Sexual Dysfunction in Married Women With Urinary Incontinence

Handan Zincir[1], Gokce Demir[2], Yurdagül Günaydın[3], Betül Ozen[4]*

Purpose: This study was conducted in descriptive and cross-sectional design in order to determine prevalence of urinary incontinence severity in women with urinary incontinence (UI), correlation between UI and sexual dysfunction

Materials and Methods: The study had descriptive and cross-sectional design. In sample selection, four Family Health Centers areas were determined by lot and totally 384 women with UI were reached by making home visits in these regions. As data collection tool, severity index in female urinary incontinence determining UI condition and Female Sexual Function index determining sexual functioning were used.

Results: Average age of the women participating in the study was 37.3 ± 1.02. Mean body mass index of the women was 26.3 ± 5.41. It was determined that 22.1% of the women participating in the study had UI for 3-5 years and 15.1% had UI for six years and a longer time. It was determined that 53.9% of the women participating in study had mild incontinence, 40.6% had moderate incontinence, 3.6% had severe incontinence, and 1.8% had very severe incontinence. A significant correlation was found between severity index in female urinary incontinence (ISI) score and Female Sexual Function Index (FSFI) score ($p < 0.05$). There was a positive and weak correlation between ISI scores and age, duration of marriage, and number of pregnancy of the women who participating in the study; and a positive and very weak correlation between ISI scores and body mass index and spontaneous abortion ($p < 0.05$).

Conclusion: Almost half of women with UI were determined to have moderate and more severe urinary incontinence. A significant correlation was found between ISI and FSFI score.

Keywords: Sexual dysfunction; Urinary incontinence; Woman.

INTRODUCTION

Urinary incontinence (UI) is a multidisciplinary problem that affects woman from all ages and may negatively influence life quality with social aspects. Its prevalence in female population is estimated to be at the rate of 17% and 58.4%. Prevalence of UI, an important problem, varies between 10 and 30% in women aged between 15-64 years, and between 17 and 55% in elderly people[1,2].

As studies conducted on women with urinary incontinence were examined; they were found to experience problems such as having low body images, high sense of shame, not feeling themselves feminine in terms of physical and sexual aspects, being concerned because of smell, always using pad/diaper, and phobia of urinary incontinence[3]. Urinary incontinence experienced during coitus, negative reactions of spouse, and thinking reduction of attraction cause different types of sexual dysfunctions influencing sexual life of women negatively. It was determined in previous studies that social and occupational lives of individuals with UI were affected and their sexual lives and marriage relationships were damaged[4]. Because women with UI are not capable of controlling their urinary functions, they may experience problems such as urinary incontinence during coitus, negative reactions of husband/partner, thinking about reduction in attraction, and decreased self-confidence. Depression experienced based on these problems may cause sexual dysfunctions (SD) negatively influencing sexual lives of women[5]. In a study conducted on 216 women aged between 19-66 years with UI complaint, 34% of women were determined to have reduced sexual drive, 23% had dysfunction of sexual arousal, and 11% had insufficiency of orgasm[6]. Because of this important problem influencing women, preventing UI to develop, encouraging women suffering from UI to answer questions specific to sexuality, and enabling them to express their concerns about sexual issues are found among fundamental responsibilities of nurses. According to these information, the study was conducted in descriptive and cross-sectional design in order to determine prevalence of urinary incontinence severity in women with UI, correlation between UI and sexual dysfunction, and the effective factors.

MATERIALS AND METHODS

Study Population

The study was planned as a cross-sectional type between March-July 2016. The population of the study consisted of nine Family Health Centers (FHC) with

[1]Department of Community Health Nursing, Erciyes University Faculty of Health Sciences, 38039, Kayseri-Turkey.
[2]Department of Community Health Nursing, Ahi Evran University College of Health Department of Nursing, 40100, Kırsehir-Turkey.
[3]Department of Community Health Nursing, Erciyes University Faculty of Health Sciences, 38039, Kayseri-Turkey.
[4]Department of Community Health Nursing, Erciyes University Faculty of Health Sciences, 38039, Kayseri-Turkey.
*Correspondenc: Department of Community Health Nursing, Erciyes University Faculty of Health Sciences, Kayseri 38039, Turkey.
Tel: +90-352-207 66 66-28561. Fax: +90-352-437 92 81. E-mail: betulozen@erciyes.edu.tr.
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Table 1. Distribution of women's FSFI scores in terms of severity of urinary incontinence

