



# Epidemiology and Associated Risk Factors for Sexual Dysfunction: A Systematic Review

Somayeh Shahmoradi<sup>1\*</sup>, Seyed Hassan Saadat<sup>2</sup>

<sup>1</sup>Department of Educational Psychology and Counseling, University of Tehran, Iran

<sup>2</sup>Behavioral Sciences Research Center, Lifestyle Institute, Baqiyatallah University of Medical Sciences, Tehran, Iran

## ABSTRACT

The aim of this systematic review was to investigate the epidemiological data, prevalence rates and a description of the risk factors of sexual dysfunctions and female sexual dysfunction in the Iranian population. Databases were searched in Google, Google scholar MEDLINE/PubMed, ISI web of Science, Scopus, EMBASE, IranPsych and IranMedex. Therefore, this review helps psychologists and clinicians to identify the current status about new effective treatments for these problems.

**Key words:** Sexual dysfunctions, Databases, Prevalence, Risk factors

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**Corresponding author:** Somayeh Shahmoradi

e-mail✉: s.shaahmoradii@ut.ac.ir

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## INTRODUCTION

Sexuality is a significant and intricate sphere in quality of life studies [1,2]. Sexual dysfunctions (SDs) exist in whole societies and this perturbation is a fundamental ingredient of life as well as SD is described as a disturbance of the activities related to the sexual reaction cycle or pain in sexual coition. Regarding to this subject, SD may have a negative impact on the health of an individual [3,4], therefore, looking at researches in another zones of the universe reveals that the diversity in stated incidence of sexual disorders is also remarkable [5]. Of course, based on studies conducted, in recent years, psychologists have a lot of notice on the prevention, diagnosis and treatment of SD [1,6]. Therefore, the goal of this review was to explore the epidemiology, prevalence rates and risk factors of SDs and female sexual dysfunction in the Iranian population.

### Epidemiology, prevalence and risk factors

Epidemiological information are rare and few is known about the outbreak of sexual problems and the precise role of potential risk associated with SD are relatively low [7-11]. In Iran, the accurate incidence of SDs still is unknown; although discerning the outbreak rate is one of the most substantial criteria for health care providers demand to expand national policies. Additionally, consciousness of the frequency of SD will facilitate alternative pertaining studies [12]. In parallel, some

researches performed in Tehran, the capital of Iran shows a notable outbreak of these disorders, of which in married couples among the 400 divorce applicants about 66.7% and 68.4% of men and women have been dissatisfied with sexual life with their spouses, respectively [13].

The incidence rates of SD are forcefully supported by evidence-based claims. Wisely reliable studies on outbreak of SDs from several countries were acquired from multiple descriptive epidemiological studies containing Austria, Belgium, France, Germany, Spain, Sweden, United Kingdom, United States, Australia, China, Canada, Iran, Morocco, Taiwan, South Korea, Japan, Puerto Rico, Thailand, Singapore, Malaysia, Indonesia, Philippines, New Zealand, South Africa, Egypt, Italy, Brazil and Turkey [12,14,15].

There are evidence-based literature for common risk factor classifications associated with SD for men and women which including: general health status of the individual, diabetes mellitus, physiological factors, cardiovascular disease, concurrence of other genitourinary disease, obesity, urinary incontinence, poor physical and emotional health, employment status, psychiatric/psychological disorders, medications, infertility, lifestyle, other chronic diseases such as multiple sclerosis, socio-demographic conditions, chronic renal failure, gynecological operations, anxiety, depression, age and education level, quality of life and interpersonal relationships [10,16-21].

The most popular kinds of the studies explored among SD causing infertility in males and females in different

countries have identified as major risk factors of sexual difficulty, which were encountered for men including erectile dysfunction (ED), premature ejaculation (PME), decreased desire, and incapacity to attain orgasm and for women containing dyspareunia, sexual desire, arousal disorders, sexual pain disorders and orgasm. These quantities of disturbances were found distinct in epidemiologic studies examined on SD [19,22-28]. For example, in men, diabetes mellitus as a great risk factor for SD (>70%) causes early erectile dysfunction, pre-ejaculation, orgasm and desire and in women, it highly creates health problems (25%-63%) [29-34]. Of course, in Iran, among the diverse sexual difficulties, the greatest outbreak rate belonged to orgasm difficulty [11]. The superiority of orgasm difficulties confirms the data of the study examined by Safarinejad, but the incidence rate of female desire disorder was estimated to be 10% to 55% between various studies, and this rate in some degrees of orgasmic disorder was reported over 80% in around the world [2]. Prevalence of sexual desire disorder in women has been rated as 27% by Nicolosi and 27%-32% by Laumann [20,35]. In a study by Tayebi et al. in Yazd on infertile women reported that 80.7% of sexual desire disorder and 83.7% of anorgasmia were shown as the most widespread sexual disturbances [36]. Jamali et al. showed the prevalence of SD was entirely high in infertile women of Iran [19]. Basirnia et al. reported that prevalence rates of SD in a wide range in various studies [14]. Furthermore, in other investigation of Jain on the infertile women, 55%, 28%, and 14% of the themes revealed dyspareunia, decreased sexual desire, and orgasm disorders, respectively [37]. In addition, Zeyghami et al. observed that 64% absence of sexual desire and 48% reduction of motivation in the women suffering from cancer [38]. Nevertheless, relationship quality, restraining sex education, poor partner techniques, and inadequate foreplay seem to be across the sakes for this disorder [11]. However, further studies could conduct on the causes of the problems.

