

## ORIGINAL ARTICLE

## Female Sexual Dysfunction in Married Medical Students

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### ABSTRACT:

**Background:** Sexuality and its manifestation constitute some of the most complex of human behavior. Sexual dysfunction is more prevalent in women than in men. Prevalence of the subgroups of female sexual disorders is: desire disorder in 5-46%, arousal disorders in 7-10% and orgasmic disorders in 7-10%. The objective of our study was to measure the prevalence of female sexual dysfunction in female medical students. **Materials and Methods:** Thirty two medical students participated in the study. The mean age was  $24.30 \pm 1.29$  years. Duration of marriage was  $2.68 \pm 1.5$  years. Their husbands' education ranges from secondary school diploma to PhD. Persian version of Sexual Function Questionnaire (SFQ) was piloted among medical students with and without chief complaint of female sexual dysfunction. **Results:** Prevalence of an abnormal score in each subgroup of SFQ was as follows: 20.0% in desire, 56.7% in arousal sensation, 33.3% in arousal lubrication, 36.7% in orgasm, 6.7% in pain and 20.0% in enjoyment. In our study 40.0% had sexual problems at least in one subgroup and 6.7% had problems in all subgroups. Only 2 participants were unsatisfied with their sexual life and seeking for any treatment. **Discussion:** In this study, prevalence of Female Sexual Dysfunction (FSD) ranges from 6.7% to 56.7% in subgroups of the disorder. Solving social problems have critical effect on quality of life. Evaluation of FSD is important in total and especially in women who are university educated and will be occupied in essential positions.

**KEY WORDS:** female sexual dysfunction, medical student, sexual function questionnaire

### BACKGROUND

Sexuality and its manifestations constitute some of the most complex of human behavior. The expression of sexuality and intimacy remains important throughout the life span (1). We know that female genital sexual response is a combination of vaso-congestive and neuromuscular events in the genital tract and pelvic floor which are controlled in part, by specific

neurotransmitters (2). Female sexual response begins with desire (libido) for sexual interaction. Masters and Johnson (3) in 1966 described four component of the sexual response: excitement, plateau, orgasm and resolution. But the act of sex includes a woman's sexual self and self-image, intimate relationships, family, society and culture. The complexities of her environment, sexual and partner history, past relationships, mental health status, current medical problems and hormonal status all play a role (4).

Sexual dysfunction is defined as "disturbances in sexual desire and the psycho-physiological changes that characterize the sexual response and cause marked distress and interpersonal difficulty"(5). It is a

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combination of problems that has both biologic and psychosocial components and is multi-factorial in etiology. Until recently, the diagnosis of female sexual dysfunction (FSD) has relied on the classification system of the American Psychiatric Association's Diagnosis and Statistical Manual of Mental Disorders, 4th ed. (DSM-IV). This classification was expanded to include psychogenic and organic cause of desire, arousal, orgasm and sexual pain disorders. (4,6) New questionnaire such as Sexual Function Questionnaire (SFQ) was designed to respond to this need.

Hypoactive sexual desire disorder is the persistent or recurrent deficiency of sexual fantasies, thoughts and/or desire for or receptivity to sexual activity which cause personal distress. Female sexual arousal disorders (FSAD) include the persistent or recurrent inability to attain or maintain sufficient sexual excitement, causing personal distress. An orgasmic disorder is the persistent or recurrent difficulty, delay in or inability to attain orgasm following sufficient sexual stimulation and arousal causing personal distress. Sexual pain disorders include dyspareunia, vaginismus and non-coital sexual pain disorders (4).

Most studies suggest that sexual dysfunction is more prevalent in women than in men. A comprehensive literature review by Simons and Carey (7) notes an overall prevalence of the following disorders: desire disorders 5-46%; arousal disorders 7-10% and orgasmic disorders 7-10%. A study by Shokrollahoi et al in Iran was done and revealed the prevalence of inhibited desire 15%, inhibited orgasm 26%, lack of lubrication 15%, vaginismus 8% and dyspareunia 10%; 38% of the women had at least one sexual dysfunction. The most common sexual difficulties reported were "too little foreplay before intercourse" and "partner chooses inconvenient time" (8% each) (8).