Duration of UI diagnosis	n (N=384)	%
Less than 1 year	126	32.8
1-2 years	115	29.9
3 -5 years	85	22.1
6 years and more	58	15.1
Affected Sexual Life after UI		
Yes	176	45,6
No	208	54.2
Consulting a Physician Due to Affected Sexual Life (n=176)		
Yes	56	31.8
No	120	68.2

different socio-economic characteristics in the city center of Kırşehir. The sample group was formed by simple random sampling technique. The frequency of urinary incontinence was unknown in the population of the study. For this reason, sample size of study was calculated as 384 by examining means of other studies conducted on urinary incontinenc[e(1,2)] and using formula of unknown number of individuals in the population (d = 0.05, p = 0.50, t = 1.96 were taken at confidence interval of 95%)[(7)].

Inclusion And Exclusion Criteria

The women who were diagnosed with urinary incontinence at least for 6 months, were older than 15, had no psychological disability, and were married, were included in the study. The women who did not agree to participate in the study and were in pregnancy and lactation periods were not included in the study.

Procedures

The study was conducted in accordance with the principles of Helsinki declaration in 2008 [World Medical Associations Declaration of Helsinki.2008]. Approval was received from Ethics Committee (2016-03/14). Verbal and written consents were received from the women who agreed to participate in the study. In sample selection, four FHC areas were determined totally 384 women with UI were reached by making home visits in these regions. The data were collected by using face-to-face interview method.

Evaluations

This questionnaire was prepared by the researchers upon the literature review[(3,4,7-9)].As data collection tool, the questionnaire including socio-demographic characteristics and some obstetric characteristics of the women, severity index in female urinary incontinence determining UI condition and Female Sexual Function index determining sexual functioning were used.

Severity index in female urinary incontinence (ISI): ISI is a scale consisting of two items and measuring severity of female urinary incontinence. ISI was developed by Sandvik et al., in 1993[(10)]. Turkish validity and reliability analysis of the scale was conducted by Uyar-Hazar and Sirin in 2008 and cronbach's alpha coefficient was found as 0.67[(11)]. The index consists of two multiple-choice questions. One of the questions measures frequency of incontinence and the other one measures its amount. The first question has four choices and the second question has three choices and these choices are scored between 1-4 and 1-3, respectively. In calculation of index score; scores received from both questions are multiplied. Accordingly, scores are as follows, 1-2 points are mild incontinence, 3-6 points are moderate, 8-9 points are severe, and 12 points are very severe[(10,11)]. Cronbach's alpha coefficient of this scale was found as 0.61 in the present study.

Female Sexual Function Index (FSFI): FSFI is a likert-type scale consisting 19 items and evaluating female sexual dysfunction. FSFI was developed by Rosen et al., in 2000 and cronbach's alpha coefficient was found as 0.82[(12)]. Turkish validity and reliability analysis of the scale was conducted by Öksüz and Malhan in 2005 and cronbach's alpha coefficient was found as 0.95[(13)]. The index consists of six individual titles as desire, arousal, lubrication, orgasm, satisfaction, and pain. Each title is scored between 0/1-6 points. The lowest score is two and the highest score is thirty six. High score refers to a better function[(12,13)]. In the study conducted by Rosen et al., (2000) and Taş et al., (2006), functional condition was classified as good if FSFI score is > 30, as moderate if between 23-29, as poor if < 23[(12,14)]. Existence of sexual dysfunction is accepted in women who received 23 points and less in this study in which cronbach's alpha coefficient was 0.93.

Data Assessment

The data were analyzed by using SPSS Statistics version 22.0 (IBM Corp., Armonk, New York,USA). The data were evaluated by using number, percentage, mean, median, and Spearman's correlation analysis. Multiple linear regression analyses backward method were used to test the relation between the determined dependent and independent variables. The extraction value was taken as 0.10. The results for other statistical analyzes were evaluated at 95% reliability level, and the significance was set to $p < 0.05$. In the study, independent variables, which were thought to be effective on dependent variables, were evaluated by using multiple regression analysis.

