



Effects of urinary incontinence on depressive symptoms and quality of life in women with reproductive age

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Research Article

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Purpose: To describe effects of urinary incontinence on depressive symptoms and quality of life (QoL) in women. **Methods:** Two hundred and sixty women with reproductive age were examined in this study. 61.5% (N=160) had urinary incontinence. Beck Depression Inventory (BDI) was used to detect depressive symptoms. Short Form-36 (SF-36) was used to measure QoL. **Results:** Percentages of the incontinence types were found as 38.8% stress, 23.1% urge, 29.1% mixed, respectively. Incontinent women reported higher score in terms of depressive symptoms. Women with mixed urinary incontinence showed higher depressive symptoms. Incontinent women had also lower scores in terms of SF-36 survey results ($p<0.05$). While women with stress urinary incontinence reported lower score in terms of physical functioning of the SF-36 survey, women with mixed type showed lower score in terms of role-emotional domain. Increased incontinence duration led to lower scores in mental health and general mental perception domains. **Conclusion:** Urinary incontinence had negative effects on depressive symptoms among incontinent women. This situation negatively affects QoL.

Anahtar kelimeler: Urinary incontinence, Depressive symptoms, Quality of life.

Üriner inkontinansın üreme çağındaki kadınlarda depresif belirtiler ve yaşam kalitesi üzerine etkisi

Amaç: Üriner inkontinansın üreme çağındaki kadınlarda depresif belirtiler ve yaşam kalitesi üzerine etkisini belirlemektir. **Yöntem:** Bu çalışmada iki yüz altmış kadın incelendi. % 61.5'inde (N=160) üriner inkontinans saptandı. Depresif belirtileri saptamak için Beck Depresyon Ölçeği (BDÖ) ve sağlıkla ilişkili yaşam kalitesini ölçmek için Kısa Form-36 (KF-36) kullanıldı. **Sonuçlar:** Kadınların %3 8.8'inde stress, % 23.1'inde urge ve % 29.1'inde karma tip inkontinans saptandı. İnkontinanslı kadınlarda depresif semptom skorunun daha yüksek olduğu ve KF-36 skorlarının daha düşük olduğu ($p<0.05$) bulundu. Stres üriner inkontinanslı kadınlarda fiziksel fonksiyon alt skorunun düşük olduğu, karma tip inkontinanslı kadınlarda ise rol-emosyonel alt skorunun düşük olduğu kaydedilmiştir. Artan inkontinans süresinin mental sağlık ve genel sağlık algısı alt skorlarını olumsuz etkilediği gözlemlendi. **Tartışma:** Sonuçlar, üriner inkontinansın kadınlarda depresif semptomları olumsuz etkilediğini göstermiştir. Bu durum kadınların yaşam kalitesini de olumsuz etkilemiştir.

Key words: Üriner inkontinans, Depresif semptomlar, Yaşam kalitesi.

According to the International Continence Society (ICS), urinary incontinence (UI) is defined as an involuntary loss of urine that is objectively demonstrable and a psychological, social or hygienic problem.¹ UI holds an important place among women's health issues in our country.² Prevalence of female with UI in Turkey was reported as between 20-25%.³⁻⁶

Some risk factors for UI are well known, whereas others factors are less clear. Most epidemiological studies have showed a consistent association UI and increasing age,^{3,7} parity,^{8,9} obesity,^{10,11} dementia,¹² functional impairment^{13,14} and certain medical co morbidities, particularly diabetes¹⁵ and stroke.¹⁶

Although UI is not life-threatening, loss of urinary control can affect the social, psychological, domestic, occupational, physical and sexual aspects of reproductive-age women.¹⁷⁻²⁰ Reports of interference in social activities range from 8 to 52%.²¹ Relationships with family members are also affected.²² Incontinent women also suffer from significant anxiety and depression.²³⁻²⁵

The prevalence of any UI type is likely to increase until middle-age, to decrease between 50 and 70 years-old and to increase with a more advanced age.^{26,27} This is accepted to the most important factor to decrease Health Related Quality of Life (HRQoL). Therefore, assessing the effects of UI on HRQoL is vital.