Several measurements have recently been published and include the Female Sexual Function Index (FSFI) (9), the Female Sexual Questionnaire (SFQ) (6), and the Female Sexual Distress Scale (FSDS) (10). The FSFI was supported by Zonagen, Inc. and Bayer AG. It is 19-item questionnaire assessing six domains including desire, subjective arousal, lubrication, orgasm, satisfaction and pain. The SFQ, developed by Pfizer for clinical trials, is a 31-item survey that measures seven domains of female sexual function (desire, enjoyment, orgasm, arousal-sensation, arousal-lubrication, pain and partner satisfaction) (4). The FSDS was supported by Derogatis, et al. The original version has 20-item and a "polished" version has 12-item questionnaire assessing frequency or intensity of female sexual distress. It is important to remember that the prevalence data is dependent on the assessment techniques and these have been highly variable (7). SFQ is a multidimensional

questionnaire which is utilized in many studies and clinical trials all over the world. SFQ was incorporated in four European, multi-center, phase II clinics and in USA (6).

The objective of our study was to determine prevalence of FSD among married medical students. We chose this group due to omit the effect of age, disease, and level of education as confounding factors.

## MATERIALS AND METHODS

In this pilot study during spring 2004, 32 married medical students at Tehran University of Medical Sciences from different sociocultural levels were enrolled. Women in this study were aged 21-26 years (mean age  $\pm$  SD: 24.30 $\pm$ 1.29, range: 21-29).

We devised a questionnaire including: demographic data: female age, husband's age, husband's education, duration of marriage, past obstetrical history, past medical history, drug history during past 6 months, hirsutism, acne, pattern of menses, contraception method used, body mass index (BMI) and complaints of FSD (by clinical interview) (Table 1). Subsequently, SFQ-V1 questionnaire was completed by each subject.

Subjects with a history of ingesting drugs for more than 3 months in the past 6 months, endocrinologic diseases and psychiatric problems were excluded. Two were excluded because of past history of Diabetes mellitus and antidepressant use.

SFQ-V1 has 6 domains and 26 items. These 6 domains included desire, arousal-sensation, arousal-lubrication, orgasm, enjoyment and pain (6) (Table 2). For providing Persian version of SFQ -V1, a translation was produced and back-translated to English, to ensure that the original meaning of each item was maintained. Persian version of SFQ was circulated among married medical students. The prevalence of sexual dysfunction was calculated for each domain. The congruence of scores and demographic data were estimated.

This study was approved by the ethics committee of Tehran University of Medical Sciences. Data were evaluated with the statistical software package SPSS (release 10; Chicago, IL). Significant level sets at  $P < 0.05$ .

## RESULTS

Our subjects were medical students from the first to seventh levels. Husband's education ranges from secondary school diploma to PhD. All of the subjects were nulliparous. Four (13.3%) of subjects had acne. Hirsutism was found in 3 (10%). Hormonal assays were normal in these patients. In 40.0% the contraception method utilized was condom, 16.7% used oral contraceptives and 43.30% didn't use any contraception (Table 1).

Only 2 (6.6%) participants were unsatisfied about their sexual life in clinical interview and sought treatment.

Table 3 shows the frequency of sexual dysfunction detected by SFQ in each subgroup of sexual dysfunction. In our study 40.0% had sexual problems at least in one subgroup and 6.7% had problems in all subgroups.

To investigate various factors that may cause female sexual dysfunction, in a multivariate regression analysis, no significant relation was detected between female ages, male age, duration of marriage, male education, irregular menses, contraception methods used, BMI, hirsutism, and acne with FSD.

**Table 1.** Characteristics of female medical students who filled the Sexual Function Questionnaire

	Mean $\pm$ SD (minimum-maximum)
Female age (y)	24.30 $\pm$ 1.29 (21-29)
Husband's age (y)	27.03 $\pm$ 2.94 (22-34)
Duration of marriage (y)	2.68 $\pm$ 1.5 (1-6)
BMI (kg/m <sup>2</sup> )	22.76 $\pm$ 2.99 (17.85- 30.04)
	Number (%)
Husband education	
Diploma	2 (6.7%)
University education	28 (93.3%)
Contraception method used	
Hormonal	5 (16.7%)
Non-hormonal	12 (40%)
Nothing	13 (43.3%)
Menses	
Irregular	7 (23.3%)
Regular	23 (76.7%)

## DISCUSSION

The major factors that determine a female's sexuality are as follows: genetic and hormonal factors, learning of sexual components early in adulthood, suggestion of parents about the sexual function of children, religion, cultural factors, depression, physical disease and aging (4).

It is difficult to select a group that is unique for this type of study. We chose medical students as a match case group because age, health, and education are important factors in determining female sexual function. The group that we chose was in the third decade of life. The age shows its effects on sexual function in older subjects (11). So the bias of age effect is omitted in this way. Level of education affects the complaint of FSD in the same way. Well educated

persons can understand items of the SFQ more readily and answer to questions without shame.

