Knowledge On Sexuality And Prevalence Of Female Sexual Dysfunction: A Population Study

Kadınlarda Cinsellik Hakkında Bilgi Düzeyi ve Cinsel İşlev Bozukluğu Prevalansı: Bir Saha Çalışması

AUTHORS / YAZARLAR

Serdar Oztora
Department of Family Medicine, Trakya University Faculty of Medicine, Edirne, Turkey

Nihal Nayir
Department of Family Medicine, Erzincan Tercan State Hospital, Erzincan, Turkey

Ayse Caylan
Department of Family Medicine, Trakya University Faculty of Medicine, Edirne, Turkey

Hamdi Nezih Dagdeviren
Department of Family Medicine, Trakya University Faculty of Medicine, Edirne, Turkey

ABSTRACT

Aim: Female sexual dysfunction is an age-related, progressive and multidimensional health problem, which affects 30-50% of the women and has a negative effect on health-related quality of life. In this study, we aimed to determine the level of knowledge and attitudes on sexuality, the prevalence of sexual dysfunction and to investigate their relationship with sociodemographic features and common risk factors.

Methods: 901 women over 20 years of age living in Edirne filled out a questionnaire comprised of 52 items assessing knowledge on sexuality, sociodemographic features and risk factors along with Female Sexual Function Index.

Results: The mean age of participants was 42.77±15.06, 30.9% were university graduates and 74.4% were married. 40.3% reported that they get information from books and magazines and 31.4% consult their spouse in case of a sexual problem. Of the sexually active women (n=601), 41.1% had sexual dysfunction. There was a significant relationship between sexual functioning and age, educational and occupational status, marriage type and the presence of depression.

Conclusions: It is obvious that over 40 women attending to primary care facilities out of 100 suffer sexual dysfunction. As it is higher than most of the chronic diseases, female sexual dysfunction deserves special attention as an important aspect of human functioning. Family physicians should not hesitate to investigate sexual dysfunction in the primary care. We believe that our population-based study will make a contribution on this rather undercover and underestimated health issue.

Keywords: sexual dysfunction, females, risk factors, arranged marriage, depression

ÖZET

Amaç: Kadın cinsel işlev bozukluğu yaş ile ilişkili, ilerleyici ve çok boyutlu bir sağlık sorunudur ve kadınların %30-50'sini etkileyerek sağlıkla ilintili yaşam kalitesi üzerine olumsuz etki yapar. Bu çalışmada cinsellik hakkındaki bilgi düzeyi ve tutumlarını, cinsel işlev bozukluğu prevalansını ve sosyodemografik faktörler ve sık görülen risk faktörleri ile ilişkisini saptamayı amaçladık.

Yöntem: Edirne il merkezinde yaşayan 20 yaşın üzerindeki 901 kadın cinsellik hakkında bilgi düzeyi, sosyodemografik faktörleri değerlendiren ve kadın cinsel işlev ölçeğini içeren 52 soruluk bir anket doldurdular.

Sonuçlar: Katılımcıların ortalama yaşı 42,77±15,06 idi ve %30,9 üniversite mezunu iken %74,4 evliydi. Kadınların %40,3'ü bilgileri kitap ve dergilerden alırken, %31,4'ü bir cinsel sorun varlığında eşlerine danışıyorlardı. Cinsel olarak aktif kadınlardan (n=601) %41,1'inde cinsel işlev bozukluğu mevcuttu. Cinsel işlevler ile yaş, eğitim düzeyi, meslek, evlilik tipi ve depresyon varlığı arasında anlamlı ilişki vardı.

Sonuç: Birinci basamak sağlık kuruluşlarına başvuran 100 kadından 40'ından fazlasında cinsel işlev boukluğu olduğu aşikardır. Kronik hastalıkların çoğundan fazla olması nedeniyle, kadın cinsel işlev bozukluğu insan işlevselliğinin önemli bir parçası olarak özel ilgiyi hak etmektedir. Aile Hekimleri birinci basamakta cinselliği sorgulamakta tereddüt etmemelidirler. Bu saha çalışmamızın böyle gizli kalmış ve ihmal edilen bir sağlık sorununa önemli katkı verebileceğine inanmaktayız.

