J Surg Med. 2020;4(5):383-386.
DOI: 10.28982/josam.731213

Research article
Araştırma makalesi

Journal of Surgery and Medicine
e-ISSN=2602-2079

Urinary incontinence frequency, type, severity, and risk factors in female patients undergoing physical rehabilitation: A single center experience

Fizik tedavi uygulanan kadın hastalarda idrar kaçırma sıklığı, türü, şiddeti ve risk faktörleri: Tek merkez deneyimi

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Ethics Committee Approval: Ethics committee approval was not received due to the retrospective design of the study. All procedures in this study involving human participants were performed in accordance with the 1964 Helsinki Declaration and its later amendments.
Etik Kurul Onayı: Etik kurul onayı çalışmanın retrospektif dizaynından dolayı alınmamıştır. İnsan katılımcıların katıldığı çalışmalardaki tüm prosedürler, 1964 Helsinki Deklarasyonu ve daha sonra yapılan değişiklikler uyarınca gerçekleştirilmiştir.

Conflict of Interest: No conflict of interest was declared by the authors.
Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Financial Disclosure: The authors declared that this study has received no financial support.
Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

Published: 5/30/2020
Yayın Tarihi: 30.05.2020

Abstract

Aim: Urinary incontinence (UI) is a health problem with important psychological, hygienic, and socio-economic consequences. The aim of this study is to determine the frequency, severity, and risk factors of urinary incontinence in women.

Methods: In this retrospective cohort study, we evaluated the frequency and risk factors of UI in 62 women over the age of 18 who were referred to the Physical Medicine and Rehabilitation outpatient clinic between August 2019 and February 2020. The data, socio-demographic characteristics of the patients and the results of the Urogenital Distress Inventory-6 (UDI-6) were analyzed.

Results: The mean age of 62 patients included in the study was 57.2 (15.4) years, with the mean duration of symptoms of 7.6 (4.82) years. Stress UI, urge UI and mixed UI were present in 28 (45.2%), 13 (20.9%), and 21 (33.9%) patients, respectively. UI was detected more frequently in patients over 40 years of age (30.6%) than in patients between the ages of 18 and 40 (69.4%) years, in those who gave birth at least once (80.7%) compared to those who had never given birth (19.3%), and in patients with Body Mass Index (BMI) values over 25 kg/m2 than in patients with BMIs between 18.5-25.0 kg/m2 (72.5% vs. 22.5%, respectively).

Conclusion: UI is an important health problem which negatively affects the quality of life of many women. Various socio-demographic and medical factors affect the frequency of urinary incontinence. Therefore, especially the elderly patient group should be informed of the treatability of this condition and be directed to a physician.

Keywords: Urinary incontinence, Frequency, Female

Öz

Amaç: Üriner inkontinans (Üİ), önemli psikolojik, hijyenik ve sosyo-ekonomik etkileri olan bir sağlık sorunudur. Bu çalışmanın amacı kadınlarda idrar kaçırma sıklığı, ciddiyeti ve risk faktörlerini belirlemektir.

Yöntemler: Bu retrospektif kohort çalışmada, Ağustos 2019 ve Şubat 2020 arasında Fiziksel Tıp ve Rehabilitasyon polikliniğine başvuran 18 yaş üstü 62 kadında Üİ sıklığı ve risk faktörlerini değerlendirdik. Polikliniğe başvuran hastaların verileri, sosyodemografik özellikleri ve Ürogenital Sıkıntı Envanteri-6 (UDI-6) sonuçları geriye dönük olarak incelendi.

