Prevalence and risk factors of sexual dysfunction in healthy women in Turkey

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Abstract

Objectives: This is a cross sectional study conducted in order to determine sexual dysfunction in healthy women and risk factors.

Patients and methods: The population of the study consisted of 282 women. The whole of the population, without sample selection, was included in the study. For data, questionnaire and Female Sexual Function Index-FSFI, whose Turkish validity and reliability study was conducted, were used. Student t and chi-square significant tests and logistic regression analysis were used to carry out statistical analysis.

Results: It was found that 35.8% of 282 women who participated in the study were in the age range of 30-39 years, 54.6% had high school educational level or above, and 59.6% worked. Prevalence was determined as 53.2% FSFI score < 26 according to Female Sexual Function Index FSFI; 23% of the women had complaints about urinary incontinence UI. According to logistic regression results, it is determined that CFB risk is increased in patients with age and urination problem. It was determined that there was no significant correlation between income, number of children, perceived economic status, dyspareunia, having problem with the partner, experiencing premenstrual syndrome, and SD.

Conclusion: In this study, approximately half of healthy women had SD and development of SD was affected based on some descriptive characteristics. As sexual life was considered as a factor increasing life quality, it was thought that it is fairly important to discuss the questioning of problems related to sexual life for systematic evaluation of patients, as well.

Keywords: SD, risk factors, prevalence, Turkey.

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Background

Sexual dysfunction in women is a public health issue with many physical and psychological outcomes, that affects women’s quality of life. Sexuality is a complex process related to neurological, vascular and endocrine systems. It also includes familial, social, and religious beliefs.

Female sexual dysfunction FSD is a common problem and negatively influences life quality. Sexual dysfunction is defined as a permanent or recurrent decrease in sexual desire or arousal, having difficulty/insufficiency with success of achieving orgasm, and feeling pain during sexual intercourse. SD has been stated as a sexual problem that adult women may experience at the rate of 40-45% in any time of their lives. Complex interaction of several genetic, biological, psychological, social, and cultural factors play a role in etiology of SD. The most common risk factors of SD are general health condition of individuals, presence of diabetes mellitus, presence of cardiovascular disorder, coexistence of other genitourinary disorders, psychiatric and psychological disorders, other chronic disorders, and socio-demographic characteristics.

Sexual dysfunction may significantly affect individual's mood, self-confidence, life quality and may cause breakdown of interpersonal relationship and emotional stress. Sexual dysfunction may be physically worrying, emotionally stressful, and socially destructive for several women.
In a previous study, it was stated that physical and emotional health of women experiencing sexual dysfunction was worse. In another study, it was found that if a woman was not comfortable with sexuality, this resulted in interparental conflict and divorce and reproduction was influenced. Sexual dysfunction between spouses has been reported as the second underlying reason for divorce in Muslim countries.

As it is in several cultures, sexuality is an issue that is also assumed as a taboo, ignored by women, and is not considered very much by healthcare professionals in Turkey. This condition may make negative impacts on life quality deeper by causing sexual problems to become more complex and harder to solve. However, it is very important to discuss questioning about sexual life in systematic evaluation of patients when sexual life is considered as a factor that enhances quality of life. Therefore, the study was conducted in order to examine sexual dysfunction and reasons in healthy women in age group of 15-49 years and to draw attention of healthcare professionals on this issue.

Objectives
Sexual dysfunction SD is a complex health problem affected by numerous anatomic, psychological, medical, and social factors. This is a cross-sectional study conducted in order to determine sexual dysfunction in healthy women; and its risk factors.

Material and methods
Study design
This study was a cross-sectional one conducted in order to determine sexual dysfunction and its reasons in healthy women. The data were collected from women who attended the gynecology outpatient clinic of a University Hospital between 1 April and 30 June 2016. Inclusion criteria of the sample were determined as being older than 20 years, agreeing to participate in the study, married, not breastfeeding, not being pregnant, and not going through menopause. The women who were diagnosed with any type of systemic disorder, such as diabetes, hypertension, coronary artery disease, etc., using medicine continuously due to any reason, and were at one year period of post-partum were excluded from the study. The sample of the study consisted of 282 women who attended the outpatient clinic for various complaints or control between specified date and met the criteria.

Instruments and measures
The data were collected by using face-to-face interview technique via a questionnaire developed by the researchers after the relevant literature review. A questionnaire and Female Sexual Function Index-FSFI, whose Turkish validity and reliability study was conducted, were used as data collection tool. In the questionnaire, risk factors that may influence socio-demographic, obstetric, and sexual functions of the women were questioned. Age, education, employment status, income, health insurance, and duration of marriage were evaluated as demographic characteristics. For obstetric characteristics, number of children, type of birth, and status of using family planning method were assessed. Urinary incontinence, vaginal route infection, pain during sexual intercourse (dyspareunia), premature ejaculation problem of partner, erection problem of partner, and experiencing premenstrual syndrome were evaluated as factors related to sexual dysfunction.