Anahtar kelimeler: cinsel fonksiyon bozukluğu, kadınlar, risk faktörleri, ayarlanmış evlilik, depresyon

Corresponding Author / İletişim için
Assoc. Prof. Dr. Serdar Oztora
Trakya Üniversitesi Aile Hekimliği Anabilim Dalı Balkan Yerleşkesi, 22030, Edirne, Turkey
E-posta: droztora@yahoo.com
Date of submission: 11.12.2015 / Date of acceptance: 24.05.2016

Introduction

Female sexual dysfunction (FSD) is an age-related, progressive and multidimensional health problem, which affects 30-50% of the women and has a negative effect on health-related quality of life (1). Despite the improvement in male sexual dysfunction, pathophysiology, psychology and treatment of female sexual function remains blur due to the lack of a convenient diagnostic classification, and limited amount of researches in this area. There are various factors affecting the inadequacy of the data on female sexuality. Social values and norms on expressing sexual problems are major obstacles in discussing the sexual problems with a health care professional, especially for the women (2). However, recent interest in female sexual function and the raise in researches on this topic helped to take steps in the physiology of the female sexuality and the treatment of related problems (3).

In this study we aimed to determine the level of knowledge and attitudes on sexuality, the prevalence of sexual dysfunction among women over 20 years of age living in Edirne city, and to investigate their relationship with sociodemographic and familial features, smoking and alcohol use and depression.

Methods

This descriptive and cross-sectional study was conducted in Edirne city center. The study population consists of adult women older than the age of 20, living in Edirne. To determine the stratified sample of the study, age groups were calculated according to the data of the Health Directorate in 2008, in which the population of women over 20 years was 61228. With the previous FSD prevalence of %43, the sample size was calculated as 588 using 95% confidence interval (α=0.05) and 0.04 sampling error (d=0.04) (4). The volunteers were informed verbally, and answering the questionnaire was accepted as their consent. Despite having agreed to participate in the study in the first place, volunteers expressing reluctance in continuing the questionnaire were excluded and replaced with other volunteers. At the end, 901 women were participated in the study. In this study, international ethical regulations have been followed and approval of the Local Ethics Committee of Trakya University has been obtained. There was no funding/sponsorship received in relation to this paper.

A questionnaire form developed by the researchers was used in order to collect data. The questionnaire comprised of 52 items regarding the sociodemographic features of the participants, smoking and alcohol habits, level of depression, knowledge, attitudes and behavior on sexuality and sexual functions. The questionnaire was filled out by the participants or by the researchers in a face-to-face interview. SPSS for windows was used for analysis.

The Female Sexual Function Index (FSFI) was developed by Rosen et al in 2000 to evaluate the female sexual function, as a multidimensional index comprising of 19 items. The index is evaluating the sexual functions or problems in the last 4 weeks. In the structure of the index, there are six domains, which are desire, excitement, lubrication, orgasm, satisfaction and pain (5). Achieved by multiplying the index subscores with factor loads, the highest score can be 36, whereas the lowest is 2 (5-7). The total cut-off score for FSFI is 26.55; the scores equal and below 26.55 are considered as female sexual dysfunction (5,7,8).

The Turkish adaptation of FSFI and the validity and reliability analysis was made by Aygin et al in 2005 and the range of internal consistency coefficient was found to be between 0.70 and 0.96, the average Cronbach alpha value was 0.98 among the women with breast cancer and FSFI was found to be a reliable and valid measure of sexual function among Turkish women (6). We found the average Cronbach Alpha value as 0.99 in our study, and the Cronbach Alpha values of domains between 0.88 and 0.99 (Desire: 0.88, Excitement: 0.98, Lubrication: 0.98, Orgasm: 0.98, Satisfaction: 0.99, Pain: 0.98).

For the smoking habit, the age of initiation and the amount of smoking were investigated. The current smokers were applied Fagerström Nicotine Dependence Test, developed by Fagerström, and of which the Turkish validity was made by Uysal et al (9,10).

