Original Article

The Frequency of Urinary Symptoms in Women Attending Gynaecology Clinics at the Aga Khan University Hospital Karachi, Pakistan

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Abstract

Objective: To determine the frequency of urinary symptoms in women attending Gynecology clinics at Aga Khan University Hospital, Karachi.

Methods: A total of 186 women attending the gynaecology clinics for symptoms of menstrual disorders, vaginal discharge or uterovaginal prolapse were asked to fill the survey questionnaire which included all the details about lower urinary tract symptoms (LUTS).

Results: Of the 180 women, 82.8% were aged between 15-44 years with BMI ≥25. Culture confirmed recurrent urinary tract infection (at least 3 episodes of urinary tract infections evidenced by positive urine culture or treated by repeated use of antibiotics) was reported by 32 (17.2%) women. The frequency of urinary incontinence was 44.4% with 17.2% cases having stress urinary incontinence (SUI). Symptoms of urinary tract infection were not significantly affected by age, parity and mode of delivery. Parity was strongly associated with prevalence of SUI ($F=10.48$, $P<0.001$). Both urge and mixed incontinence were significantly related to age ($F=20.57$, P, 0.001 and $F=13.88$, $P<0.001$) but were not affected by parity and mode of delivery.

Conclusion: The high frequency of urinary symptoms in our community demands a need for more extensive epidemiological study and a specialized unit to provide awareness, treatment and training in this area (JPMA 55:489;2005).

Introduction

It is known from epidemiological studies that significant incontinence occurs in one in 20 women in their middle years, although minor incontinence is common.[1] The global prevalence of urinary incontinence is about 49% for stress urinary incontinence, 22% for urge urinary incontinence and 29% mixed incontinence. Urinary incontinence is a very common disorder affecting all age groups, although only few studies have been published in young adult and middle-aged population. Many women conceal these symptoms due to embarrassment and there is difficulty in access to medical resources for the help. It has been observed that the prevalence of urinary incontinence was high among young and middle-aged women hospital workers who had an easy access to medical resources. Gynaecological and Obstetric events (pregnancy particularly previous vaginal deliveries and hysterectomy) were the most prominent risk factors[2], especially for SUI.

Urinary urge incontinence and overactive bladder is age-related and its prevalence rate is found to be similar among western and Asian women.[3] Stress and urge urinary incontinence are common in postmenopausal women and have different risk factors suggesting that approaches to risk-factors modification and prevention might differ and should be specific to types of incontinence.[4] There is a special need for conducting studies among our population as risk factors for incontinence such as grand multiparity and obesity are common in our community. Urinary frequency and incontinence also have religious significance for our population. According to Islamic tradition, women must wash after every void or episode of urine leakage. This can be very troublesome at the time of hajj or pilgrimage when frequent prayers are performed.

Urogynaecology as a subspecialty has not been introduced in Pakistan and we believe the extent of significant lower urinary tract symptoms has been hugely underestimated. The aim of this study was to determine the prevalence of lower urinary tract symptoms in women attending the general Gynaecology Clinic at our private teaching hospital. Presentations at the Gynaecology Clinic were predominantly for investigation of vaginal discharge, menstrual abnormalities, fertility problems and utero-vaginal prolapse.

Patients and Methods

The study was conducted at Aga Khan University Hospital, a private, tertiary care health centre in Karachi, Pakistan. This was a prospective study from October 2001 to September 2002. The information regarding the study was acquired through the convenience sampling and women were asked to fill the self- administered questionnaire after informed consent.

The inclusion criteria were all non-pregnant women attending the gynaecology clinics for the symptoms of menstrual disorders, infertility, vaginal discharge or uterovaginal prolapse.

Exclusion criteria were women who delivered during the last six months and previously diagnosed urinary incontinence as our aim was to detect frequency of such symptoms in gynecology out patient clinics.

All eligible women attending the Gynaecology clinic over a one year period were given a questionnaire. We recorded age, parity, mode of delivery, social class and BMI. Patients were also asked about the use of tricyclic antidepressants as these are a commonly used over-the-counter medication.

As this is the first study in our department we relied on subjective reporting of symptoms and simple definitions of lower urinary tract symptoms. Incontinence was classified as recognised or unrecognised. Patients with recognised incontinence were those who had a previous diagnosis of incontinence regardless of whether they had received treatment and were excluded from the study. Unrecognised incontinence referred to those symptomatic patients who had never sought treatment. Our definition of regular urinary incontinence was involuntary leakage of urine $\geq$ twice a month regardless of quantity of urine leaked. Patients with only occasional symptoms were also excluded from analysis.

Details were also recorded on precipitants of leakage eg stress or urge or mixed, daytime frequency, nocturia and symptoms of urinary tract infections including urgency and dysuria. We did not rely only on culture proven urinary tract infection as self medication for symptoms of infection is very common in our community.

Data analysis was performed using statistical programmes SPSS version 10 and Statistica version 4.5. Descriptive statistics are presented as a percentage of the total number of respondents. Cross tabulation was used to determine the relationship of urinary symptoms to relevant demographic variables. Statistical significance was calculated using Pearson x^2 test unless otherwise indicated and x^2 analysis was used to determine the relationship between dependent and independent variables. A converted P=0.05 was used for all tests of statistical significance. Multiple regression analysis was performed with all types of incontinence as dependent variables and three independent variables - age, parity and mode of delivery, in the univariate analysis.

All independent variables statistically significant at the 0.05 level at each of the univariate analyses were entered into simple linear regression (multivariate analysis) to determine the significance of age, parity and mode

of delivery on stress, urge and mixed incontinence. The fit of regression F and P values were compared for statistical significance.