FSFI is a Likert type scale consisting of 19 items and evaluating sexual dysfunction in women. Validity and reliability study of FSFI was conducted by Rosen et al. Cronbach’s alpha coefficient was 0.82 and test reliability was 0.79-0.86. Scale’s Turkish validity and reliability analysis was conducted by Oksuz and Malhan. Scale consists of 6 separate titles: desire, arousal, lubrication, orgasm, satisfaction, and pain. Each title in this scale was scored between 0 or 1 and 6. Score range of overall scale was between 2 minimum score and 36 maximum score. High score indicates better function. In this study Cronbach’s alpha coefficient was 0.81 and existence of sexual dysfunction in this study was also accepted in women who had a score of 26.55 and below.

Data analysis
The data were evaluated by using SPSS 10.0 packaged software and complementary statistics of the data were assessed by using percentage distribution and mean. Student t and chi-square significance tests were used in order to determine possible correlations between dependent and independent variables. Logistic regression analysis method was utilized for detecting risk factors that may cause sexual dysfunction.
Ethical principles
In order to conduct this study, ethical approval of Atatürk University Institutional of Health Sciences Review Board according to the Declaration of Helsinki IRB No. CMUH-2016/03/9 was received. As the questions had to be answered voluntarily, we informed the participants that they were free in participating in the study and we assured their willingness and voluntariness. Thereafter, the participants were informed and their questions were answered about the study. They were also informed that they could withdraw from the study anytime, and this would not care received at the clinic.

Results
As descriptive characteristics of the women participating in the study were examined; it was found that duration of marriage was $14.58\pm10.40$, the number of children was $2.23\pm0.99$, and frequency of intercourse was $1.08\pm0.68$; 35.8% of the women were in age group of 30-39 years, 54.6% of the women and 69.5% of their husbands had high school level and above education, 59.6% of the women were employed, 54.6% of their husbands were civil servants, and 87.2% stated their perceived economic condition as medium-good; 72.5% of the women also expressed that they used modern method, and 71.5% had had normal delivery Table 1.

| Characteristic                              | Mean | sd  |
|--------------------------------------------|------|-----|
| Duration of marriage                       | 14.58| 10.40|
| Number of children                         | 2.23 | 0.99 |
| Frequency of intercourse                   | 1.08 | 0.68 |
| Age                                        |      |     |
| 20-29                                      | 72   | 25.5|
| 30-39                                      | 101  | 35.8|
| 40-49                                      | 76   | 27.0|
| 50 and older                               | 33   | 11.7|
| Educational Level                          |      |     |
| Secondary school and below                 | 128  | 45.4|
| High school and above                      | 154  | 54.6|
| Educational level of Husband               |      |     |
| Secondary school and below                 | 86   | 30.5|
| High school and above                      | 196  | 69.5|
| Employment Status                          |      |     |
| Employed                                   | 114  | 40.4|
| Unemployed                                 | 168  | 59.6|
| Husband’s Job                              |      |     |
| Self employed                              | 128  | 45.4|
| Civil servant                              | 154  | 54.6|
| Perceived Economic condition               |      |     |
| High                                       | 36   | 12.8|
| Medium + low                               | 246  | 87.2|
| Status of Using Method n: 262              |      |     |
| Modern method                              | 190  | 72.5|
| Withdrawal                                 | 72   | 27.5|
| Type of Birth n: 253                       |      |     |
| Normal                                     | 181  | 71.5|
| Cesarean                                   | 72   | 28.5|
| IFSI SCORE                                 |      |     |
| Low 26 points and less                     | 150  | 53.2|
| Medium+ high 27 points and above           | 103  | 36.5|
When risk factors that may cause sexual dysfunction in women were examined; 23% had urinary incontinence, 26.6% had symptom of urinary tract infection, and 22.6% experienced pain during sexual intercourse. It was determined that husbands of 15.7% of women had premature ejaculation problem, husbands of 7.1% had erection problem, 8.6% had problem with their husbands, and 37.6% experienced premenstrual syndrome Table 2.

| Risk Factors                                      | Number | %    |
|--------------------------------------------------|--------|------|
| Experiencing urinary incontinence                 | 65     | 23   |
| Symptom of urinary tract infection                | 75     | 26.6 |
| Experiencing pain during sexual intercourse dyspareunia | 63     | 22.6 |
| Premature ejaculation problem of husband           | 44     | 15.7 |
| Having erectile problem                           | 20     | 7.1  |
| Having problem with husband                       | 24     | 8.6  |
| Experiencing premenstrual syndrome                | 106    | 37.6 |

In Table 3, it was found that women's duration of marriage, age, education of women and their husbands, using method, and type of birth were correlated with experiencing sexual dysfunction, but there was not a significant correlation between income level, the number of children, and perceived economic status and sexual dysfunction $p>0.05$ Table 3.