Of the current alcohol consumers, the CAGE scores were determined using the 4 item CAGE (Cut-down, Annoyed, Guilty, Eye-opener) test as a screener, which was developed by Ewing and clinically adapted by Bush, and Turkish validity was

made by Gül et al (11-13).

To determine the presence of depression among participants, the short form of Beck Depression Inventory for Primary Care was used. The Turkish adaptation, validity and reliability of the test were made in 2005 by Aktürk et al (14).

Results

The mean age of participants (n=901) was 42.77±15.06 years, with a minimum of 20 and maximum of 87 years of age.

As the participants were categorized into age groups, 26.5% (n=239) of the participants were in group of 20-29 years, 20.3% (n=183) in 30-39, 20.1% (n=181) in 40-49, 15.9% (n=143) in 50-59, 13.4% (n=121) in 60-69 group, and %3.8 (n=34) were 70 years of age and above.

According to the education levels, 3.8% of the participants were illiterate (n=34), whereas 3.8% were literate (n=34), 26.7% primary graduates (n=241), 10.2% secondary graduates (n=92), 24.6% high school graduates (n=222) and 30.9% university (n=278) graduates.

Of the participants 74.4% were married (n=640), 15.9% were single (n=143) and 9.7% were divorced or widowers (n=88).

When the participants' source of knowledge on sexual issues was examined, 32.6% (n=294) reported that they get information from friends, 29.2% (n=263) from family, 40.3% (n=363) from books and magazines and 16.8% (n=151) from other sources.

When the participants were asked, who they consult in case of a sexual problem, 31.4% (n=283) addressed the spouse, 3.6% (n=32) mother, 0.6% (n=5) mother-in-law, 12.4% (n=112) friend, 0.9% (n=8) a relative, 1.3% (n=12) religious preacher, 1.9% (n=17) consultant, 61.2% (n=551) doctor, 5% (n=45) hospital, 4.8% (n=43) psychologist and 3.2% (n=29) other.

When the participants' choice of physicians in case of a sexual problem were investigated, 7.1% (n=64) reported that they will admit to their family physician, 70.5% (n=635) to a gynecologist, 1.1% (n=10) to an internist, 1.1% (n=10) to an urologist, 11.4% (n=103) to a psychiatrist, whereas 8.8% (n=79) had no idea.

When the first sexual intercourse of the participants with a previous sexual activity (n=795) were asked, 93.2% (n=74) had their first intercourse with their husbands, whereas 4.9% (n=39) had it with boyfriend, 0.6% (n=5) in a short-term relationship, 0.3% (n=2) one-night/coincidental and 1% (n=8) other.

According to the FSFI scores of the women who had sexual intercourse in the last 4 weeks (n=601), 41.1% (n=247) had sexual dysfunction, of which the details are shown in Table 1.

Table 1. The female sexual function index domain scores

	n	Min	Max	Mean	SD
Desire	601	1,2	6	3,7498	1,12051
Excitement	601	1,2	6	4,3912	1,08298
Lubrication	601	1,2	6	4,8135	1,17229
Orgasm	601	1,2	6	4,6256	1,10391
Satisfaction	601	1,2	6	4,7188	1,17839
Pain	601	1,2	6	4,8419	1,21769
FSFI total	601	7,2	36	27,1408	5,88548

FSFI: The female sexual function index.

The mean age of participants who had sexual intercourse in the last 4 weeks was 41.75±12.62 (min. 20, max. 73). When the sexual dysfunction according to the age groups among participants who had sexual intercourse in the last 4 weeks were investigated 65.3% (n=113) of the women above 50 years (n=173) had sexual dysfunction. There was a statistically significant relationship between age and sexual dysfunction (Pearson $\chi 2=69.331$, $p<0.001$). The status of sexual dysfunction according to the age groups among participants who had sexual intercourse in the last 4 weeks is shown in Table 2.

Among participants who had sexual intercourse in the last 4 weeks, the higher educated participants had lower sexual dysfunction. The relationship was statistically significant (Pearson $\chi 2=30.423$, $p<0.001$) and the details are shown in Table 2.

