoms, negative relation to life satisfaction, positive relation with perceived risk factor for HIV infection (i.e., sexual contact).	Strengths: Good size clinical sample. Use of structured diagnostic interview. Examined multiple demographic, psychological, and biological covariates. Limitations: Convenience sample may have over-represented low income consumers of community health services.
Goldmeier et al., (1997)	N = 211 Age = (M = NR) Range: 16 - 78 (men) 16 - 49 (women) Gender = 50% female Race/ethnicity = Men: 75% White, 8% Black African, 6% Black Caribbean; Women: 74% White, 11% Black African, 5% Black Caribbean Health status: Various STD Recruitment: STD clinic		Consecutive new patients were given Golombuk-Rust Inventory of Sexual Satisfaction (GRISS; (Rust & Golombok, 1986)	Based upon GRISS norms Current	Erectile dysfunction 20/106 = 19% Premature ejaculation 213/106 = 22% Vaginismus 26/105 = 25% Anorgasmia (F) 23/105 = 22%	Strengths: Use of a standardized questionnaire. Large clinical sample Limitations: Relationship between GRISS scores and DSM disorders is unclear
Heisterberg (1993)	N = 1221 Age = NR Gender = Female Race/Ethnicity = NR Health Status: NR		Questionnaire given to women referred for delivery or induced first-trimester abortion.	NR Current	Dyspareunia: Previous Pelvic Inflammatory Disease (PID) - 14% No PID - 3%* *Odds Ratio 3.87 95% CI 2.35 - 6.37	Strengths: Large clinical sample. Limitations: Demographics not provided, subsample sizes not clear, criteria for dysfunction not specified.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Recruitment: Gynecology clinic				No age relation	
Ismael (1994)	N = 400 Age = 40-60 (M = NR) Gender = Female Race/Ethnicity = 13% Chinese, 70% Malays, 16% Indians Health Status: NR Recruitment sites: Community and hospital		Structured interview	NR Current	Dyspareunia: 32 / 400 = 8% Ceased sexual activity for various reasons: 92 / 400 = 23%	Strengths: Large sample of underrepresented groups Limitations: Sampling strategy and criteria for dysfunction not well defined.
Jamieson & Steege (1996)	N = 533 Age = 18 - 45 (M = 32) Gender = Female Race/Ethnicity = 74% White, 26% Black Health Status: NR Recruitment: Primary care/ gynecology		Consecutive patients were administered a questionnaire	NR Current	Dyspareunia: 248 / 543 = 46%* Pain for > 1 year duration: 111 / 549 = 20% Decreased frequency of orgasm: 45 / 549 = 8% Decreased pleasure with orgasm: 26 / 549 = 5% Not orgasmic secondary to pain: 29 / 549 = 5% Less pleasure associated with sex: 11 / 549 = 2% Less interest in sex: 55 / 549 = 10% *positively associated with lower income and Black ethnicity, p < .01	Strengths: Comprehensive assessment Limitations: Criteria for dysfunction not specified.
Jindal & Dhall (1990)	N = 200 Age = NR Gender = Female Race/Ethnicity = Indian Health Status: NR Recruitment: Infertility clinic		Consecutive new patients were assessed with a structured interview. When the women reported a dysfunction in her male partner, the partner was then interviewed to confirm this.	NR Current	Dyspareunia: 25 / 200 = 13% Premature ejaculation: 16 / 200 = 8% Erectile dysfunction: 2 / 200 = 1% Anorgasmia: 81 / 200 = 41%	Strengths: Large clinical sample. Limitations: Relied on female partner to report male sexual dysfunctions. Criteria for dysfunction not given.