Bulgular: Çalışmaya dahil edilen 62 hastanın yaş ortalaması 57,2 (15,4) yıl, ortalama semptom süresi 7,6 (4,82) yıl idi. 28 hastada (%45,2) stres tip Üİ, 13 hastada (%20,9) sıkışma tip Üİ ve 21 hastada (%33,9) karışık tip Üİ vardı. Uİ, 40 yaş üstü hastalarda (%30,6), 18-40 yaş arası (%69,4) hastalara göre daha sık saptandı. Uİ insidansı bir veya daha fazla doğum yapan hastalarda (%80.7) hiç doğum yapmayan hastalara göre (%19,3) daha yüksekti. Uİ, vücut kitle indeksi (VKİ) 25'in üzerinde olan hastalarda VKİ 18,5-25,0 arasında olanlara göre daha yüksekti (sırasıyla; %72,5'e karşılık %22,5).

Sonuç: İdrar kaçırma pek çok kadının yasam kalitesini hafif-orta derecede olumsuz olarak etkileyen önemli bir sağlık problemidir. Çeşitli sosyo-demografik ve tıbbi faktörler üriner inkontinans sıklığını etkilemektedir. Bu nedenle, özellikle yaşlı hasta grubu bu sorunun tedavi edilebilir bir durum olduğu konusunda bilgilendirilmeli ve bir doktora yönlendirilmelidir.

Anahtar kelimeler: Üriner inkontinans, Sıklık, Kadın

How to cite/Atıf için: Barut AB, Barut O. Urinary incontinence frequency, type, severity, and risk factors in female patients under physical treatment: A single center experience. J Surg Med. 2020;4(5):383-386.

Introduction

Urinary incontinence (UI) is defined by the International Continence Society (ICS) as an involuntary urinary incontinence that can be demonstrated objectively, resulting from lower urinary system dysfunction, causing social and hygienic problems [1].

UI cases can be classified in various forms according to pathophysiological and etiological features. Stress urinary incontinence (SUI) is involuntary urine loss during activities that increase intra-abdominal pressure (laugh, cough, sneeze, exercise, etc.). SUI is generally caused by insufficient urethral functions [2]. A patient with urge incontinence (UUI), which occurs due to the excessive activity of the bladder muscles, is incontinent before he/she reaches the toilet [3]. The coexistence of stress incontinence urge incontinence is called mixed type urinary incontinence (MUI) [4]. Other types of UI are enuresis nocturna, UI that occurs after a person falls asleep, and continuous urinary incontinence [5].

It has been reported that the prevalence of urinary incontinence in women increases with age until the age of 65, and the prevalence varies between 12% and 53% [6].

Risk factors associated with urinary incontinence are age, gender, race, smoking, birth, sex hormones, menopause, drugs, family history, previous pelvic surgery, pelvic prolapse, obesity and chronic constipation [7].

Urinary incontinence is an important health problem that is frequently seen in the female patient group but underestimated by patients and not adequately questioned by doctors. For this purpose, we planned this study to determine the prevalence and risk factors of UI in women aged 18 years and older who were referred to our Physical Medicine and Rehabilitation outpatient clinic.

Materials and methods

We evaluated the frequency and risk factors of UI in women over the age of 18 years who were referred to the Physical Medicine and Rehabilitation outpatient clinic between August 2019 and February 2020.

The data, socio-demographic characteristics of 62 patients and the results of the Urogenital Distress Inventory-6 (UDI-6) that we filled out during routine practice in case of UI were analyzed retrospectively.

Patients under the age of 18 years, those who had undergone medical or surgical treatment for UI, spinal cord injury, cerebrovascular accident, multiple sclerosis, patients with neurogenic bladder diseases and patients with infection were excluded from the study.

Patients with urinary incontinence were considered SUI if it occurred during events that caused increased intra-abdominal pressure, such as laughing, straining, coughing, and sneezing. Patients who wet their laundry until they reached the toilet after feeling the urge to urinate were considered UUI. Those with both stress type and urge type urinary incontinence were considered to have MUI.

UDI-6 is a popular inquiry form used to assess the presence and degree of distress of lower urinary tract symptoms [8]. It consists of 6 questions regarding frequent urination, urge-type incontinence, stress incontinence, drip-style incontinence, difficulty urinating and dysuria, respectively. Turkish validity and reliability have been shown [9].