There was a significant relationship between sexual dysfunction and the occupational status among participants who had sexual intercourse in the last 4 weeks and it is significantly higher among non-working women than working ones (Pearson $\chi 2=30.280$, $p<0.001$).

When the sexual dysfunction among participants who had sexual intercourse in the last 4 weeks according to the first sexual intercourse were investigated, there was no significant difference between sexual dysfunction and the first sexual

partner to be the husband or someone else (Pearson $\chi2=0.529$, p=0.467).

There was no significant difference between sexual dysfunction and marital status among women who had sexual intercourse in the last 4 weeks (Pearson $\chi2=6.417$, p=0.04).

Among married women who had sexual intercourse in the last 4 weeks (n=585), sexual dysfunction was statistically significantly higher among women in an arranged marriage than the love marriages (Pearson $\chi2=8.735$, p=0.003). Details are shown in Table 2.

There was no significant difference between sexual dysfunction and smoking status among participants who had sexual intercourse in the last 4 weeks (Pearson $\chi2=1.123$, p=0.570). Among currently smoking participants who had sexual intercourse in the last 4 weeks (n=152), there was no significant difference between sexual dysfunction and Fagerström nicotine dependence test scores (Pearson $\chi2=4,590$, p=0,332).

There was no significant difference between sexual dysfunction and alcohol use among participants who had sexual intercourse in the last 4 weeks (Pearson $\chi2=3.329$, p=0.068). Of the participants who reported that they use alcohol, 2.6% (n=76) had the risk of alcohol abuse/dependence according to the CAGE scores. There was also no significant difference between sexual dysfunction and CAGE scores among participants who use alcohol and had sexual intercourse in the last 4 weeks (n=43).

When the sexual dysfunction among participants who had sexual intercourse in the last 4 weeks (n=601) according to the risk of depression determined with Beck Depression Inventory for Primary Care was investigated, the rate of sexual dysfunction was significantly higher among women with the risk of depression than the ones without the risk of depression (Pearson $\chi2=23.796$, p<0.001). The details are shown in Table 2.

Discussion

In this cross-sectional, population-based study, we investigated the prevalence of female sexual dysfunction and affecting factors among healthy, adult women. There are numbers of studies concerning female sexual function among special groups (15-20). There are few studies focusing on sexual functions of general population in Turkey (4,21,22). We aimed to assess the general population in the city center of Edirne according to the data of the Health Directorate, using the Female Sexual Function Index (FSFI).

FSFI is a validated instrument, which evaluates the women having sexual intercourse in the last 4 weeks. We determined that 41.1% of our participants had sexual dysfunction according to self-reported FSFI scores, which is similar to other studies in our country, as the prevalence of FSD was found to be 46.9% in the study of Cayan et al. and 48.3% in the

Table 2. Female sexual dysfunction and affecting factors

Affecting Factors		Sexual dysfunction		Total	p
		No	Yes		
Age groups	20-29 years	91 (67.4%)	44 (32.6%)	135 (100%)	Pearson $\chi^2=69.331$, p<0.001
	30-39 years	116 (77.3%)	34 (22.7%)	150 (100%)	
	40-49 years	87 (60.8%)	56 (39.2%)	143 (100%)	
	50-59 years	41 (39%)	64 (61%)	105 (100%)	
	60 years and above	19 (27.9%)	49 (72.1%)	68 (100%)	
	Total	354 (58.9%)	247 (41.1%)	601 (100%)	
Educational status	Illiterate	8 (44.4%)	10 (55.6%)	18 (100%)	Pearson $\chi^2=30.423$, p<0.001
	Literate	7 (58.3%)	5 (41.7%)	12 (100%)	
	Primary	88 (47.3%)	98 (52.7%)	186 (100%)	
	Secondary	36 (50.7%)	35 (49.3%)	71 (100%)	
	High school	96 (62.3%)	58 (37.7%)	154 (100%)	
	University	119 (74.4%)	41 (25.6%)	160 (100%)	
	Total	354 (100%)	247 (100%)	601 (100%)	
Type of marriage	Love marriage	290 (62.4%)	175 (37.6%)	465 (100%)	Pearson $\chi^2=8.735$, p=0.003
	Arranged marriage	57 (47.5%)	63 (52.5%)	120 (100%)	
	Total	347 (59.3%)	238 (40.7%)	585 (100%)	
Depression	No	315 (63.4%)	182 (36.6%)	497 (100%)	Pearson $\chi^2=23.796$, p<0.001
	Yes	39 (37.5%)	65 (62.5%)	104 (100%)	
	Total	354 (58.9%)	247 (41.1%)	601 (100%)	