Results

A total of 186 women were included in the study. The majority (82.8%) of women were between 15-44 years age and were obese with a BMI ≥25 (80.1%). Forty three of the patients (or 23.1%) were nulliparous and 30 (16.1%) had been delivered by Caesarean section only. Table 1 lists full demographic details.

Table 1. Selected weighted sample demographics of women attending Gynaecology clinics at Aga Khan University (n=186).

Variable	No.	%
Age		
15-44	154	82.8
≥45	32	17.2
Parity		
nulliparous	43	23.1
para 1-4	111	59.7
p ≥5	32	17.2
Mode of delivery		
nulliparous	43	23.1
vaginal births only	113	60.8
caesarean sections only	30	16.1
BMI (Body Mass Index)		
≤25	37	19.9
≥25	149	80.1

Table 2. Frequency of urinary tract symptoms (n=186).

Variable	No.	%
H/o UTI	56	30.1
Culture +ve	32	17.2
Urinary Incontinence	80	44.4
Stress	32	17.2
Urge	18	9.7
Mixed Incontinence	30	16.1
Voiding Frequency		
day		
3-7 Times	142	76.3
≥7	44	23.7
nocturia		
nil	3	1.6
once	109	58.6
≥2	74	39.8
Antidepressant		
users	21	11.3
non-users	165	89.7

The frequency of significant lower urinary tract symptoms is shown in Table 2. Culture confirmed recurrent urinary tract infection was reported by 32 (17.2%) women while a further 56 (30.1%) had dysuria and urgency symptoms.

Daytime frequency ≥x7 occurred in 44 (23.7%) of respondents and 74 (39.8%) experienced nocturia ≥x2. Twenty one women (11.3%) used the tricyclic antidepressant, Imipramine.

Almost half the women, 80/186 (44.4%) reported urinary incontinence with most complaining of stress or mixed incontinence (occurring in 17.2% and 16.1% respectively). Eighteen of the women or 9.7% complained of urge incontinence only.

Symtoms of urinary tract infection were not significantly affected by age, parity and mode of delivery. The prevalence of stress incontinence was similar in both age groups but urge and particularly mixed incontinence was more common in women over 45 years of age. Grand multiparous patients (parity ≥5) also reported a higher rate of mixed incontinence (31.2% compared with 11.6% in nulliparous patients and 13.5% for patients with 1-4 deliveries).

The univariate analysis of the three variables i.e. age, parity and mode of delivery showed that the parity was highly associated with stress urinary incontinence. Age was found as significantly associated with both urge and mixed urinary incontinence.

The results of multivariate analysis are shown in table 3 and it shows that parity was strongly associated with the prevalence of stress incontinence ($F=10.48$, $p<0.001$) and the fit of regression improved significantly when age was added to the model. However mode of delivery was not significant. The frequency of both urge incontinence and mixed incontinence was significantly related to age ($F=20.57$, $p<0.001$ and $F=13.88$, $p<0.001$). Multivariate analysis demonstrated that parity did not affect the prevalence of either urge or mixed incontinence. Again mode of delivery was not significantly associated with the presence of urge or mixed incontinence.

Table 3. Multivariate associations between urinary incontinence and variable of interest.

Variable	Stress incontinence		Urge incontinence		Mixed incontinence	
	F	P	F	P	F	P
Age	NS	NS	20.57	0.00001	13.88	0.00025
Parity	10.48	0.0014	NS	NS	NS	NS
Mode of delivery	NS	NS	NS	NS	NS	NS

Discussion

Our study has demonstrated a high frequency of persistent lower urinary tract symptoms in women presenting with general gynaecological complaints.

Daytime urinary frequency was reported by almost a quarter of our respondents (23.7%) and troublesome nocturia by 39.8%. Culture confirmed urinary tract infection

occurred in 17.2% of patients while almost twice this number (30.1%) complained of urgency and dysuria. Interestingly these results are similar to those in other populations[5] although the lower life expectancy in Pakistan should mean less elderly patients were included in the study. This may be balanced by a slightly earlier age of menopause and the infrequent use of hormone replacement therapy which has a protective effect against infection and lower urinary tract dysfunction.[6]

Urinary incontinence was very common with 44.4% of patients reporting urine leakage more than twice a month. Of these, similar numbers reported stress incontinence (32/80) and mixed incontinence symptoms (30/80). Eighteen of the incontinent women complained of pure urge incontinence.

In common with several other studies, parity and to a lesser extent age, were significant variables in the prevalence of stress urinary incontinence.[6-8] Women delivered only by Caesarean section had a similar rate of stress incontinence as women who had vaginal deliveries (23.3% and 18.5% respectively) suggesting that it is pregnancy rather than the mode of delivery which contributes to the development of stress incontinence.[8] Urge and mixed incontinence were strongly associated with increasing age but not parity or mode of delivery. Again this is consistent with other studies in Western populations.[10-12]

Urinary incontinence was reported by 11/43 or 25.6% of our nulliparous patients. The rates of stress, urge and mixed incontinence were similar. Prevalence rates for incontinence among nulliparous patients in some other population surveys are lower than in our study. Foldspang et al[11] reported a 9% prevalence rate and a French study[2] found that only 6% of nulliparous patients experienced urinary incontinence. This may be explained by a higher rate of obesity and heavy lifting during household work in our population.

Our study demonstrated that urinary incontinence and other lower urinary tract symptoms are widespread in women attending our gynaecological clinics. It is also clear that women are reluctant to volunteer these symptoms whether through embarrassment or lack of appreciation of treatment possibilities. There is clearly a need for more specialized units to increase our awareness, knowledge and training in this area.

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