Jonler et al. (1995)	N = 1517 Age = Range NR (M = 60) Gender = Male Race/Ethnicity = 70% White, 25% Black, 3% Hispanic, 1% Arabic Health Status: NR Recruitment: Community		Participants were recruited at free prostrate cancer screenings. Questionnaire	Questionnaire response 1 year; 3 month	No sexual erections in past 12 months: 129 / 1680 = 8% Erections when stimulated in past few months among those who reported erections in past 12 months: Not at all 74 / 1388 = 5% Less than 1 time in 5 98 / 1388 = 7% less than half the time 101 / 1388 = 7% about half the time 166 / 1388 = 12%	Strengths: Clear description of survey questions, relatively large sample covering diverse geographical areas. Limitations: Not a representative sample. Number of respondents is reported inconsistently (i.e., 1517 responded to questionnaire yet 1680 is used in calculating some percentages.)

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					more than half the time 199 / 1388 = 14% almost always 717 / 1388 = 52%	
Laumann et al. (1999)	N = 3159 Age = 18 - 59 (M = NR) Gender = 55% Female Race/Ethnicity = NR Health Status: NR Recruitment site: Community		National probability sample living in household throughout the U.S.	Endorsement of problem occurring in the last year	Lack interest in sex: (M) 213 / 1346= 16% (F) 535 / 1622 = 33% Unable to achieve orgasm: (M) 108 / 1346= 8% (F) 389 / 1622 = 24% Pain during sex: (M) 40 / 1346= 3% (F) 227 / 1622 = 14% Sex not pleasurable: (M) 108 / 1346= 8% (F) 341 / 1622 = 21% Climax too early: (M) 390 / 1346= 29% (F) 162 / 1622 = 10% Erectile dysfunction: (M) 135 / 1346= 10% Difficulty lubricating: (F) 305 / 1346 = 19%	Strengths: Large representative sample Limitations: Dysfunctions were assessed by a dichotomous response to a problem area.
Lindal & Stefansson (1993)	N = 845 Age = 55 - 57 (M = NR) Gender = 49% Female Race/Ethnicity = Nordic Health Status: NR Recruitment: Random selection of population cohort		Random selection of one half of the 1931 Icelandic birth Cohort. Participants interviewed using the DIS-IIIA (Fully structured interview)	DSM-III Lifetime	Inhibited sexual desire: (M) 17 / 428 = 4% (F) 67 / 417 = 16% Inhibited sexual excitement: (M) 4 / 428 = 0.9% (F) 25 / 417 = 6% Inhibited orgasm: (M) 3 / 428 = 0.7% (F) 15 / 417 = 4% Functional dyspareunia: (M) 1 / 428 = 0.2% (F) 13 / 417 = 3% All dysfunctions more prevalent in women. ($p < .01$).	Strengths: Large representative sample, Structured interview using DSM-III criteria Limitations: Sexual dysfunction criteria have evolved significantly since the DSM-III
Mannino et al. (1994)	N = 4462 Age = 31 - 49 (M = 38) Gender = Male Race/Ethnicity = 82% White, 12% Black, 4% Hispanic, & 2% other Health Status: NR Recruitment: Random selection of Vietnam-era US Army veterans.		Questionnaire	Persistent difficulty getting an erection in last year.	Erectile dysfunction: Smokers 74 / 2008 = 4% Never smokers 26 / 1162 = 2% Former smokers 25 / 1292 = 2% Adjusted odds ratio for association with current smoking = 1.5 ($p < .05$) (Adjusting for other erectile dysfunction risk factors)	Strengths: Large sample; defined criteria for dysfunction; controlled for multiple confounds. Limitations: Examination of current smokers found not relation between erectile dysfunction and number of cigarettes per day or number of years smoked. Lack of a dose-response relation casts some doubt on pharmacological explanation.
Metz & Seifert (1990)	N = 62 Age = 18 - 73 (M = 38) Gender = Male		Questionnaire	Endorsement of lifetime problem or concern	Inhibited sexual desire: 24 / 61 = 39% Difficulty getting an erection: 16 / 61 = 26%	Strengths: The assessment instrument and problem list were clearly described. Limitations: Not a representative sample. The

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Race/Ethnicity = NR Health Status: NR Recruitment site: 33% undergraduate class; 35% sex dysfunction clinic; 33% general medical practice				Difficulty maintaining an erection: 18 / 61 = 29% Premature ejaculation: 40 / 61 = 65% Inhibited orgasm: 6 / 61 = 10% Dyspareunia: 5 / 61 = 8%	question asked respondents to indicate “sexual concerns which you have had or experienced yourself..” This makes the criteria for dysfunctions quite vague.