study of Oksuz and Malhan (21,22). In the hospital based study of Aslan et al. the prevalence of FSD was found to be 43.4% in Istanbul (4). Studies conducted among special patient groups have higher prevalence of FSD; it has been found 57.9% among women with breast cancer, 88% with diabetes and %80 among obese and overweight patients (19,23,24).

We found a significant relationship between age and FSD, where FSD increases with age. As an inevitable process, aging plays a natural role in sexual dysfunction; however age is also related to other contributing factors, such as chronic diseases, medications, menopause, loss of the sexual partner, etc. Unlike aging itself, these contributions can be minimized with maximum attention. Therefore, the geriatric population should be investigated in terms of sexual functioning and informed on the age-related changes of the sexual life.

FSD was found to be lower among higher educated women and working women. This suggests that education and economic independence has a positive influence on sexuality. Along with the general education, sexual education is necessary to maintain a healthy sexual life. However our findings showed that the majority of the participants gain their knowledge on sexuality from books and magazines. Thus, a formal sexual education should be given as a part of the school education and publications on scientific ground should take place in the written and audiovisual media.

Of the participants having intercourse in the last 4 weeks, 94.1% were married and 93.2% had their first intercourse with their husbands, therefore the affect of marriage and first sexual partner remains undetermined. However, the type of marriage plays a role in FSD. In Turkey, 36.2% of the women are in an arranged marriage, whereas 22.6% (n=173) of the married women (n=765) were in an arranged marriage in our study, and the rate of FSD among them was higher than love marriages (25). The conservative and paternal type of these families may have an effect on sexual dysfunction.

Smoking and alcohol use did not have any relationship with FSD, but depression appears to be a major predisposing factor for FSD. Depression is a health problem affecting up to 25% of the population (26). It can easily be omitted, but it can also easily be determined through a simple inventory. We found that participants with the probability of depression had higher percentages of FSD like many other studies (17,27,28). The reciprocal link between sexual dysfunction and depression should be kept in mind by the family physician.

Conclusion

It is obvious that over 40 women attending to primary care facilities out of 100 suffer FSD. As it is higher than most of the chronic diseases, FSD deserves special attention as an important aspect of human functioning. Family physicians should not hesitate to investigate FSD in the primary care. We believe that our population-based study will make a contribution on this rather undercover and under-estimated health issue.

References

1. Yadav J, Gennarelli LA, Ratakonda U. Female sexuality and common sexual dysfunctions: evaluation and management in a primary care setting. Prim Care Update Ob Gyns 2001;8:5-11.
2. Demirezen E. Evaluation of female sexuality in primary health care. STED 2006;15(5):79.
3. Anastasiadis AG, Davis AR, Ghafar MA, Burchart M, Shabsigh R. The epidemiology and definition of female sexual disorders. World J Urol 2002;20(2):74-8.
4. Aslan E, Beji NK, Gungor I, Kadioglu A, Dikencik BK. Prevalence and risk factors for low sexual function in women: a study of 1,009 women in an outpatient clinic of a university hospital in Istanbul. J Sex Med 2008;5(9):2044-52.
5. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther 2000;26(2):191-208.
6. Aygin D, Aslan FE. The