RESULTS

Average age of the women participating in the study was 37.3 ± 1.02. Mean body mass index of the women was 26.3 ± 5.41. Average marriage age of the women was 20.3 ± 3.43 and average duration of marriage was 16.9 ± 1.14 years. Mean pregnancy number of the women was 2.5 ± 1.75 and 18.5% of the women stated to have intentionally an abortion at least once, and 36.2% had spontaneous abortion at least once.

It was determined that 22.1% of the women participating in the study had UI for 3-5 years and 15.1% had UI for six years and a longer time. 45.6% of women suffering from UI were affected by sexual life, and 68.2% did not consult a physician because of UI (**Table 1**).

It was determined that 53.9% of the women participating in study had mild incontinence, 40.6% had moderate

Table 2. Distribution of women's FSFI scores in terms of severity of incontinence

Severity of Incontinence	n (N=384)	%	FSFI score distribution	Test
Mild (1-2 points)	207	53.9	16.6 ± 6.02	
Moderate (3-6 points)	156	40.6	16.9 ± 6.64	$\chi^2 = 7.942$
Severe (8-9 points)	14	3.6	16.4 ± 8.51	$P = .039$
Very severe (12 points and higher)	7	1.8	12.6 ± 1.14	

Table 3. The effect of variables of age, BMI, number of live birth, spontaneous abortion and type of marriage on FSFI total and subgroup score

Independent variables	Dependent variables											
	Model 1-Total FSFI				Model 2-Desire				Model 3-Arousal			
	*β**	se	*t*	*p*	*β**	se	*t*	*p*	*β**	se	*t*	*p*
Age	0.658	0.106	3.947	.001	-0.532	0.034	-3.426	.001	0.172	0.025	3.226	.001
BMI	0.109	0.063	2.060	.040	–	–	–	–	–	–	–	–
Number of live birth	0.123	0.353	1.777	.076								
Spontaneous abortion	-0.186	0.425	-3.529	.001	-0.210	0.137	-4.289	.001	-0.145	0.323	-2.723	.007
Type of marriage	-0.592	0.102	-3.303	.001	0.688	0.031	4.351	.001	–	–	–	–
	Model, adjusted r2 = 0.082 *f* value = 7.860, $p < 0.001$				Model, adjusted $r^2 = 0.200$ *f* value = 24.987, $p < 0.001$				Model, adjusted $r^2 = 0.029$ *f* value = 6.762, $p < 0.001$			
	Model 4- Lubrication				Model 5 –Orgasm				Model 6-Satisfaction			
	*β**	se	t	*p*	*β**	se	*t*	*p*	*β**	se	*t*	*p*
Age	0.968	0.083	5.948	.001	0.699	0.066	4.203	.001				
BMI	0.094	0.050	1.836	.067	0.106	0.039	2.022	.044	-0.113	0.040	-2.134	033
Number of live birth	0.137	0.277	2.032	.043					0.122	0.176	2.249	.025
Spontaneous abortion	-0.209	0.333	-4.080	.001	-0.207	0.265	-3.940	.001	-0.161	0.269	-3.084	.002
Type of marriage	-0.993	0.080	-5.676	.001	-0.616	0.060	-3.627	.001	–	–	–	–
	Model, adjusted $r^2 = 0.126$ *f* value = 12.016, $p < 0.001$				Model, adjusted $r^2 = 0.082$ *f* value=9.606, $p < 0.001$				Model, adjusted $r^2 = 0.038$ *f* value = 5.984 , $p < 0.001$			
	Model 7- Pain											
	*β**	se	*t*	*p*								
Age	0.776	0.076	4.768	.001								
BMI	–	–	–	–								
Number of live birth												
Spontaneous abortion	-0.227	0.306	-4.419	.001								
	-0.661	0.069	3.988	.001								
	Model, adjusted $r^2 = 0.122$ *f* value = 14.309, $p < 0.001$											

incontinence, 3.6% had severe incontinence, and 1.8% had very severe incontinence. A significant correlation was found between ISI score and FSFI score ($P < .05$) Accordingly, FSFI mean score of the women with very severe UI was lower and sexual 1function was worse (**Table 2**).