Meyer-Bahlburg et al. (1993)	N = 38 Age = Range NR (M = 38) Gender = Female Race/Ethnicity = 16% White, 74% Black, and 10% Hispanic Health Status: HIV + injection drug users Recruitment: Media advertisement / clinical	N = 37 Age = Range NR (M = 37) Gender = Female Race/Ethnicity = 19% White, 57% Black, and 24% Hispanic Health Status: HIV - injection drug users Recruitment: Media advertisement / clinical	Participants were assessed with a semi-structured interview. All interviews were checked for completeness and audiotape review was used to monitor interviewer performance.	Dysfunction on 50% or more of sexual occasions Current	Insufficient vaginal response: HIV+ 12 / 30 = 40% HIV- 6 / 30 = 20%* Vaginismus: HIV+ 7 / 29 = 24% HIV- 7 / 33 = 21% *HIV+ group significantly higher, p < .01 (MW-U test)	Strengths: Use of a well matched control group. Well defined criteria for dysfunctions. Limitations: The study examined additional dysfunctions but did not report specific percentages.
Modebe (1990)	N = 227 Age = 21 - 84 (M = NR) Gender = Male Race/Ethnicity = NR Health Status: n = 80 hypertension n = 38 diabetes mellitus n = 109 other Recruitment: Medical outpatient clinic		Consecutive male outpatients were interviewed, given a physical exam, and the chart was reviewed.	Insufficient erection to prevent coitus in at least 25% of attempts Current	Erectile dysfunction: Full sample 77 / 227 = 34% Diabetes Mellitus 22 / 38 = 58%† Non-Diabetic 55 / 189 = 29%† Hypertensive 35 / 80 = 44% Medicated 33 / 54 = 61%* Unmedicated 2 / 26 = 8%* *,† significant differences (p < .0001)	Strengths: Clear definition of erectile dysfunction; Use of a clinical sample demonstrated high prevalence of disorder in a medical outpatient population. Conducted informative group comparisons. Limitations: Demographic characteristics of sample not well documented.
Moody & Mayberry (1993)	N = 50 Age = Range NR (M = 38) Gender = Female Race/Ethnicity = NR Health Status: Ulcerative colitis (UC) Recruitment: Community	N = 47 Age = Range NR (M = 39) Gender = Female Race/Ethnicity = NR Health Status: Healthy Recruitment: Community/general practices	Random selection of patients with irritable bowel syndrome from a community data base. Control group was obtained from general practitioners as well as community (“buddy controls”). Sexual function assessed by a questionnaire validated in a previous study.	Pain severe enough to interfere with sexual intercourse. Current	Dyspareunia: (UC) 15 / 40 = 38% (C) 7 / 38 = 18%	Strengths: Use of a matched control group and validated questionnaire. Limitations: Non-standard definition
Nirenberg et al. (1991)	Volunteers for an intrusive study of sexual functioning N = 74 Age = Range NR (M = 44) Gender = Male	Nonvolunteers N = 108 Age = Range NR (M = 44) Gender = Male Race/Ethnicity = 93% White, 5% Black	Derogatis Sexual Functioning Inventory (Derogatis & Meyer, 1978)	Based on Sexual Functioning Inventory Current	Premature ejaculation: Volunteers 18 / 74 = 24%* Non- volunteers 2 / 108 = 2% *Higher prevalence among volunteers, p < .05	Strengths: Study demonstrates significant differences among participants who do or do not volunteer for intrusive sex studies. Use of a standard assessment instrument. Relatively large clinical sample

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Race/Ethnicity = 93% White, 5% Black Health Status: NR Recruitment site: Inpatient alcoholism rehabilitation program	Health Status: NR Recruitment site: Inpatient alcoholism rehabilitation program				Limitations: Study assessed multiple dysfunctions but only reported data for the one statistical difference across groups.