Turkish adaptation of the Female Sexual Function Index. Turkiye Klinikleri J Med Sci 2005;25(3):393-9.
7. Wiegel M, Meston C, Rosen R. The female sexual function index (FSFI): cross validation and development of clinical cut off scores. J Sex Marital Ther 2005;31(1):1-20.
8. Demir Ö, Parlakay N, Gök G, Esen AA. Sexual dysfunction in a female hospital staff. Turkish Journal of Urology 2007;33(2):156-60.
9. Fagerström K, Scheineder N. Measuring nicotine dependence: a review of the Fagerström tolerance questionnaire. J Behav Med 1989;12(2):159-82.
10. Uysal MA, Kadakal F, Karşıdağ C, Bayram G, Uysal O, Yılmaz V. Fagerström test for nicotine dependence: reliability in a Turkish sample and factor analysis. Tuberk Toraks 2004;52(2):115-21.
11. Ewing JA. Detecting alcoholizm. The CAGE questionnaire. JAMA 1984;252(14):1905-7.
12. Bush B, Shaw S, Cleary P, Delbanto TL, Aronson MD. Screening for alcohol abuse using the CAGE questionnaire. Am J Med 1987;82(2):231-5.
13. Gul S, Akvardar Y, Tas G, Tuncel P. The diagnostic validity of screening tests and laboratory markers in alcohol use disorders. Turk Psikiyatri Derg 2005;16(1):3-12.
14. Aktürk Z, Dağdeviren N, Türe M, Tuğcu C. The reliability and validity analysis of the Turkish version of Beck Depression Inventory for primary care. Turk Aile Hek Derg 2005;9(3):117-22.
15. Enzlin P, Rosen R, Wiegel M, Brown J, Wessells H, Gatcomb P, et al. Sexual dysfunction in women with type 1 diabetes: long-term findings from the DCCT/EDIC study cohort. Diabetes Care 2009;32(5):780–5.
16. Manolis A, Doumas M. Sexual dysfunction: the 'prima ballerina' of hypertension-related quality-of-life complications. J Hypertens 2008;26(11):2074-84.
17. Schnatz PF, Whitehurst SK, O'Sullivan DM. Sexual dysfunction, depression, and anxiety among patients of an inner-city menopause clinic. J Womens Health (Larchmt) 2010;19(10):1843-9.
18. Kadioglu P, Yalin AS, Tiryakioglu O, Gazioglu N, Oral G, Sanli O, et al. Sexual dysfunction in women with hyperprolactinemia: a pilot study report. J Urol 2005;174(5):1921-5.
19. Yaylali GF, Tekekoglu S, Akin F. Sexual dysfunction in obese and overweight women. Int J Impot Res 2010;22(4):220-6.
20. Zippe CD, Raina R, Shah AD, Massanyi EZ, Agarwal A, Ulchaker J, et al. Female sexual dysfunction after radical cystectomy: a new outcome measure. Urology 2004;63(6):1153-7.
21. Oksuz E, Malhan S. Prevalence and risk factors for female sexual dysfunction in Turkish women. J Urol 2006;175(2):654-8.
22. Çayan S, Akbay E, Bozlu M, Canpolat B, Acar D, Ulusoy E. The prevalence of female sexual dysfunction and potential risk factors that may impair sexual function in Turkish women. Urol Int 2004;72(1):52-7.
23. Aygin D, Aslan FE. A study of sexual dysfunction in women with breast cancer. The Journal of Breast Health 2008;4(2):105-14.
24. Ziaei-Rad M, Vahdaninia M, Montazeri A. Sexual dysfunctions in patients with diabetes: a study from Iran. Reprod Biol Endocrinol 2010;8(1):50.
25. Turkish Statistical Institute. Family structure research 2006. Ankara: Turkish Statistical Institute Printing Division, 2006. 6p.
26. Gelenberg AJ. The prevalence and impact of depression. J Clin Psychiatry 2010;71(3):e06.
27. Shindel AW, Eisenberg ML, Breyer BN, Sharlip ID, Smith JF. Sexual function and depressive symptoms among female North American medical students. J Sex Med 2011;8(2):391-9.
28. Worly B, Gopal M, Arya L. Sexual dysfunction among women of low-income status in an urban setting. Int J Gynaecol Obstet 2010;111(3):241-4.