Categorical variables were defined as dummy variable. In Table 3, it was found that there was a significant correlation between variables Model 1- FSFI ($r^2 = 0.082$ f value= 7.860, $p < 0.001$), Model 2-Desire ($r^2 = 0.200$ f value=24.987, $P < 0.001$), Model 3- Arousal ($r^2 = 0.029$ f value=6.762, $P < 0.001$), Model 4 –Lubrication ($r^2 = 0.126$ f value = 12.016, $P = 0.001$), Model 5 -Orgasm (r2 = 0.082 f value = 9.606, $P < 0.001$), Model 6 -Satisfaction ($r^2 = 0.038$ *f* value = 5.984 , $P < 0.001$), and Model 7-Pain ($r^2 = 0.122$ *f* value = 14.309, $P < 0.001$) (**Table 3**).

There was a positive and weak correlation between ISI scores and age, duration of marriage, and number of pregnancy of the women who participating in the study; and a positive and very weak correlation between ISI scores and body mass index and spontaneous abortion ($P < .05$). According to this, severity of incontinence increased as age increased, body mass index, number of pregnancy, and number of spontaneous abortion increased, and duration of marriage increased. In addition, there was no correlation between intentionally having an abortion and ISI score ($P > .05$). A positive and weak correlation was found between FSFI score and age of the women participating in the study; and a positive and very weak correlation between FSFI score and body mass index, duration of marriage, and number of pregnancy ($P < .05$). Accordingly, sexual function decreased as age increased, duration of marriage increased, body mass index and number of pregnancy increased (**Table 4**).

DISCUSSION

UI is a medical problem which affects women from all ages and is seen widely, and a condition that affects women in terms of physical, hygienic, psychosocial, economic, and sexual aspects. UI is also one of health problems that may influence all subscales within the scope of life quality and is experienced for a long time. Koçak et al., determined that 79.8% of women who were 18 and older had mild urinary incontinence, 15.7% had moderate urinary incontinence, and 4.5% had severe urinary incontinence[15]. In this study, 53.9% of the women were found to have mild urinary incontinence, 40.6% moderate urinary incontinence, 3.6% severe urinary incontinence, and 1.8% very severe urinary incontinence (**Table 2**). 22.1% of the women who participated in the study were also determined to have UI for 3-5 years and 15.1% had for six years and more (**Table 1**). The reason behind why results of moderate level in this study were found to be higher compared to the other study was thought to be age factor and that they experienced UI for a long time.

As severity of UI increases, SD increases. According to statement of Önem et al., UI and pelvic organ prolapse are found to be primary among risk factors causing SD in women[16]. It was reported that UI had negative impacts on female sexual functions and prevalence of sexual dysfunction in this patient group ranged between 26% and 43% [6,17]. Prevalence of SD in the study conducted by Özerdoğan et al., was determined to be 4.290 times more frequent in those with UI compared to those without UI[18]. In the study conducted by Coyne et al., on UI and sexual dysfunction, they reported that the women without incontinence problem had sexual intercourse more frequent than those with incontinence problem (91% - 50%), their sexual desires decreased depending on incontinence, and they felt embarrassment because of incontinence and this caused a decrease in their body images[19]. While Van Balken et al., reported that even

Table 4. Correlation analysis of women's some characteristics, ISI and FSFI scores

Characteristics	Correlation level of ISI score*	*p* Value	Correlation level of FSFI score*	*p* Value
Age		.280		.201
		.001		.001
Body mass index		.160		.168
		.002		.001
Duration of marriage		.304		.001
		.168		.001
Number of pregnancy		.290		.001
		.115		.025
Number of spontaneous abortion		.148		-.029
		.004		.571

*Spearman's correlation analysis.

women experiencing less problems concerning urinary system had high levels of sexual dysfunction[20], Handa et al., reported that sexual anorexia, vaginal dryness, and sexual pain disorders were more prevalent in women with severe UI[21]. Pathiraja et al., reported that the prevalence of women with incontinence was 10%, with stress and urge incontinence was 29.9%.[22]. It was found in this study that 45.6% of women with UI were affected by sexual life (**Table 1**) and there was a significant correlation between ISI score and FSFI score ($P < .05$) (**Table 2**). Accordingly, it can be asserted that FSFI mean score of the women with very severe urinary incontinence was lower and their sexual functions were poor.