Pace et al. (1990)	N = 95 Age = 20 - 55 (M = NR) Gender = 21% Female Race/Ethnicity = NR Health Status: HIV + Recruitment: U.S. Air Force medical center	N = 33 Age = NR Gender = NR Race/Ethnicity = NR Health Status: NR Recruitment: Alcohol rehabilitation center	Random selection of military referrals; Interview	DSM-III-R Current Lifetime	HSDD: HIV+ Current 12 / 95 = 13%* Past 1 / 95 = 1% ARC Lifetime 0 / 33 = 0% *significantly greater than ARC, p < .05)	Strengths: Good size clinical sample. Use of a control group and DSM criteria. Limitations: Group demographics inadequately reported. Unable to ascertain the appropriateness of the control group.
Panser et al. (1995)	N = 2115 Age = 40 - 79 (M = NR) Gender = Male Race/Ethnicity = NR Health Status: NR Recruitment: Community		Random population sample stratified by age and geographic location within Minnesota; questionnaire	Erectile dysfunction: Erections little or none of the time when sexually stimulated in the last month (6-point scale). Hypoactive sex drive: No instance of sexual drive in last month .	Erectile dysfunction: Age 40 - 49 < 1% Age 70 and over >25% Hypoactive sex drive: Age 40 - 49 0.6% Age 70 and over 26%† †significant correlation with age (r = .-.53, p < .001)	Strengths: Large population survey. Clear definition of sexual dysfunctions. Limitations: Did not report size of the age defined subsamples. Did not report prevalence statistics adequately. Reported a positive correlation between lack of sex drive and age but gave a negative coefficient.
Ramoso-Jalbuena (1994)	N = 500 Age = Range NR (M = 47) Gender = Female Race/Ethnicity = 98% Malay Health Status: Recruitment: Community sample		Questionnaire	NR 1 year	Dyspareunia : 12-month prevalence Full sample 60 / 500 = 12% Premenopausal 23 / 251 = 9% Perimenopausal 4 / 16 = 25% Postmenopausal 22 / 146 = 15%	Strengths: Statistics on an underrepresented population Limitations: Sampling strategy not well described
Read et al. (1997)	N = 170 Age = 18 - 65+ (M = 40) Gender = 58% Female Race/Ethnicity = NR Health Status: NR Recruitment site: Consecutive attendees at a general practitioner		Questionnaire	NR Current	Male Erectile dysfunction: 12 / 72 =17%* Premature ejaculation: 22 / 72 = 31% Female Anorgasmia: 41 / 98 = 42% Vaginismus: 29 / 98 = 30% *positively associated with age, low social class,	Strengths: Examined correlates of dysfunctions. Limitations: Criteria not specified. Small sample from a single practice. Correlates are based upon small subsamples.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					medication with known sexual side effects, and annual visits to GP, p's < .05	
Rekers et al. (1992)	N = 1299 Age = 35-80 (M = NR) Gender = Female Race/ethnicity = Dutch Health Status: NR Recruitment: Community		Women selected in a stratified sample from a Netherlands city registrar. 2/3 selected between age 45-64 (i.e., around and slightly beyond age of menopause) Questionnaire	NR current	Dyspareunia: Premenopausal 18 / 308 = 6% Postmenopausal 70 / 435 = 16%* *Higher prevalence among postmenopausal group	Strengths: Large representative sample. Limitations: Criteria for dysfunction not reported
Rosser et al. (1997)	N = 197 Age = 20-70 (M = 37) Gender = Male Race/Ethnicity = 94% White Health Status: NR Recruitment site: Health seminar		Convenience sample from a health seminar for gay men. Questionnaire	Endorsement of lifetime/current problem	Lack of interest in or desire for sex: Lifetime (L): 97 / 197 = 49% Current: (C): 32 / 197 = 16% Difficulty getting an erection: (L) 79 / 197 = 40% (C) 26 / 197 = 13% Difficulty maintaining an erection: (L) 91 / 197 = 46% (C) 30 / 197 = 15% Ejaculating too soon /too quickly: (L) 87 / 197 = 44% (C) 37 / 197 = 19%† Difficulty ejaculating: (L) 77 / 197 = 39% (C) 32 / 197 = 16% Painful receptive anal sex: (L) 120 / 197 = 61% (C) 32 / 197 = 16%* Painful insertive anal sex: (L) 28 / 197 = 14% * (C) 6 / 197 = 3% *Lower prevalence among college graduates † Prevalence varied across religious groups	Strengths: Assessed both lifetime and current prevalence in an underrepresented group. Although DSM criteria were not used the assessment instrument and problem list were clearly described. Limitations: Not a representative sample. Confounds of correlates of dysfunctions were not explored.