All procedures in the studies involving human participants were performed in accordance with the 1964 Helsinki Declaration and its later amendments.

Statistical analysis

The data was analyzed with IBM SPSS Statistics 22.0 (IBM Corporation, Armonk, NY, USA) package program. Continuous variables were presented as mean (standard deviation) (SD) and categorical data, as number and percentages.

Results

All demographic and clinical data of the patients are presented in Table 1. The mean age of 62 patients included in the study was 57.2 (15.4) years and the mean duration of symptoms was 7.6 (4.82) years. Among all, 11 patients (17.7%) had hypertension (HT), 7 patients (11.2%) had Diabetes Mellitus (DM), 3 patients (4.8%) had asthma-chronic obstructive pulmonary disease (COPD), and 2 patients (3.2%) had coronary artery disease (CAD). Twelve (19.3%) of the patients had abdominal surgery, 4 (6.4%) had Total Abdominal Hysterectomy (TAH) + Bilateral Salpingo-opherectomy (BSO). Thirty-seven patients (59.7%) were primary school graduates. SUI was present in 28 (45.2%), UUI in 13 (20.9%) and MUI in 21 (33.9%) patients.

UI was detected more frequently in patients over 40 years of age (30.6%) than in patients between the ages of 18 and 40 (69.4%) years, in those who gave birth at least once (80.7%) compared to those who had never given birth (19.3%), and in patients with Body Mass Index (BMI) values over 25 kg/m^2 than in patients with BMIs between 18.5-25.0 kg/m^2 (72.5% vs. 22.5%, respectively) (Table 2).

Table 1: Patient demographic and clinical characteristics

Variables	Value
Patients, n	62
Mean (SD) age, years	57.2 (15.4)
Mean (SD) duration of symptoms, years	7.6 (4.82)
Education, n (%)	
Primary education	38 (61.2%)
High school	20 (32.3%)
University	4 (6.5%)
Comorbidity, n (%)	
Hypertension	11 (17.7%)
Diabetes mellitus	7 (11.2%)
Chronic obstructive pulmonary disease	3 (4.8%)
Coronary artery disease	2 (3.2%)
Previous surgery	
Abdominal surgery	12 (19.3%)
Hysterectomy	4 (6.4%)
Urinary incontinence type, n (%)	
Stress	28 (45.2%)
Urge	13 (20.9%)
Mixed	21 (33.9%)

n: Number, SD: Standard deviation

Table 2: Risk factors according to urinary incontinence type

Variables		Stress, n (%)	Urge, n (%)	Mixed, n (%)
Age, years	18-40	8 (12.8%)	6 (9.7%)	5 (8.1%)
	≥40	20 (32.4%)	7 (11.2%)	16 (25.8%)
Number of births	0	5 (8.1%)	3 (4.8%)	4 (6.4%)
	≥ 1	23 (37.1%)	10 (16.1%)	17 (27.5%)
BMI	18.5-25.0	6 (9.7%)	5 (8.1%)	6 (9.7%)
	≥ 25	22 (35.5%)	8 (12.8%)	15 (24.2%)
Previous surgery	Yes	9 (14.5%)	5 (8.1%)	6 (9.7%)
	No	19 (30.7%)	8 (12.8%)	15 (24.2%)
Education	Primary education	18 (29.1%)	8 (12.8%)	11 (17.8%)
	High school	8 (12.8%)	4 (6.4%)	8 (12.8%)
	University	2 (3.3%)	1(1.7%)	2 (3.3%)
Total, n (%)		28 (45.2%)	13 (20.9%)	21(33.9%)

n: Number, BMI: Body Mass Index

Discussion

UI is a health problem with significant psychological, hygienic, and socio-economic consequences on both the patients and their families. Urinary incontinence decreases the quality of life of the person and imposes significant socio-economic burdens on public health [10].

