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RESEARCH

QUALITY OF LIFE AND FACTORS ASSOCIATED WITH IT IN ELDERLY WOMEN WITH URINARY INCONTINENCE

Abstract

Introduction: Urinary incontinence, which affects women of all age groups, is a crucial health problem, affecting the quality of the life and incidence of it increases especially with aging.

Materials and Method: This study was designed as a cross-sectional research to determine to what extent the quality of life of women with urinary incontinence was affected and which factors were involved. The study included women aged 65 years and over who were admitted to a urology outpatient clinic at a provincial hospital with a complaint of urinary incontinence between December 1, 2016 and May 31, 2017. The study data such as demographic characteristics, reproductive features, and complaints related to urinary incontinence were collected using a questionnaire and the Incontinence Quality of Life Scale. Descriptive statistics and Kruskal–Wallis and Mann–Whitney U tests were used in data analysis.

Results: Incontinence Quality of Life Scale scores significantly decreased in association with age, smoking status, episiotomy status, and increased body mass index; therefore, quality of life was negatively affected in these women ($p<0.05$). Educational level of the women, presence of chronic disease, type of urinary incontinence, having delivered a baby weighing 4 kg or over, and duration and frequency of urinary incontinence had no statistically significant effect on the quality of life of women ($p>0.05$).

Conclusion: Urinary incontinence negatively affects the quality of life of elderly women.

Key Words: Aged; Urinary incontinence; Quality of life

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ARAŞTIRMA

ÜRİNER İNKONTİNANSLI YAŞLI KADINLARDA YAŞAM KALİTESİ VE ETKİLEYEN FAKTÖRLER

Öz

Giriş: Üriner inkontinans her yaş grubundaki kadınları etkilemekle birlikte özellikle yaşlanma ile birlikte sıklığı artan ve yaşam kalitesini etkileyen, önemli bir sağlık problemidir.

Gereç ve Yöntem: Üriner inkontinans yaşayan kadınların yaşam kalitelerinin hangi düzeyde etkilendiğini ve etkileyen faktörleri belirlemek amacıyla yapılan çalışma kesitsel türdedir. Bir ildeki bir hastanenin üroloji polikliniklerine 1 Aralık 2016- 31 Mayıs 2017 tarihleri arasında üriner inkontinans şikayeti ile başvuran 65 yaş ve üzeri kadınlar örneklemi oluşturmuştur. Araştırmanın verileri, kadınların sosyo-demografik özellikleri, doğurganlık özellikleri ve üriner inkontinans ile ilişkili yakınmalarını saptamaya yönelik anket formu ve "İnkontinans Yaşam Kalitesi Ölçeği" ile toplanmıştır. Verilerin analizinde tanımlayıcı analiz yöntemleri, Kruskal Wallis, ve Mann Whitney U testi kullanılmıştır.

Bulgular: Kadınlarda yaş, sigara içme, epizyotomi uygulanma durumu, inkontinans miktarı ve beden kitle indeksindeki artışla birlikte inkontinans yaşam kalitesi ölçeği puanlarının anlamlı düzeyde düştüğü ve dolayısı ile yaşam kalitelerinin negatif yönde etkilendiği belirlenmiştir ($p<0.05$). Kadınların eğitim düzeyi, kronik hastalık varlığı, üriner inkontinans tipi, doğum sayısı, 4 kg ve üzeri bebek doğurma, idrar kaçırma süresi ve yaşanan üriner inkontinans sıklığına göre yaşam kalitesi etkilenme durumu karşılaştırıldığında istatistiksel olarak anlamlı bir farklılık görülmemektedir ($p>0.05$).

Sonuç: Üriner inkontinans yaşlı kadınların yaşam kalitesini olumsuz yönde etkilemektedir.

Anahtar Sözcükler: Yaşlı; Üriner İnkontinans; Yaşam kalitesi.

INTRODUCTION

The proportion of elderly in the general population is increasing worldwide, including Turkey. According to Turkish Statistical Institute data, people aged ≥65 years account for 8.2% of the population (1). Health problems unfavorably affecting the quality of life such as cancer, heart failure, renal failure, anemia, chronic obstructive pulmonary disease, diabetes mellitus, dementia, Parkinson's disease, falls, accidents, osteoporosis, visual and hearing impairment, tooth problems, nutritional disorders, taste and smell disorders, chronic pain, sleep disturbances, and dysregulation of body temperature occur with advancing age due to improvements in demographic features and an increase in the life expectancy (2,3). Along with these health problems, urinary incontinence (UI) is one of the most important health problems that causes severe complications and negatively affects the quality of life of patients. The prevalence of UI in Turkey ranges from 30% to 57.1% in women aged ≥65 years, and the prevalence rates range from 12.5% to 68.9% in other countries (4-7).