Schiavi et al. (1991)	N = 70 Age = 45 - 74 (M = NR) Gender = Male Race/Ethnicity = 95% White Health Status: Healthy Recruitment: Community		Participants recruited through media announcement of a health and marital satisfaction study. Interview	Reported coital failure on 50% or more of attempts at intercourse Current	Erectile dysfunction: 17 / 70 = 24%	Strengths: Clear criteria for dysfunction. Examined relations with numerous biological indices of sleep disorder. Limitations: Relatively small self-selected sample. Comments: Study found little evidence of relations between sleep disorders and erectile dysfunction.
Schiavi et al. (1995)	N = 20 Age = 28-59 (M = 40) Gender = Male	N = 20 Age = 27-54 (M = 46) Gender = Male Race/Ethnicity = 95% White	Semi-structured interview of subject and female sexual partner.	DSM-III-R Current	Hypoactive sexual desire: Alcohol dependent group (A) 3 / 20 = 15% Control (C) 0 / 20 = 0% Male erectile disorder:	Strengths: Clear inclusion/ exclusion criteria to rule out confounding effects of non-alcohol related illnesses and

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Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Race/Ethnicity = 75% White Health Status: 10+ years of problem drinking, Lifetime DSM-III-R alcohol dependence diagnosis, abstinent for 2-36 months prior to study Recruitment site: Community	Health Status: Healthy non-alcohol dependent Recruitment site: Community			(A) 2 / 20 = 10% (C) 0 / 20 = 0% Reported behavioral problems: Decreased sexual desire: (A) 5 / 20 = 25% (C) 3 / 20 = 15%. Loss of erections during sex: (A) 3 / 20 = 15% (C) 3 / 20 = 15% Premature ejaculation: (A) 4 / 20 = 20% (C) 1 / 20 = 5% Difficulty ejaculating: (A) 0 / 20 = 0 % (C) 0 / 20 = 0% No significant differences	drugs on sexual functioning. Use of DSM criteria Limitations: Small self-selected sample. Behavior problems not well defined. Study lacked sufficient power to detect differences given the low base rates.
Shahar et al. (1991)	N = 85 Age = 18 - 60+ (Men, M = 42; Women, M = 33) Gender = 39% Female Race/Ethnicity = Jewish-Yemenite Health Status: NR Recruitment site: Rural family practice	N = 77 Age = 18 - 60+ (Men, M = 46; Women, M = 39) Gender = 47% Female Race/Ethnicity = Eastern European Health Status Recruitment site: Urban family practice	Anonymous questionnaire given to all patients over 18 at two family practice clinics during a 2-week period.	Self-report Current	Erectile difficulties: Rural: 7 / 52 = 13% Urban: 2 / 41 = 5% Premature ejaculation: Rural: 13 / 52 = 25% Urban: 10 / 41 = 24% Dyspareunia: Rural: 4 / 33 = 12% Urban: 3 / 36 = 8% Orgasmic dysfunction: Rural: 3 / 33 = 9% Urban: 13 / 36 = 36%	Strengths: Anonymous questionnaire, compared dysfunctions across populations. Limitations: Poorly defined criteria for dysfunctions. Did not report statistics comparing specific dysfunctions across groups
Singer et al. (1992)	N = 48 Age = Range NR (M = 66) Gender = Male Race/Ethnicity = NR Health Status: Parkinson's disease Recruitment site: Hospital?	N = 32 Age = Range NR (M =70) Gender = Male Race/Ethnicity = Health Status: Healthy Recruitment site: Community	Interview	NR Current	Erectile dysfunction: Patient (P) 29 / 48 = 60%* Control (C) 12 / 32 = 37% Ejaculatory disturbance: (P) 4 / 48 = 8% (C) 1 / 32 = 3% Decreased sex drive: (P) 2 / 48 = 4% (C) 1 / 32 = 3% * Higher prevalence in patient group, $p < .05$.	Strengths: Clinical sample of men with Parkinson's disease Limitations: Diagnostic criteria not provided. Recruitment strategy not provided. Few demographic characteristics provided.