According to correlation of sexual dysfunction with descriptive characteristics and logistic regression analysis of risk factors; age posed a risk for sexual dysfunction, but duration of marriage, income, the number of children, educational level of woman and her husband, employment status, perceived economic condition, using method, and type of birth were determined not to pose a risk for sexual dysfunction Table 3.
It was found that experiencing sexual dysfunction was correlated with women who had urinary incontinence problem, symptom of urinary tract infection, whose husband had premature ejaculation and erection problem, but there was no significant correlation between experiencing pain during sexual intercourse, having problem with husband, and premenstrual syndrome and sexual dysfunction Table 4.

According to correlation of female sexual dysfunction with risk factors and logistic regression analysis of risk factors; it was determined that those having urinary incontinence posed a risk for sexual dysfunction, but those who had symptom of urinary tract infection, had pain problem during sexual intercourse, whose husband had premature ejaculation and erection problem, who had problem with their husband and experiencing premenstrual syndrome did not have a risk for sexual dysfunction Table 4.
Table 4: Correlation of female sexual dysfunction with risk factors and logistic regression analysis

| Descriptive Characteristics | Sexual Dysfunction | Significance test | OR 95% confidence interval |
|-----------------------------|---------------------|------------------|---------------------------|
|                             | Yes | No   | X² | p: | .95% confidence interval |
| Experiencing urinary incontinence | 18 27.7 | 47 72.3 | 22.059 | .000 | .263 -.131-.263 |
|   Yes                       | 132 60.8 | 85 39.2 |               |                |               |
|   No                        |       |       |               |                |               |
| Symptom of urinary tract infection | 31 41.3 | 44 58.7 | 5.770 | .021 | .766 .457-1.781 |
|   Yes                       | 119 57.5 | 88 42.5 |               |                |               |
|   No                        |       |       |               |                |               |
| Experiencing pain during sexual intercourse | 32 50.8 | 31 49.2 | .187 | .670 | 1.255 645-2.439 |
|   Yes                       | 118 53.9 | 101 46.1 |               |                |               |
|   No                        |       |       |               |                |               |
| Premature ejaculation problem of husband | 16 36.4 | 28 63.6 | 6.071 | .020 | .578 273-1.221 |
|   Yes                       | 134 56.5 | 103 43.5 |               |                |               |
|   No                        |       |       |               |                |               |
| Male erectile problem       | 6 30.0 | 14 70.0 | 4.650 | .037 | .526 .173-1.594 |
|   Yes                       | 144 55.0 | 118 45.0 |               |                |               |
|   No                        |       |       |               |                |               |
| Having problem with husband | 16 66.7 | 8 33.3 | 1.913 | .020 | 2.589 .952-7.043 |
|   Yes                       | 134 51.9 | 124 48.1 |               |                |               |
|   No                        |       |       |               |                |               |
| Experiencing premenstrual syndrome | 52 49.1 | 54 50.9 | 1.166 | .325 | .832 .485-1.427 |
|   Yes                       | 98 55.7 | 78 44.3 |               |                |               |
|   No                        |       |       |               |                |               |

Discussion

Sexual dysfunction is an important community health problem that affects women more than men. Sexual dysfunction is a multidisciplinary dysfunction, which affects the physical, mental and social condition of women. Prevalence of SD in the present study was found as 53.2%. Prevalence of SD in previous studies conducted in Turkey was reported as 52.5% of sexually active 5391 women aged between 40-59 years in Latin America. In addition, numerous studies conducted on sexual dysfunction in Muslim countries show parallelism with findings from Turkey and European countries. It was found that 29.6% of Malay women, 31.5% of Iranian women, and 68.9% of Egyptian women experienced at least one or more sexual problem. Results of the study make us think that female sexual dysfunction is a common problem. High incidence of SD in the present study might be caused by neglect of sexual
dysfunction, conservative beliefs, and widespread lack of information about sexuality in Turkey.

It was determined in the literature that low education level increases the risk of sexual dysfunction. In this study, along with a statistically significant correlation between the education level of women and their spouses and the level of sexual dysfunction occurrence, it was also stated that as education level increases, so does the frequency of sexual dysfunction occurrence. Results of the study conducted by İsmail et al. are similar to our ours, they both state that patients with a high education level exhibit a more frequent sexual dysfunction occurrence. In another study, when women with sexual dysfunction were compared with women who do not have sexual dysfunction, high education level was found to be the only criteria for the dysfunction. In Turkey, women with a high education level are employed in jobs with a high-stress level such as teachers and nurses. This chronic stress has a negative effect on gender and sexual hormones. Furthermore, women with higher education level may have a tendency towards breaking the taboos and openly revealing their sexual problems.