This study was planned to describe the impact of UI on general health status, social function, and quality of reproductive women.

METHODS

Study Population: Two hundred and sixty women living in Denizli, Turkey (aged 15-49 years) were questioned by a physiotherapist. 61.5% (n=160) of the sample had UI. All participants' diagnosis recorded based on their medical files. All gave their consent to participate in the study. The inclusion criteria were;

- to able to communicate with the researcher,
- had no medical conditions which would interfere with participation in the present study,

- subjects had to be at the age between 15-49 years,

- to be able to complete the study requirements.

The exclusion criteria were;

- being on the menopausal period,
- having any of neurologic or internal diseases,
- current urinary tract infection,
- pregnancy,
- pelvic or urogynecologic operation.

The study was conducted in accordance with the principles and standards of the declaration of Helsinki, and with the Guidelines on the Practice of Ethics Committees in Medical Research Involving Human Subjects.

Data collection: The participants received a comprehensive questionnaire consisting of two parts, with the first part investigating demographic characteristic and health aspects, and the second part including specific questions on incontinence. The sociodemographics and clinical characteristics of the sample are illustrated in Table 1.

Depressive symptoms were detected using the Beck Depression Inventory (BDI). This inventory is a clinically derived self-reported inventory that measures the presence and degree of depression in adolescents and adults. The inventory consists of 21 items which are rated on a 4-point scale (0-3) in terms of severity, where the higher scores indicate greater severity of depression. While BDI cut-off for screening purposes is 13 for the European countries and USA but it is 17 for Turkish society.²⁸

HRQoL was measured using the SF-36 survey. It consists of 36 questions grouped into eight domains: physical function (10 items), role limitations owing to physical health problems (4 items), bodily pain (2 items), general health perception (6 items), energy and vitality (4 items), social function (2 items), role limitations due to emotional problems (3 items), and mental health (5 items). Each of the domain scores was expressed as a value between 0 (worst) and 100 (best), with higher scores representing better health. There is no any cut-off point for this survey.²⁹

Statistical analysis:

Descriptive data were expressed as mean \pm standard deviation or percentages. To compare the groups, Independent Samples t Test was used. One-Way ANOVA test was used to find the differences among the groups. Tukey's multiple comparison was also used. The Spearman correlation coefficients were used to show the relationship between the scores of the BDI and SF-36 domains. For all analyses, p value of <0.05 was considered to be statistically significant. The statistical analyses were performed using a commercially available program, SPSS 10.0 (SPSS, Inc., Chicago, IL, USA).

RESULTS

The 38.8% (n= 62) of the incontinent women had stress UI. The distributions of type of UI were urge incontinence 33.1%, stress incontinence 38.8%, and mixed type 28.1. The prevalence of UI was found to be higher in women aged between 35-44 years (31.9%) compared to the women in other decades. The mean of body mass index (BMI) score was 28.86 ± 4.69 kg/m² in incontinent women (Table 1). Obesity grades were as I (38.1%) and II (27.5%). The incontinent women with higher BMI score had stress or mixed type incontinent ($p < 0.01$). While Stress UI was seen common in youngest women, mixed type incontinent was seen in older women. The incontinent women (n=160) reported urgency (73.1%), frequency (38.3%), and nocturia (24.4%), respectively. The results also showed that increased duration of UI led to increased incontinent symptoms mentioned above.

Although the continent women had higher score (mean; $11.14 \pm 7.74 / 17$) according to the BDI, both incontinent and continent women (9.20 ± 6.13) were below the cut-off point according to the BDI for the Turkish population. The cut-off is 17. However, the difference between the groups was significant ($p < 0.01$).

Figure 2 shows the comparison of BDI scores by the incontinence types. The women with mixed type UI reported higher BDI scores (12.95/17) compared to women with other UI types.

However, this difference was not significant ($p > 0.05$) (Figure 1). The results also showed that increased duration of UI increased the BDI score among the incontinent women ($p < 0.05$) (Figure 2).

As seen very well in Table 2, there were significant differences in terms of SF-36 domains between incontinent and continent women ($p < 0.05$). The differences between the continent and incontinent women were significant except vitality and physical function.