A significant correlation was found between model 1-7 FSFI and independent variables in women with UI (**Table 3**) ($P < .05$). There was a significant correlation between ISI and subscale desire of FSFI ($P < .001$). Almost half of the women stated their sexual lives were affected and therefore they did not consult a physician (**Table 1**). This might be associated with decrease of sexual desire and the fact that the women did not consider it as a problem. As a result of their study, Beji et al., determined that sexual lives of 43.7% of the women were affected by UI, the women tried different ways for having their husbands not to recognize this problem, and endeavored to postpone sexual intercourse[23]. As development level of countries increases, status of woman rises and as status of woman increases, prevalence of SD may vary because woman makes healthy decision about her own body. In above-mentioned numerous studies, in studies conducted in both Turkey and in several countries of the world, prevalence SD confronts us as an important health problem having a prevalence seen in more than half of women and waiting for solution. However, the reason behind why women did not consult a physician and seek for solution might be that sexual issues in Turkish society are considered as a taboo due to both religious and cultural reasons.

SD are affected by several independent factors such as age, chronic diseases, BMI, parity, type or time of marriage. Age among these independent factors is defined as the most important factor having an effect on female sexual dysfunction[6]. As well as decrease in functional capacity of tissues and organs with increased age, increasing number of birth and hormonal changes may cause sexual dysfunction in advanced ages compared to young age[6,24]. Prevalence of female SD increases with age and chronic diseases[25,26]. In compliance with the literature, it was determined that there was a positive correlation between FSFI and ISI score and age (**Table 4**) and sexual lives of almost half of women were affected (**Table 1**). Frequent urinary incontinence in elderly population is associated with age-dependent changes such as decreased estrogen, decreased capacity of bladder, and impairment in ability to urinate.

A significant correlation was found between BMI, number of live birth, spontaneous abortion, and type of marriage, which were thought to be effective on dependent variables in the study, and independent variables (model 1- FSFI, r2 = 0.082 f value = 7.860, $P < 0.001$). In the study conducted by Gunhilde et al., on 140 women, they determined that mean BMI was 27.2 (kg/m^2), was 29 (kg/m^2) in women with incontinence, and 25.4 (kg/m2) in continent women[27]. In the study conducted by Koçak et al., on 1012 women aged between 18-92 years, BMI of 31.3% of women with incontinence was reported to be over 25 (kg/m^2) and BMI was lower than 25 (kg/m^2) in 14.5%[28]. Fertility process causes some permanent and temporary changes in reproductive organs. These experienced changes; some special cases such as frequent, many, early and advanced age pregnancies, difficult delivery, interventional birth may influence sexual life because of risk for damaging on reproductive organs[29]. Different results are remarkable in studies conducted in order to determine correlation between fertility and SD. While superfecundity was determined as a risk factor in terms of SD in most of studies supporting our results[30], there was no correlation between fertility and SD in certain studies[31]. The reason behind why these results are different might be the effect of socio-cultural characteristics of sample in the study. In addition, higher prevalence of SD in women married via prearranged marriage can be explained by these women's possibility to have low educational level and low social status in general.

Almost half of women with UI were determined to have moderate and more severe urinary incontinence. A significant correlation was found between ISI score and FSFI score. Age, BMI, parity, and type of marriage were determined to influence total FSFI score of the women with UI. In accordance with these results;

-Women with UI having the risk factors of sexual dysfunction should be early diagnosed and multidisciplinary approach should be considered for those women to prevent severe sexual problems.

-It will be beneficial to conduct studies to be planned about sexual consultancy and sexual education on groups showing different ethnic and socioeconomic structure, and different settlement (rural, urban) characteristics.

-Training programs and psychological counseling services increasing sexual self-confidence, sexual self-efficacy, and marital satisfaction levels of married individuals can be developed.

-It is recommended for healthcare personnel to know the effect of culture on treatment of diseases and accordingly to give care individuals.

Limitations of the Study

Domestic life and sexual life are regarded as a taboo in culture of Turkish society and what are experienced in this aspect are kept in family. For this reason, results of the study cannot be generalized to all women with UI. However, it is important because the number of similar studies conducted in Turkey is limited and also understanding problems in domestic life and sexual lives of these families will facilitate helping these families.

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CONFLICTS OF INTEREST

The authors have no conflict of interest to declare.

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