In the literature, the rate of urinary incontinence in women varies over a wide range. In a meta-analysis involving forty-eight epidemiological studies, the prevalence of UI in women was reported between 12% and 53% [6]. In a more recent review in which UI prevalence studies in Europe were evaluated, rates varying from 16.1% to 68.8% were reported in women, with increasing rates in the elderly. In this study, pregnancy, birth age ≥ 35, obesity, familial urinary incontinence history and increased parity were shown as risk factors [11]. There are also differences in studies evaluating the incontinence subtype. While in some studies SUI was identified as the leading incontinence form [12,13], in others, MUI was the most common type identified in women [14,15]. These variable results obtained in urine incontinence researches are related to the differences in the definition of urinary incontinence, inquiry forms, and data collection methods, along with the heterogeneity of the age groups studied.

In a meta-analysis involving epidemiological studies, UI prevalence rates in Turkish women were reported between 20.5% and 68.8%. In these studies, the prevalence of SUI, UUI, and MUI ranged from 15% to 42.3%, 9.8% to 32.3%, 10.3% to 70.1%, respectively [16]. A recent cross-sectional study evaluating the UI prevalence rates in Turkish women stated that it ranged between 16.4%- 49.7%, which was parallel to the literature. MUI ranged from 7.8% - 64%, UUI 2.9% - 43% and SUI rates ranged from 20.8% to 68%. In this meta-analysis, SUI was reported most frequently, which was followed by MUI, and UUI was the rarest [17]. In our study, the most common subtype was SUI (45.2%), followed by MUI (33.9%). UUI (20.9%) was less frequent. All these findings were consistent with previous studies.

The incidence of UI increases with age. In their meta-analysis examining 17 epidemiological studies, Milsom [18] reported that prevalence increased proportionally with age. Hunskaar et al. [5] stated that the prevalence of UI peaked especially in the fifth (30%), eighth (35%) and ninth (90%) decades of life. In our study, the incidence of UI was higher ≥ 40 years of age, which was consistent with the literature.

Numerous obstetric risk factors also play a key role in the development of urinary incontinence, such as mode of delivery, multiple pregnancy, and large baby birth. In their study, Thom et al. [19] reported a linear relationship between the number of births and UI. According to their results, an increase in UI was observed in women who gave birth four or more times. Victurp et al. [20] determined that there was a significant relationship between episiotomy during vaginal delivery and SUI developing in the early period. In our study, we found that while the frequency of UI was 19.3% in patients who had never given birth, it was 80.7% in patients who had given birth at once or more.

Obesity constitutes a major public health challenge because of its comorbidities [21]. The increase in BMI can cause an increase in the severity of urinary incontinence. Bump et al. [22] showed that the risk of UI increased by 3.29 times in those with a BMI of 40 kg/m^2 or above. Dwyer et al. [23] stated that SUI was higher in people with higher BMIs. Similar to this study, we found that the incidence of UI was higher in patients with BMI≥25 kg/m^2.

It was reported that damage to pelvic facial support and pelvic floor muscles occurring during gynecological surgeries may pose a risk of urinary incontinence [24]. In our study, the incidence of UI was higher in patients who had previous surgeries, such as an abdominal surgery and hysterectomy.

In the study of Ozerdoğan et al. [25], the incidence of UI was higher in women with low levels of education. We found that there was a low incidence of UI in high school or university graduates. We think that this significant difference is due to the lower number of births in women with higher education levels.

Limitations

This study has various limitations, the major one being its retrospective nature. Other limitations are the relatively low number of patients, and its single centered design.

In this study, we showed the frequency, type, and risk factors of UI. We found that the findings were consistent with the literature. This article will lead future, multicenter prospective studies with more patients.

Conclusion

UI is a widespread problem affecting women's social lives. The feeling of shame in women, the fact that urinary incontinence is a natural result of aging and them being unaware of the available treatment options delay its treatment. For this reason, women with UI should be encouraged to apply to the physician and informed about the treatability of this condition.

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