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CLINICAL ARTICLE

Urinary incontinence in hospital-based nurses working in Turkey

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ABSTRACT

Objective: To determine the changes in quality of life due to urinary incontinence in female hospital-based nurses working in Turkey and whether professional help was sought by the nurses. Another aim was to determine the prevalence of urinary incontinence and its risk factors in working nurses. *Methods:* Data were collected through administration of a questionnaire and the Incontinence Quality-of-Life Instrument. The data were analyzed via χ^2 test, *t* test, one-way analysis of variance, and binary logistic regression analysis. *Results:* The prevalence of urinary incontinence was 21.5%. Explanatory variables for developing urinary incontinence were age, parity, and recurrent urinary tract infections. Nurses with stress incontinence or urge incontinence had better quality of life than did those with mixed incontinence. *Conclusion:* In the present study, urinary incontinence was common in working nurses, and had a negative impact on their general quality of life.

1. Introduction

The International Continence Society defines urinary incontinence as "the complaint of any involuntary leakage of urine" [1]. Van Geelen and Hunskaar [2] found that the prevalence of female urinary incontinence was between 10% and 50%. Although it is not a life-threatening condition, urinary incontinence has physical, mental, emotional, and economic dimensions [3], and despite it being one of the most common health problems experienced by women the majority postpone treatment because of embarrassment and self-neglect—considering it to be an unavoidable result of the aging process and childbirth [4]. Most women with urinary incontinence never seek professional help, and instead attempt to manage the condition on their own [5].

The aim of the present study was to determine the changes in quality of life due to urinary incontinence in female hospital-based nurses working in Turkey and whether professional help was sought by the nurses. Another aim was to determine the prevalence of urinary incontinence and its risk factors in working nurses.

2. Materials and methods

Data for the present cross-sectional study were collected via health center visits and a written questionnaire administered by interviewers between June and December 2007. Female working nurses from 3 large hospitals—Turgut Ozal Medical Center, Malatya State Hospital, and Beydagi State Hospital—in Malatya Province, Turkey, were included in the study. Approval was obtained from all Institutional Committees. In total, 950 nurses were invited to participate in the study after providing informed consent.

A 36-item questionnaire developed by the authors, and the Incontinence Quality-of-Life Instrument (I-QOL) were used to obtain information. Questions were asked about: demographics (e.g. age, education level, and marital status); menopausal status; reproductive history (e.g. parity, number of large-infant births, method of delivery, and history of episiotomy); medical illness (e.g. diabetes mellitus, neurologic disorders, and urinary tract infections [UTIs]); working life; and urinary incontinence. Urinary incontinence was defined according to the criteria of Thomas et al. [6], and its frequency was graded as: rare (less than once per month); regular (more than twice per month); or serious (requiring the continuous use of sanitary protection). A scale was used to enable the calculation of body mass index (BMI, calculated as weight in kilograms divided by the square of height in meters).

Stress incontinence was defined as involuntary loss of urine caused by coughing, sneezing, or physical activity. Urge incontinence was defined as involuntary loss of urine linked to a strong desire to void. Mixed incontinence was considered to be present when the women had both stress and urge incontinence.

The diagnosis of other medical diseases, with the exception of UTIs, was based on the women's need to consult a physician during the study. The presence of UTIs was assessed via the question "have you suffered from a frequent need for urination in small quantities, and experienced burning and aching while urinating, on at least 2 occasions over the last year?" A pilot questionnaire had been administered to a group of 20 nurses to facilitate its optimal final formulation.

The quality of life of nurses with urinary incontinence was determined from their I-QOL scores. This instrument, which was developed in 1996 and revised in 1999 [7], contains 3 subdomains: avoidance and limiting behaviors; psychosocial impacts; and social embarrassment.

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Based on this 22-item scale, a score from 22 to 110 was obtained for each respondent. The Cronbach α statistic was used to ascertain reliability and validity (Table 1).

The χ^2 test, *t* test, and one-way analysis of variance (multiple-comparison least significant difference)—in addition to binary logistic regression analysis—were used to analyze data via SPSS version 12.0 (SPSS, Chicago, IL, USA). The relationship between urinary incontinence and risk factors was evaluated using χ^2 analysis. Logistic regression analysis was carried out to determine which variables were risk factors for the development of urinary incontinence. $P<0.05$ was considered to be statistically significant.

3. Results

In total, 600 full-time working nurses agreed to participate in the present study, with 37% of those invited refusing to take part. The only reason given by non-participants was that they were reluctant because of, for example, lack of time and willingness.

The age distribution of the study participants was categorized as follows: 20–29 years (38.0%); 30–39 years (39.8%); 40–49 years (19.7%); and 50 years or older (2.5%). In total, 24.2% of the nurses were qualified university graduates (2-year degree), and 75.8% were higher-education graduates (≥4 years of university education); 32.8% were nulliparous and 19.5% had given birth to at least 3 children; 98.0% of all deliveries had taken place in a hospital, and large-infant births were common (22.3%). Most deliveries were vaginal (59.1%), with episiotomy performed in 74.8% of such cases. In total, 7.0% of participants were postmenopausal, and 4.5% had undergone hormone replacement therapy. In terms of general health status, 32.5% of the participants were obese (BMI ≥25 [mean ± SD, 23.81 ± 3.76] kg/m^2), 38.8% were smokers, and 20.2% had chronic constipation. Recurrent UTIs were common—affecting 15.2% of participants.