In the present study, using modern contraceptive methods was determined to influence development of SD. It is remarkable that results of study, in which correlation between using contraception and SD was investigated, in the literature were contradictory. While there was no significant correlation between using method and SD in some studies significant correlation was also found in some studies similar to results of the present study. Using contraception may reduce anxiety resulted from unintended pregnancy during sexual intercourse and may had a positive effect on woman’s sexual function. Further research is required to confirm and explain the effect of using methods on sexuality.

Urinary incontinence UI has a negative effect on female sexuality. In the study of Salonianın et al. the rate of sexual dysfunction was reported as 46% in women with UI. Being psychologically distressed, concerns about urinary incontinence during sexual intercourse, and feeling embarrassed because of smell have been indicated as the reason of sexual dysfunction. In the present study, there was correlation between SD development and urinary incontinence, urinary incontinence was found as a risk factor for SD in logistic regression analysis carried out with other variables. It was reported in a previous study that sexual complaints were strongly correlated with UI, especially women with UI had lower libido, more vaginal dryness and dyspareunia complaint compared to those without UI. Another study indicates that women with UI had low sexual activity. In a study conducted by Zincir et al., it is stated that women with severe urinary incontinence have a low score in the Sexual Function Index for Women and poor sexual functions. In a study conducted by Grzybowska et al. it is stated that women with severe and mid-level stress urinary incontinence have a poor sexual function quality. In a study conducted by Dos Santos et al. on nulliparous athletes, it is stated that women with urinary incontinence have 2.7 times more sexual desire problems, compared to women who do not have this problem. In current studies, the reason for positive correlation between SD and UI was indicated as the effect of UI on life quality, especially it posed a barrier on satisfaction of women, having coital incontinence, with sexual life. The correlation between SD and UI was reported to develop as a result of extremely active bladder, UI, and pelvic prolapse, in addition to hormone deficiencies that affect pelvic organs.

Some characteristics and problems related to women’s husband may be a risk factor towards SD. Jiann et al. determined that there was a significant correlation between
male erectile disorder and female SD. Advanced age of husband and premature ejaculation and erectile disorder are stated as risk factors for SD. In the present study, a significant correlation was found between having husband with premature ejaculation and erectile disorder and developing SD.

Another factor affecting prevalence of SD is type of birth. In this study, a significant correlation was determined between type of birth and SD. Results of some previous study showed similarity with results of the present study and while it was reported that delay for starting sexual intercourse, dyspareunia, and sexual problems were correlated with vaginal delivery with intervention, episiotomy etc., and type of birth increased these mentioned risks, had a negative effect on sexual activity. Some studies indicated that there was no significant correlation between type of birth and episiotomy with time of starting postpartum sexual intercourse, sexual satisfaction, arousal, frequency of sexual intercourse, and dyspareunia; and dyspareunia was correlated only with breastfeeding. Similarly, there are studies determining that a significant correlation was not found between sexual function with normal vaginal birth and cesarean section birth, women with cesarean section started postpartum sexual intercourse earlier than women who gave normal vaginal delivery and there was also variation between these correlations.

In the present study, income was determined not to influence SD. Similar to result of the present study, there was no correlation between employment status, income and sexual function in the study of Elnashar et al. But, correlation was determined between economic status and sexual dysfunction in the study of Laumann et al. The reason behind why there was no correlation in Turkey might be associated with no huge difference in economic status of those in the study group.

Conclusion
These results indicate that SD is still common and is an important health problem. Therefore, it becomes crucial to evaluate symptoms and risk factors of SD, providing consultancy services about issues like preservation and treatment. Additionally, even though sexual health multi-dimensionally influences life of individuals, it is frequently ignored during the care given to patient. For this reason, maintaining sexual life which is a physiological need mostly stays in the background. Therefore, nurses, who are more together with individuals during health and every step of disease and treatment period, have important responsibilities especially about this issue. For this reason, it is recommended for nurses to play an active role in correct and sufficient data collection for sexual health history, evaluating the ratio of vulnerability of sexual health from disease period, providing an extensive care and diagnosing sexual problems and concerns. This way, it will contribute to improving life quality of women and preventing permanent health problems.

Limitations
There are some limitations to this study. First, the results obtained represent the women in the context of research and cannot be generalized. Second, the survey data were collected by face to face interviews. Asking questions about sexual life in our society, a topic may have been accepted as confidential, the replied reflect the current state of women working to take part. Therefore, the reliability of the data is limited to information provided by the interviewer.

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Authors’ contribution
MK was involved in study design, data collection, and manuscript development. MK, wrote the paper. MK performed the statistical analysis. MK read and approved the final manuscript

Abbreviations
SD: Sexual Dysfunction; FSF: Female Sexual Function Index; UI: Urinary Incontinence; FSD: Female Sexual Dysfunction

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