Moreover, erectile dysfunction (ED) as another risk factor was seen nearly in whole age groups but the prevalence was higher in old men. Studies have shown that ED prevalence increments with the increase of age [22]. In studies performed, its incidence was 2%, 6.7% and 24% in aged  $\leq 40$  (1%-10%), 50 (2%-9%) and 60 (20%-40%) years, respectively, and 50%-100% in elderly men ( $>70$  years) [39]. In studies similar, the reports of Asian men found the outbreak of ED for ages 40-49 years (7%-15%) and 60-70 years (39%-49%) and Australian studies indicated the prevalence at 40-49 years (5%-6%) and 50-59 years (12%-13%) [23,24]. In Japan, reported the ED incidence rate on ages 40-49 years (15%) and 70-79 years (70%) [40], also, this rate in Thailand for 40-49 years (7%) and 60-70 years (49%) [41], as well as in USA, it was for 40-49 years (1%) and 70-79 years (44%) [42], but for countries such as Brazil, Italy, Japan, Malaysia, and different parts of Asia, this rate from ED prevalence were 5.5%, 17.2%, 34.5%, 22.4% and 12-29.7%, respectively [43,44]. Additionally,

in German for age between (20-50 years) it was 19.2% ED [45], in Turkey 69.2% [46] and in Vienna showed 32.2% prevalence of ED [47]. In an investigation, the outbreak of ED in the Iranian general population was 18%, which this rate is almost four times higher than in Hong Kong [48], because the incidence of ED is 4.3% in the general population [49]. In parallel, multiple factors in this regard with high risk contributors reported like hypertension, heavy smoking, cardiac diseases, lower education, hyperlipidemia, cardiopathy, unemployment, stress, sedentary lifestyle diabetes and depression [46,47,50].

Female sexual dysfunction (FSD) is a gynecologic disturbance, which the accurate prevalence of FSD in the general population remains a quarrelsome theme, and it described as a variation in at least one of 4 main domains of sexual function-arousal, plateau, orgasm, and commonly, FSD could be arranged into several categories: physiological, social, emotional, biological or organic determinants. Satisfaction/dissatisfaction with the spouse's sexual capability and marital affection deserved more attention [51-55].

The incidence of FSD studies conducted around the world. An adjectival study on the periodicity of SD in female students of Mazandaran University of Medical Sciences, Iran using the Female Sexual Dysfunction (FSD) Index in women showed that 91% of them were a type of disorders described [56]. In parallel, the wide outbreak may be related to the religious and sociocultural scores of the population of the study. Mezzone-Holguin et al. reported a high of 35.2% of women with FSD in their study [57]. Dennerstein et al. observed the proportion of women with FSD increased from 42% to 88% [58,59] as well as Castelo-Branco et al. in Chile, revealed that 51.3% of sexually active women presented SD [60]. In another study by Abdo et al. suggested that at least one type of SD in 57.4% of women are observable. Epidemiological results based on the Volant and internationally recognized diagnostic and accredited automated questionnaire have found that the estimated incidence of FSD may be 30%-63% [61]. Nevertheless, in USA and Europe, have shown that FSD prevalence was about 19%-50% [2,62,63]. In the Middle East, was 31.5% [2]. In Japan, Hisasue et al. seen that the outbreak of arousal disorder in women 30 years was 29.7% [63]. Safarinejad, using the Female Sexual Dysfunction Index questionnaire evaluates on 2626 Iranian women between the ages of 20-60 years and observed that the FSD prevalence elevated with age, so, he found a prevalence of 31.5% among these women with this ages [2]. However, the outbreak rate was seen to be 8.5% in the Kohgiluoeh-Bouierahmad province [64] and 19.2% in Babol City of Iran. It should be reminded that in Iran, there are limited studies on the prevalence of FSD [65]. Bakhtiari et al. in a cross sectional study on 236 women suggested that there is a high prevalence of SD between infertile women of Babol, Iran [25]. Similar results have been reported in the study of which contained 1009 women in the outpatient clinic of the University Hospital

in Istanbul in 2008 [66], the study of Jian et al. in Taiwan, China [67], and the study of Ishak et al. in Malaysia in the year 2010 [68]. With study throughout the USA by Laumann et al. on 1,749 women, aged 18–59 years, FSD rate was about 43% of women [20]. Oberg et al. reported that 45% of Swedish women [69]. In Brazil, these rates ranged from 23.9% to 79.3% [70,71] and else study by Kadri et al. with research on 5,728 women living in Morocco were investigated and reported that FSD was about 27% [72,73], Wolpe et al. found that there is a high prevalence of FSD in Brazil [55].

## CONCLUSION

Female sexual problems are extremely widespread in Iran. Agents such as displeasure with the spouse's sexual potency, not feeling delight with sexual activity, penurious marital affection, sexual difficulties of the spouse, and dissatisfaction with the marriage were feasible risk factors for FSD in Iran women. It seems that, paying attention to marital relationships, socioeconomic status, economic social situation fertility and sterility characteristics and their impacts on SD and FSD is necessary to ameliorate the quality of life of women suffering from sexual issues as well as it should be considered in various regions is essential that these problems are the new amplitude for research in Iran and understanding of its epidemiology and risk factors because pre-marriage relationship and extramarital communication are hidden in Iran and considering to rise in Iranian society.

## CONFLICT OF INTEREST

The authors' declares that they have no conflict of interest.

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