Many factors cause UI, including age, sex, low income and educational level, employment status, smoking and alcohol consumption, presence of chronic disease, chronic constipation, gravidity, parity, episiotomy status during delivery, history of bladder prolapse, cough, body mass index (BMI), and vaginal infections (4,6,8). Along with these risk factors, individuals with UI experience embarrassment and suffer from low self-esteem; their social lives become unfavorable owing to not participating in activities such as taking trips; they experience dissatisfaction with life and decrease in emotional and psychological well-being; and their quality of life is negatively affected due to social isolation, depression, and anxiety (8, 9). UI also causes a decrease in fluid consumption, lack of hygiene practices, and pressure ulcers and perineal dermatitis due to loss of skin moisture and skin irritation (10).

Considering the increasing prevalence of UI with an increase in age, higher prevalence rates in females, and impairment of quality of life in these individuals, the present study aimed at evaluating to what extent the quality of life of women suffering from UI is affected and which factors are involved.

MATERIALS AND METHOD

This cross-sectional study included women aged ≥65 years who were admitted to the urology outpatient clinics at a hospital located in the Central Anatolia Region of Turkey with a complaint of UI between December 1, 2016 and May 31, 2017. Study sample was not selected in the study, and regardless of the incontinence type, elderly women who could establish verbal communication, consented to participate, and who had a fair general health status comprised the study group. During data collection, individuals who had lost their ability of responding to the questions due to changes in the clinical condition, had withdrawn their consents, and provided incomplete or contradictory responses to the questionnaire or scale items were excluded. The study data such as demographic characteristics of women, reproductive features, and complaints related to UI were collected using a questionnaire and Incontinence Quality of Life Scale (I-QOL).

Data obtained from the research were analyzed on computer using descriptive statistics and the Kruskal–Wallis and Mann–Whitney U tests. The level of statistical significance was set at $p<0.05$.

Incontinence Quality of Life Questionnaire: I-QLQ was developed by Wagner et al. in 1996 (11). Validity and reliability analysis of the Turkish version of the scale was conducted by Özerdoğan and Kızılkaya in 2003 (12). I-QLQ comprises three subscales: avoidance and limiting behavior, psychological impact, and social embarrassment. It comprises 22 questions, each of which contains 5 Likert-type items. High scores indicate better quality of life than low scores (11,12). The Cronbach's alpha coefficient of the quality of life questionnaire was determined to be 0.94.

Study limitations

Among factors causing UI, chronic constipation, bladder prolapse, cough, alcohol consumption, and vaginal infections could not be evaluated because the elderly women did not provide sufficient responses to these questions. Similarly, these women may have accurately recalled only some characteristics related to the reproductive history and UI.

Procedure

Ethics committee approval was obtained for this research from Ahi Evran University Ethics Committee and written informed consent was obtained from all participants.

RESULTS

We included a total of 427 elderly women with UI. Of these, 56.9% were aged 56–69 years, 63.7% were married, 47.8% were literate or elementary school graduates, 94.4% had never been employed, and 50.1% had BMI≥25.0 kg/m^2. When the women were evaluated according to the UI type, 208 (48.7%) had urgency UI, 130 (30.4%) had stress UI, and 89 (20.8%) had mixed UI; 32.6% of the women suffered from UI since the last 1–2 years, and 42.6% experienced one episode of UI per week (Table 1).

There was a difference in the quality of life of women with UI between different age groups. Accordingly, there are statistically significant decreases in median overall scores in the quality of life scale and median scores in the subscales of limiting behavior and psychosocial impact with an increase in the age ($p<0.05$) (Table 2).

When the quality of life was evaluated according to the educational level, no statistically significant relationship was found between educational level and the scores in the quality of life scale ($p>0.05$) (Table 2). The median overall score in the scale and limiting behavior subscale was significantly lower for women who smoked compared with those who did not ($p<0.05$) (Table 2).

Although overall I-QOL and subscale scores were lower for women with a chronic disease, presence of a chronic condition did not produce a significant change in the scores ($p>0.05$) (Table 2).