In 1999, the National Health and Social Life survey reported that 43% of American women reported sexual problems including: lack of desire, decreased vaginal lubrication, pain and discomfort with intercourse, or decreased pleasure and difficulty achieving orgasm (12). One study in 2004 revealed that 55% of the evaluated women were satisfied with their sexual life in the last month, 20% were fairly satisfied and 21% were unsatisfied (13). In a German study on female medical students, prevalence of sexual dysfunction was 25% (13). According to our research only 6.6% of women complained about sexual problems. The low prevalence of seeking medical care for sexual dysfunction is related to cultural issues in Iran.

After completing SFQ, we showed that 40.0% had sexual problems at least in one subgroup and 6.7% had problems in all subgroups. In comparison with nations with similar socio-cultural factors, Cayan et al reported a prevalence of 46.9% in Turkish women. Prevalence of FSD was 21.7% in the ages of 18-27 years in the same study (11). Lower prevalence in young Turkish women and German medical students can be explained by difference in cultures. Shokrollahi et al studied the prevalence of sexual dysfunction in women seeking services at family planning centers in Tehran (8). There was at least one sexual dysfunction in 38% of women. Abnormality of desire, orgasm, lubrication and pain were found in 15%, 26%, 15% and 18% respectively. However in our study, these abnormalities were 20%, 36.7%, 33.3% and 6.7% respectively. It seems that having more knowledge about the physiology of orgasm and lubrication in well-educated subjects can explain the higher prevalence of reporting abnormality in these two categories. Subjects with higher levels of education can explain some degrees of their pain as physiologic event, however any pain in general population may interpret and reported as pathologic.

In this pilot study we found no relation between demographic factors (female age, husband's age, husband's education, duration of marriage, hirsutism, acne, pattern of menses, contraception method utilized and BMI) and FSD, however it is postulated that many factors including age, knowledge, sexual knowledge, body image, partner dissatisfaction, and life stress (such as unemployment), chronic diseases, culture and ... have some effects on the prevalence of this disease. Shokrollahi et al reported that a positive correlation was found between sexual knowledge and the experience of orgasm ( $r = 0.1990$ ,  $p = 0.001$ ). Cayan et al reported that sexual dysfunction was observed as significantly higher in the presence of older age ( $p = 0.001$ ), lower educational level ( $p = 0.012$ ), chronic disease ( $p = 0.032$ )

**Table 2.** Guidelines to SFQ scores: SFQ score ranges indicative of likelihood of sexual dysfunction and normal function

Domain	High probability of female sexual dysfunction	Borderline probability of normal sexual function	High probability of normal sexual function
Desire	5-16	17-22	23-31
Arousal-sensation	4-10	11-13	14-20
Arousal-lubrication	2-5	6-7	8-10
Orgasm	3-8	9-11	12-15
Pain	2-8	9-11	12-15
Enjoyment	6-16	17-22	23-30

**Table 3.** Prevalence of sexual dysfunction in relation to subgroups of sexual function

Domain	Mean $\pm$ SD	High probability of female sexual dysfunction	Borderline probability of normal sexual function	High probability of normal sexual function
Desire	18.44 $\pm$ 3.54	6 (20.0%)	18 (60.0%)	3 (10.0%)
Arousal-sensation	9.89 $\pm$ 3.89	17 (56.7%)	5 (16.7%)	7 (23.3%)
Arousal-lubrication	6.20 $\pm$ 2.32	10 (33.3%)	9 (30.3%)	9 (30.3%)
Orgasm	8.57 $\pm$ 3.63	11 (36.7%)	10 (33.3%)	7 (23.3%)
Pain	9.96 $\pm$ 2.22	2 (6.7%)	26 (86.7%)	0
Enjoyment	15.57 $\pm$ 3.95	6 (20.0%)	14 (46.7%)	8 (26.7%)

(8, 11). It seems that the sample size in this study is too little to find these correlations. However the characteristics of this group are similar to the general population and by increasing the sample size valuable data will be obtained. For example in our research the incidence of hirsutism was 10% and acne 13.3%. The incidence of acne is about 40% among girls under 17 and it decreases when they grow older. The incidence of hirsutism is 10% (14).

There is a wide variety of sexual problems with a high prevalence of different disorders in this selected population. It would be important to bring up the point that female medical students are involved in an emotionally-charged and physically-demanding program, which may affect their level of sexual dysfunction. Depending on how their living situation is, and whether they receive help in household chores, the pressure that hospital work and household work together entailed can have a toll on one's emotional state, and this is important to consider in light of the high prevalence of sexual dysfunction among female medical students. The continued quest to understand female sexual dysfunction requires more research on underlying medical and non-medical conditions.

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