The overall prevalence of urinary incontinence in the present study was 21.5%, with 17.2% of participants experiencing rare urinary incontinence and 4.3% experiencing regular and/or serious urinary incontinence. The prevalence of regular and serious urinary incontinence in nurses increased with age ($\chi^2=11.88$; $P<0.01$). In working nurses with urinary incontinence, stress incontinence affected 56.6%, urge incontinence affected 25.6%, and mixed incontinence affected 17.8%; the prevalence of all 3 types increased with age ($\chi^2=24.12$; $P<0.01$), parity ($\chi^2=20.94$; $P<0.01$), and BMI ($\chi^2=10.94$; $P=0.02$). The incidence of urge incontinence was higher when UTIs were present ($\chi^2=34.60$; $P<0.01$).

Urinary incontinence was limited to "a few drops" in 82.2% of those affected; it involved wetting underwear in 15.5% and wetting clothing in 2.3%. Sanitary pads were worn by 32.6% of all affected women. Only 18.7% of the nurses with urinary incontinence sought medical attention for the condition. The reasons cited for not seeking medical help were as follows: 39.5% considered urinary incontinence to be a natural result of aging and childbirth; 16.8% believed that treatment would not work; 15.1% were embarrassed by the situation; and 28.6% preferred to ignore the symptoms.

Following logistic regression analysis, the variables found to be associated with urinary incontinence were: age (odds ratio [OR] 1.95; 95% confidence interval [CI], 1.21–3.13); parity (OR 2.20; 95% CI, 1.27–3.78); and recurrent UTIs (OR 3.66; 95% CI, 2.24–5.99). Urinary incontinence was not associated with BMI (OR 1.35; 95% CI, 0.87–2.10) (Table 2).

Table 1
Cronbach α values for the I-QOL and subscales.

I-QOL and subscales	Cronbach α
Total score (22 items)	0.94
Subscale: avoidance and limiting behavior score (8 items)	0.85
Subscale: psychosocial impact score (9 items)	0.87
Subscale: social embarrassment score (5 items)	0.89

Abbreviation: I-QOL, Incontinence Quality-of-Life Instrument.

Table 2
Risk factors for urinary incontinence.

Risk factor	Standard error	*P* value	Odds ratio (95% confidence interval)
Age, y			
20–39			
40–65	0.24	<0.01	1.95 (1.21–3.13)
Parity			
Nulliparous			
Parous	0.28	<0.01	2.20 (1.27–3.78)
UTI			
No history of UTI			
History of UTI	0.25	<0.01	3.66 (2.24–5.99)
BMI, kg/m^2 [a]			
<25			
≥25	0.23	0.19	1.35 (0.87–2.10)

Abbreviations: BMI, body mass index; UTI, urinary tract infection.
[a] Calculated as weight in kilograms divided by the square of height in meters.

Scores from the I-QOL (range, 22–110; mean ± SD, 106.1 ± 8.62) indicated that urinary incontinence had an impact on quality of life—with higher scores indicating better quality of life. Quality of life was negatively affected in all 3 subdomains, but avoidance and limiting behavior was affected the most. Nurses with either stress incontinence or urge incontinence had a better quality of life than did those with mixed incontinence (Table 3). There was a statistically significant relationship between impairment of quality of life and type of urinary incontinence ($F=6.08$; $P<0.01$); frequency of incontinence ($F=10.01$; $P<0.01$); levels of leakage ($F=15.94$; $P<0.01$); incontinence during sexual intercourse ($F=5.24$; $P<0.01$); and effect on working life ($F=11.06$; $P<0.01$) (data not shown). No difference was found between age groups in terms of the effects of urinary incontinence on quality of life ($P>0.05$).

4. Discussion

The prevalence of female urinary incontinence was 21.5% in the present study. In their review of the literature, Van Geelen and Hunskaar [2] found the prevalence to range from 10% to 50%, whereas previous studies in Turkey reported it to be 20.5%–35.7% [8–10]. The relatively lower prevalence in the present study may have occurred because the participant group was made up of comparatively younger women (77.8% were younger than 40 years of age).

The prevalence of rare urinary incontinence was 17.2% in the present study, which is comparable to the 15.7% observed by Thomas et al. [6]. However, another study conducted in Turkey [10] found that regular incontinence in women was more common than rare incontinence, which is inconsistent with the findings of the present study. The most common type of urinary incontinence in the present study was stress incontinence (56.6%); the prevalence of this type of incontinence ranged from 16.1% to 42.9% in previous studies—in which it was the most common or second most common type [8–12].

Urinary incontinence was limited to a few drops in 82.2% of participants, and 32.6% of affected women used hygienic pads in response to the condition. Consistent with this, previous studies revealed that urinary incontinence was limited to a few drops in 44.1%–80.7% of women [9,10,13]. Another study conducted in Turkey revealed that 42.2% of women with urinary incontinence used sanitary pads [10]; the low rate of pad use in the present study may have been caused by the low rates of regular and serious incontinence.

Although prevalence was fairly high overall, patients delayed seeking and receiving medical treatment, with only 18.7% attempting to obtain treatment. Other studies have reported a similarly large difference between the numbers of women developing symptoms of urinary incontinence and those receiving treatment [14,15]; previous