Solstad & Hertoft (1993)	N = 439 Age = 51 Gender = Male Race/Ethnicity = Danish Health Status: NR Recruitment: Random population sample of birth cohort		All participants completed a questionnaire. 103 were randomly selected to be interviewed (100 accepted)	Report of erectile dysfunction obstructing intercourse more than occasionally. Criteria not provided for other dysfunctions. 1 - year	Questionnaire: Erectile dysfunction more than occasionally: 16 / 411 = 4% Interview: Erectile dysfunction more than occasionally: 7 / 100 = 7% (None of these individuals reported this on the questionnaire) Premature ejaculation: 14 / 100 =14% Delayed ejaculation: 2 / 100 = 2% Painful ejaculation, decreased sexual desire, other:	Strengths: Representative population sample. Study provides some information about the influence of assessment strategies. Limitations: Criteria and time frame for premature ejaculation, delayed ejaculation, painful ejaculation and decreased sexual desire are not specified.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
					10 / 100 = 10%	
Ventegodt (1998)	N = 1494 Age = 18-88 (M = NR) Gender = 50% female Race/Ethnicity = Danish Health Status: Recruitment site: Community		Representative population sample of 1904-1974 birth cohorts in Denmark. Questionnaire	Endorsement of brief problem description Current	Reduced sexual desire: Male (M) 20 / 626 = 3% Female (F) 34 / 686 = 5% Pain or discomfort during intercourse: (M) 3 / 626 = 0.4% (F) 21 / 686 = 3% Unable to achieve orgasm: (M) 5 / 626 = 0.8% (F) 47 / 686 = 7%* Erectile dysfunction: (M) 34 / 626 = 5%† Premature ejaculation: (M) 31 / 626 = 5% Vaginismus: (F) 3 / 686 = 0.5%?? *Prevalence decreased with age, p < .01 † Prevalence increased with age, p < .001	Strengths: Large representative sample. Limitations: Criteria not well defined.
Verma et al. (1998)	N = 1000 Age = Most between 20-40 Gender = 96% male Race/Ethnicity = North Indian clinic Health Status: healthy Recruitment site: Sex Therapy Clinic		Consecutive patients were given a standard interview	Venerophobia- persistent fear of having contracted an STD despite evidence to the contrary Abnormal sensation in genitalia- ill-defined pain, tingling, creeping of insects in the absence of objective abnormality Current	Male Premature ejaculation: 743 / 964 = 77% Delayed ejaculation: 5 / 964 = 0.6% Erectile dysfunction: 228 / 964 = 24% Venerophobia: 126 / 964 = 13% Abnormal sensation in genitalia: 14 / 964 = 14% Guilt about masturbation: 322 / 964 = 33% Nocturnal emission: 684 / 964 = 71% Female: Sexual arousal disorder: 0 / 36 = 0% Vaginismus: 0 / 36 = 0% Dyspareunia: 0 / 36 = 0%	Strengths: Large sample of an under-represented population. Defined uncommon dysfunctions that were examined. Limitations: Did not define criteria for some dysfunctions. Conclusions are limited to sex clinic attendees. Small number of women in sample.