There was a relationship between BMI and median overall I-QOL score and median scores in limiting behavior and psychosocial impact subscales ($p<0.05$). The statistical analysis showed that women with BMI≥25.0 kg/m^2 achieved significantly lower overall I-QOL score and lower scores in limiting behavior and psychological impact subscales ($p<0.05$) (Table 2).

There was no statistically significant relationship when the quality of life of women was evaluated according to the UI type, number of deliveries, having delivered a baby weighing ≥4 kg, and UI frequency ($p>0.05$) (Table 3). When the quality of life of women with UI was evaluated according to the episiotomy status, women who underwent episiotomy had lower scores compared with those who did not. In psychosocial impact and limiting behavior subscales, there was a statistically significant difference between women who underwent episiotomy and those who did not, wherein the quality of life of women who did not appeared to be better ($p<0.05$) (Table 3). Median overall score and median scores in the subscales were significantly lower for women with a large amount of UI compared with those with a small–moderate amount ($p<0.05$) (Table 3). Although women with UI for more than 11 years achieved lower overall scores and lower scores in the subscales, this did not produce a significant difference between quality of life scores of the individuals ($p>0.05$) (Table 3).

Median scores of women in the subscales of I-QOL scale were as follows: limiting behavior, 19 (9–36); psychological impact, 26 (11–45); limitation in social life, 13 (5–25); and median overall score in I-QOL, 19 (9–36) (Table 4).

Table 1. Socio-demographic features and characteristics of urinary incontinence in elderly women (n=427).

Characteristics	n	%
Age (years)		
65–69	243	56.9
70–74	102	23.9
75–79	42	9.8
>80	40	9.4
Marital Status		
Married	272	63.7
Widowed/Divorced	155	36.3
Education Status		
Illiterate	166	38.9
Literate/Elementary School	204	47.8
Secondary/High School	57	13.3
Occupation		
Employed	24	5.6
Unemployed	403	94.4
Body Mass Index		
18.5–24.9	213	49.9
≥25.0	214	50.1
Type of Urinary Incontinence		
Urgency	208	48.7
Stress	130	30.4
Mixed	89	20.8
Frequency of Urinary Incontinence		
Once a day	116	27.2
A couple of times a week	182	42.6
A couple of times a month	129	30.2
Duration of Urinary Incontinence (years)		
<1	108	25.3
1–2	139	32.6
3–5	87	20.4
6–10	74	17.3
>11	19	4.4

Table 2. Distribution of median overall and subscale scores in the I-QOL scale according to sociodemographic features and other parameters of elderly women.

I-QOL	Avoidance and Limiting Behaviors	Psychosocial Impact	Social Embarrassment	Total I-QOL
Age (years)				
65–69	224.60	220.02	219.92	223.96
70–74	218.21	224.6	224.15	221.50
75–79	169.12	201.74	178.99	177.07
>80	184.74	163.82	187.76	172.02
Significance	**KW=9.658**	**KW=8.320**	KW=5.202	**KW=10.289**
Test	**P=.022**	**P=.040**	P=.093	**P=.016**
Educational Level				
Illiterate	218.94	214.49	214.67	215.52
Literate/Elementary School	207.09	208.99	209.01	206.54
Secondary/High School	224.34	230.50	229.93	236.25
Significance	KW=1.316	KW=1.363	KW=1.298	KW=2.629
Test	P=.518	P=.506	P=.523	P=.269
Smoking Status				
Smoker	208.30	211.87	210.06	208.59
Non-smoker	241.65	224.32	233.12	240.23
Significance	Z=-2.110– -	Z=**-**.786	Z=−1.459	**Z=−1.997**
Test	**P=.035**	P=.432	P=.145	**P=.046**
Chronic Disease				
Present	214.89	214.22	215.32	214.06
Absent	207.88	212.46	204.86	213.56
Significance	Z=−.391	Z=−.098	Z=−.584	Z=−.028
Test	P=.695	P=.922	P=.559	P=.977
Body Mass Index*				
18.5–24.9	230.08	227.91	223.65	229.62
≥25.0	197.39	199.63	204.03	197.86
	Z=−2.747	**Z=−2.371**	Z=−1.649	**Z=−2.662**
	P=.006	**P=.018**	P=.099	**P=.008**

***** Calculated as weight in kilograms divided by the square of height in meters.

Table 3. Distribution of median overall and subscale scores in I-QOL scale according to reproductive history and features related to urinary incontinence.