Table 3 shows the SF-36 domains results according to the type of incontinence. The women with SUI showed worst scores in terms of PF compared to those with other types of UI ($p < 0.05$). On the other hand, women with mixed type incontinence had lower score in terms of RE ($p < 0.05$). The incontinent women had UI at least 10 years and over had lower scores in terms of MH and GHP domains of SF-36 survey ($p < 0.05$) (Table 4).

TARTIŞMA

The UI is a condition to bring together social, psychological, domestic and physical symptoms. Approximately 23.9% of Turkish women with these symptoms need to restrict their social activities because of anxiety about wetting or leakage.⁵ UI is associated with increasing age, parity and obesity.^{7-12,30} In our study, we also found a relation among UI, age and obesity.

Several studies on urogenital symptoms such as urgency, frequency, nocturia were established accompany to UI.^{31,32} Our findings showed that symptoms including urgency, frequency and nocturia were common in all decades women.

Depression is most common problem resulting from UI among reproductive aged women. Melville et al. reported rate of major depression as 6.1% among incontinent women (2.2% for continent women). In the related literature, depression prevalence changes according to the type of UI (i.e., 4.7% stress; 6.6% urge types).³³ In another study by Zorn et al. the rate of depression was found to be 60% for women with abnormal BDI or history of

depression.²⁵ This result shows that urge incontinent leads to negative effects in terms of emotional status of the incontinent women. In our study, we found a significant relationship between UI and depressive symptoms. We observed that there was a higher BDI score among incontinent women just studied in this research. Moreover, type and duration of UI were factor affecting of emotional status. Namely, the incontinent women with mixed type had worst score according to the BDI after five years.

Most of the studies showed UI impacts quality of life of the middle-aged women. Filiz et al. found that the SF-36 scores were lower compared to general population or control group.³⁴ Ljiljana et al. reported that UI interferes

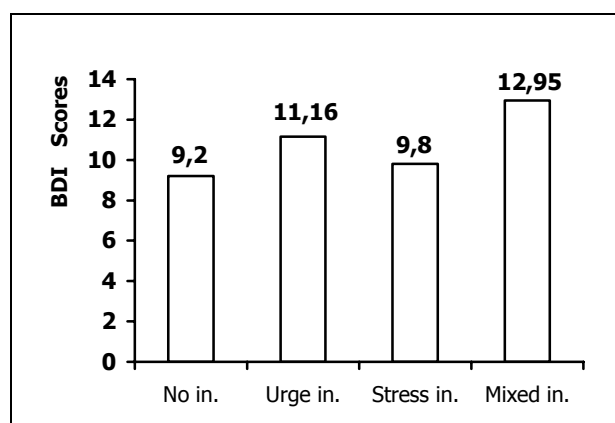


Figure 1. Comparison of Beck Depression Inventory by the incontinence types (Differs from urinary incontinent group, $p < 0.05$. in: incontinence.).

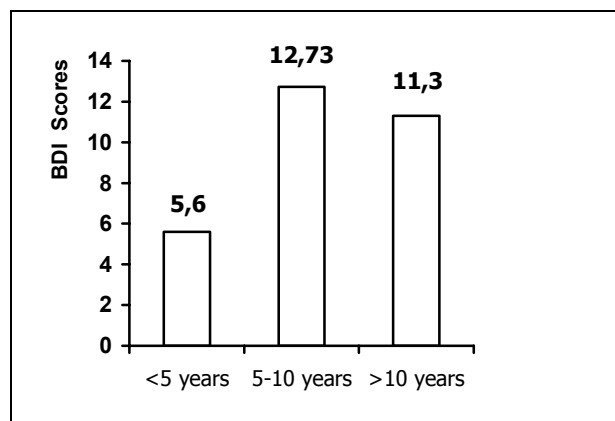


Figure 2. Comparison of Beck Depression Inventory scores according to incontinence duration (Differs from 5-10 years group, $p < 0.05$.).

Table 1. Demographics and obstetrics characteristics of the study population.