Wasti et al. (1993)	N = 250 (Group 1) Age = 30 - 55 (M = NR) Gender = Female Race/Ethnicity = Pakistani Health Status: NR Recruitment site: Urban slum	N = 250 (Group 2) Age = 30 - 55 (M = NR) Gender = female Race/Ethnicity = Pakistani Health Status: Recruitment site: Middle class health clinic N = 150 (Group 3) Age = 30 - 55 (M = NR)	All women were post-menopausal. Structured interview	NR Current	Dyspareunia: Group: 1) 20 / 250 = 8%* 2) 34 / 250 = 14% 3) 32 / 150 = 21% * Significantly less than groups 2 and 3, p < .05 Loss of Libido: Group: 1) 93 / 250 = 37% 2) 75 / 250 = 30%; 3) 53 / 150 = 35%	Strengths: Relatively large sample representing diverse socioeconomic groups. Limitations: No diagnostic criteria provided, though authors reported using a standard terminology for all interviews. It is unclear whether dyspareunia percentages are for the full group or sexually active women.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
		Gender = female Race/Ethnicity = Pakistani Health Status: NR Recruitment site: Wives of retired military officers				
Weber et al. (1995)	N = 73 Age =Range NR (M = 53) Gender = Female Race/Ethnicity = NR Health Status: Healthy Recruitment: Gynecology clinic		Questionnaire, physical exam	Positive report of symptom Current	Dyspareunia/ vaginal dryness: 30 / 73 = 41%	Strengths: Examined anatomical and other potential covariates of sexual functioning. Limitations: Did not report prevalence statistics for other dysfunctions assessed.
Wei et al. (1994)	N = 3250 Age = 25 - 83 (M = 51) Gender = Male Race/Ethnicity = 98% White Health Status: Primary care clinic		Medical evaluation, medical history questionnaire given to patients at a preventive medicine clinic on two occasions 6 - 48 months apart.	Inability to achieve and/or maintain an erection suitable for intercourse. Current	Erectile dysfunction: Age: < 45: 4 / 939 = 0.4% 45 - 54: 12 / 1173 = 1% 55 - 64: 26 / 845 = 3% ≥ 65: 29 / 293 = 10%	Strengths: Large clinical sample. Operational definition. Provides incidence statistics. Limitations: Does not use DSM
Whelan et al. (1996)	N = 35 Age = Range NR (M = 39) Range NR Gender = Male Race/Ethnicity = NR Health Status: Healthy (Additives workers) Recruitment: Factory workers	N = 30 Age = Range NR (M = 46) Gender = Male Race/Ethnicity = NR Health Status: Current stilbene derivative exposure (DAS) Recruitment: Factory workers N = 20 Age = Range NR (M = 45) Gender = Male Race/Ethnicity = NR Health Status: Former stilbene derivative exposure (DAS) Recruitment: Factory workers	Volunteers for a study on the effects of a stilbene derivative (DAS), Brief sexual function questionnaire (Reynolds et al., 1988)	Not experiencing full erections during sexual activity; Current	Erectile dysfunction: 2 / 35 = 6%* *Significantly lower than comparison groups of DAS workers.	Strengths: Use of a measure with known psychometrics, use of two matched control groups. Limitations: Self - selected sample.
Zeiss et al. (1990)	N = 55 Age = 50 - 80+ (M = 70) Gender = Male Race/Ethnicity = 98% White Health Status: Alzheimer's disease		Volunteers for a longitudinal study on Alzheimer's disease; interview	Persistent inadequate erections for intromission and sexual intercourse. Current	Erectile dysfunction: 29 / 55= 53%	Strengths: Reports a higher prevalence than previous studies with comparably aged men suggesting relationship between Alzheimer's and E.D. Examined potential confounds. Limitations: Did not include a matched control group.

Authors	Sample	Comparison Sample	Procedure; Assessment	Criteria for dysfunction; Time frame	Prevalence	Methodological Strengths and Limitations
	Recruitment: Volunteers for a longitudinal study on Alzheimer's disease					