I-QOL	Avoidance and Limiting Behaviors	Psychosocial Impact	Social Embarrassment	Overall I-QOL
Type of Incontinence				
Urgency	215.06	219.16	211.09	213.97
Stress	217.75	218.76	227.99	221.91
Mixed	206.04	194.99	200.35	202.52
Significance Test	KW=.509 P=.775	KW=2.676 P=.262	KW=2.895 P=.235	KW=1.307 P=.520
Number of Births				
1–2	216.05	229.58	236.69	229.30
3	201.35	206.72	187.33	193.77
4	210.18	214.74	208.77	212.79
≥5	219.80	213.40	221.52	219.10
Significance Test	KW=1.467 P=.690	KW=1.005 P=.800	KW=6.418 P=.093	KW=3.326 P=.344
Presence of Episiotomy				
Yes	198.67	199.75	205.73	198.62
No	229.26	228.18	222.24	229.31
Significance Test	**Z=−2.571 P=.010**	**Z=−2.384 P=.017**	Z=−1.387 P=.165	**Z=−2.572 P=.010**
Neonate≥4 kg in weight				
Yes	203.71	198.12	207.20	199.32
No	218.91	221.58	217.25	221.01
Significance Test	Z=−1.195 P=.232	Z=−1.841 P=.066	Z=−.789 P=.430	Z=−1.701 P=.089
Frequency of Urinary Incontinence				
Once a day	193.83	191.57	203.53	191.75
A couple of times a week	221.14	222.03	217.11	220.99
A couple of times a month	222.07	222.84	219.03	224.14
Significance Test	KW=4.292 P=.117	KW=5.282 P=.071	KW=1.174 P=.556	KW=5.242 P=.073
Incontinence Amount				
Small	229.87	229.65	231.48	232.48
Moderate	202.82	203.70	201.91	200.87
Large	195.90	194.89	193.67	193.10
Significance Test	**KW=6.318 P=.042**	**KW=6.229 P=.044**	**KW=7.699 P=.021**	**KW=8.514 P=.014**
Duration of Urinary Incontinence				
<1 year	215.21	215.18	209.04	216.70
1–2 years	212.77	202.66	200.87	206.37
3–5 years	221.12	222.32	234.40	221.42
6–10 years	222.55	233.14	230.97	226.46
>11 years	150.24	177.61	178.76	171.95
Significance Test	KW=5.785 P=.216	KW=5.028 P=.284	KW=7.123 P=.130	KW=3.867 P=.424

Table 4. Distribution of quality of life scores in women with urinary incontinence.

I-QOL	Number of items	Median Score (Min–Max)
Limiting behavior	8	19 (9–36)
Psychosocial impact	9	26 (11–45)
Social isolation	5	13 (5–25)
Overall Score	22	19 (9–36)

DISCUSSION

Urinary incontinence affects all age groups and is an important health problem; its prevalence increases with age, and it affects the quality of life. This condition can be caused by a decrease in bladder capacity observed in the lower urinary tract with an increase in age, residual urine volume, involuntary bladder contractions, and mobility disorders and a decrease in urethral resistance and circulating estrogen levels (5, 13). We showed a negative impact on the quality of life of women with an increase in age. Maral et al. (14) showed that women aged ≥65 years are 6.24 times more likely to experience UI than those aged 15–24 years, and Demirel and Akın (6) reported a higher prevalence of UI in women aged ≥80 years compared with that in those aged 65–69 years. Aylaz et al. (15) showed that incontinence negatively affected the quality of life, and social isolation dimension was the most commonly affected domain. The results of these studies are consistent with the findings of our study.

Ghafouri et al. (7) reported low educational level as an important risk factor for UI. Although there was no statistically significant relationship between the education level and overall I-QOL and subscale scores, the quality of life decreased with a decreasing educational level. It is considered that elderly women with a high education level have a better lifestyle and hygiene perception and are more likely to seek for solutions for their condition than those with a low education level.

Smoking plays an important role in all types of UI and is associated with a 2–3-fold higher risk of developing UI (16). Kirss et al. (17), and Amaral et al. (8) found a significant relationship between UI and the smoking status. They found that the quality of life of women who smoke is negatively affected.