	Incontinent (N=160) Mean±SD	Continent (N=100) Mean±SD
Age (year)	33.02±9.32	34.05±9.22
BMI (kg/m²)	28.86±4.69	24.39±4.26
Parity	2.03±1.08	1.57±1.24
	n (%)	n (%)
Marital status		
Married	143 (89.3%)	84 (84%)
Divorced	7 (4.4%)	2 (2%)
Never married	0 (6.3%)	12 (12%)
Educational level		
Primary School	29 (18.1%)	23 (23%)
High school	96 (60%)	34 (34%)
University	35 (21.9%)	43 (43%)
Number of children		
Nulliparous	10 (6.3%)	24 (24%)
1-2 children	103 (64.4%)	57 (57%)
>3 children	47 (29.4%)	19 (19%)

BMI: Body mass index.

Table 2. Comparison of SF-36 scores according to continent and incontinent women.

	Incontinent (N=160) Mean±SD	Continent (N=100) Mean±SD
SF-36		
Physical func.	82.62±17.51	86.40±17.62
Role-physical	55.43±33.26	79.95±32.62 *
Role-emotional	75.61±32.17	69.44±38.26
Vitality	57.75±15.44	58.10±13.97
Mental health	58.77±13.27	66.27±13.49 *
Social functioning	83.43±22.98	76.46±20.66 *
Bodily pain	63.80±19.24	75.09±16.68 *
General health	24.46±12.96	56.30±19.09 *

* $p < 0.05$. SF-36: Medical Outcomes Study Short Form-36. func.: functioning.

Table 3. Comparison of SF-36 scores according to incontinence type.

	Urge (N=53) Mean±SD	Stress (N=62) Mean±SD	Mixed (N=45) Mean±SD	
Physical functioning	86.41±14.72	78.62±21.37	83.66±13.37	*
Role-physical	54.24±31.29	56.61±37.89	55.22±29.09	
Role-emotional	86.77±24.84	73.11±34.12	65.91±33.78	*
Vitality	59.15±15.98	57.58±15.54	56.33±14.86	
Mental health	58.18±11.62	61.61±14.56	55.55±12.68	
Social functioning	85.41±22.31	82.51±23.98	82.37 ±22.80	
Bodily pain	62.07±20.29	65.67±17.14	63.24 ±20.81	
General health	22.64±11.99	24.43±12.15	26.66±14.96	

*p<0.05.

Table 4. Comparison of SF-36 scores according to incontinence duration.

	Urge (N=53) Mean±SD	Stress (N=62) Mean±SD	Mixed (N=45) Mean±SD	
Physical functioning	83.51±19.19	85.00±13.75	80.31±18.92	
Role-physical	57.08±33.61	63.63± 32.53	46.87±25.61	
Role-emotional	74.32±33.43	78.81±31.01	74.93±31.16	
Vitality	58.07±16.41	58.33±11.22	54.68±18.11	
Mental health	60.00±13.63	60.12±10.88	49.75±9.23	*
Social functioning	83.01±22.56	85.69±22.71	76.68±30.17	
Bodily Pain	63.64±20.01	69.06±16.46	59.37±21.59	
General health perceptions	26.97±14.02	23.63±9.29	16.56±9.25	*

*p<0.05.

with the performance of everyday household and social activities, causing the appearance of anxiety, depression and frustration.³⁵ Araki et al. stated that UI had adverse effects on physical and mental health in both younger and older women adults.³⁶ In our study, the scores of four domains (role limitations, role limitations due to emotional problems, bodily pain, and general health perceptions) were lower in the incontinent women. In the same time, we found physical functioning was lower in women with SUI and

“role limitations due to emotional problems” was lower in the women with mixed UI. In addition to this, increased duration led to decreased scores in terms of general mental health and general health perceptions domains.

The limitation of our study was the absence of urodynamic test or one-hour pad test. We could not use these test since this current work was not a clinical investigation.

The results obtained from this study indicated that the reproductive aged women with UI,

especially mixed and urge types were affected negatively when compared to continent women in terms of general health status and quality of life. In addition to these results, UI leads to increased depressive symptoms, which have had negative effects on quality of life among the women. Further studies are needed to explain clearly the relationship among UI, emotional status, and quality of life in larger sample.

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