Kirss et al. (17) reported a relationship between UI and DM, Amaral et al. (8) reported a relationship between UI and constipation and vaginal infections, Demirel and Akın (6) reported a relationship between UI and bladder prolapse, Ghafouri et al. (7) reported a relationship between UI and bronchial asthma, Kaşıkçı et al. (4) reported a relationship between UI and constipation, urinary tract infections, cough, genital prolapse, and cystocele, and Kocaöz et al. (18) reported a relationship between UI and heart, endocrine, respiratory, and urinary tract diseases. However, Kocaöz et al. (18) reported that no relationship existed between UI and hypertension, depression, allergy, and gastrointestinal disorders, and Tozun et al. (19) reported no significant relationship between Cerebrovascular events (CVE) and UI. We showed no significant effect of the presence of chronic disease on the quality of life score, although the quality of life was lower in women with a chronic disease (Table 2). Increasing prevalence of chronic diseases in the elderly population with the finding of a significant relationship between chronic diseases and UI may be important for the management of UI. Therefore, detailed studies investigating the relationship between chronic diseases and UI are recommended.

Obesity is an important risk factor for UI development. Some studies (13,20) in the literature suggest no significant relationship between BMI and UI; however, some studies (12,19) report an increase in the prevalence of UI with an increase in BMI. We found a relationship between BMI and median score in I-QOL scale. It was observed that the quality of life is negatively affected in women with a high BMI (≥25.0 kg/m^2).

Parity and delivering a baby weighing ≥4 kg are other two risk factors that affected the quality of life. We found that parity and delivering a baby weighing ≥4 kg did not negatively affect the scores in the quality of life scale. Bilgili et al. (21) reported that delivering a baby weighing ≥4 kg did not affect UI development and Ghafouri et al. (7) reported no relationship between UI and parity, whereas another studies have reported a significant relationship between UI and parity and delivering a baby weighing ≥4 kg (22). Demirel and Akın (6) reported that multiple gestations negatively affected the scores in the quality of life scale. As mentioned above, studies have reported variable results regarding the relationship between UI and parity and delivering a baby weighing ≥4 kg. This can be attributed to the fact that studies have not clearly established the role of pregnancy and delivery on pelvic organ support, although pelvic floor disorders are associated with pregnancy and delivery.

We found that 27.2% of women experienced UI once a day, 42.6% experienced UI a couple of times a week, and 30.2% experienced UI a couple times a month, and the frequency of UI did not negatively affect the quality of life of women, although the amount of UI had a significant effect on the quality of life. Bilgili et al. (21) reported that 38.8% of women aged ≥60 years experienced UI twice a month or more, and Maggi et al. (23) reported that women aged ≥65 years experienced UI everyday. Demirel and Akın (6) also reported that the frequency and amount of UI negatively affected the quality of life. Higher amount of UI is thought to negatively affect the quality of life in elderly women due to fear of smelling bad, feeling of uncleanliness, low self-esteem, decrease in self-respect, and deterioration of self-image.

Episiotomy refers to the incision of bulbo-cavernous muscles in the perineum to aid the protection of the tonus of the perineum and prevent undesirable tears during the delivery of the baby's head, and it is routinely performed to avoid tears in the perineum (24). Some features related to the reproductive history of a woman are known to be among the factors causing UI, and episiotomy is one of these factors. One studies suggest a relationship between UI and episiotomy and its effects on the quality of life (25); however, some studies (6,21) report no significant impact on the quality of life. We found that episiotomy negatively affected overall scores in the quality of life scale and scores in limiting behavior and psychological impact subscales.

Despite the expectation of poorer quality of life in women with a longer duration of UI, we found that the duration of UI had no negative effect on the quality of life of women. The results of the study by Özerdoğan and Kızılkaya (12) are comparable with the findings of our study, and duration of UI does not affect the quality of life.

The quality of life is impaired in patients with UI, mainly in the psychosocial domain (6,8,9,14). Özerdoğan and Kızılkaya (12) used the I-QOL scale to evaluate the quality of life of women with UI aged ≥20 years and found a mild–moderate effect on the quality of life. Amaral et al. (9) reported that a majority of women (99.2%) experienced negative effects of UI in their lives. Ghafouri et al. (7) used International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF) in their study and found that UI affected the quality of life in 79% of women with UI, and the magnitude of this effect varied from moderate to severe. Demirel and Akın (6) investigated women aged ≥65 years and reported negative effects of UI on the quality of life and suggested a significant

relationship between the UI type and overall I-QOL and subscale scores. We found that the quality of life of women was negatively affected, although there was no statistically significant relationship between the UI type and overall and subscale scores in the I-QOL scale.

Here, UI had negative effect on all dimensions of the quality of life in the I-QOL scale. Healthcare personnel should examine and observe elderly women, particularly the ones at risk, for the symptoms of UI and suggest treatment if diagnosed.

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