

Prevalence of Urinary Incontinence in Women in Lahore: severity, associated factors and impact on daily life

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ABSTRACT

Aim: To estimate the prevalence of urinary incontinence (UI) and its subtypes in women of Lahore, its severity, associated factors, and impact on their daily life.

Design: Cross-sectional study.

Setting: Gynaecology OPD, Lady Willingdon Hospital, Lahore, Pakistan.

Population: Women with age 15 years and above, having symptoms of urinary incontinence were randomly selected for the study.

Methods: Data was collected from all the patients attending gynaecology OPD, with symptoms of urinary incontinence and an interview-based structured questionnaire was filled for each patient, followed by the examination of the patient by consultant/ specialist on duty. Urinary incontinence as reported by the participants.

Results: Among the total 500 participants, prevalence of any UI was 11.7% (58/500 with 95% CI 10.5–12.2). Stress incontinence was the most common subtype, with a prevalence of 4.6% (95% CI 4.2–5.2), second common subtype was urge incontinence, with a prevalence of 3.2% (95% CI 2.6–3.6) and third common subtype was mixed incontinence, having a prevalence of 2.8% (95% CI 2.2–3.2), other incontinence had a prevalence of 0.5% (95% CI 0.21–0.61) and continuous incontinence, with a prevalence of 0.5% (95% CI 0.31–0.61). Marriage at early age, higher parity and old age were found to have an independent association with UI. It was found that more than 50% of women with urinary incontinence were facing leakage daily, and 45% women told that UI had a moderate to severe impact on their daily lives. It was also found out that only 15.6% of women having UI took consultation from a doctor.

Conclusion: The reported prevalence of urinary incontinence in participants, found out to be quite less as compared to that in studies, conducted in the developed countries. But among the affected ladies urinary incontinence was commonly present on daily basis than that, is generally found in studies performed in the developed world, but among the affected women urinary incontinence was commonly present on a daily basis and had a significant impact on their everyday lives, yet a small number of them managed to obtain the medical advice.

Keywords: Urinary incontinence, prevalence

INTRODUCTION

Urinary incontinence (UI) is considered as one of the disturbing conditions in women. It has a variable prevalence across the globe^{1,2}. Millions of women throughout the world are affected by this problem³. UI has a deep influence on the quality of women's daily life⁴⁻⁵.

Women can feel embarrassed while discussing this problem with the healthcare providers, as a result of which, they remain unaware of the available treatment options^{6,7}.

Lahore is a capital of Punjab Province of Pakistan. Its estimated population is 11.2 million, among which, 5 million are the females⁸. Over a period of time, growing interests in the symptoms of urinary incontinence, have led to an increased awareness of sufferings in their individual and social aspects of lives. Prevalence rates found from earlier studies are wide ranging, due to heterogeneity in definition of UI, methodology and the populations that were included⁹.

It has found out that the research on urinary incontinence is mainly conducted in the developed or high-

income countries. Stress urinary incontinence, has reported to be the most prominent type of incontinence in studies from these countries¹⁰. Due to the scarcity of sufficient data on urinary incontinence from underdeveloped countries, especially those having large rural populations for instance, Pakistan, makes assessment of burden of disease a very challenging situation in these women, and thus it is important to evaluate and formulate different strategies in order to cope with this hidden problem.

This study is about the prevalence, severity and impact of urinary incontinence and associated factors on daily life of women in Lahore, Pakistan. This can provide a deep insight into this important but hidden problem

METHODS

A population-based study in women aged 15 years and above in Lahore, Pakistan. In this study there was an interview-based questionnaire for the patients of urinary incontinence, followed by clinical examination by the consultant gynecologist at Lady Willingdon Hospital outpatient department.

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Setting: The study participants were from main city Lahore and also from the towns and rural areas around Lahore draining into Lady Willingdon Hospital for the treatment options.

Study Design: A cross-sectional study

Inclusion Criteria: Women who attended the gynecology outpatient department, with complaints of various types of urinary incontinence, were selected by using a random sampling technique in order to identify the study population.

Exclusion Criteria: All women with the following conditions were excluded from the study:

Requiring Urological care

Having urinary diverticulum/obstruction

Having persistent indwelling catheter

Those using Diuretics

Diabetes Mellitus

Those having history of urological surgery

Mentally handicapped

MATERIAL AND METHODS

The structured interview (by questionnaire) was conducted by the consultants and the technical terminologies were avoided in the questions. Informed consent was taken. The questionnaire had questions regarding socio-demographic characteristics of the participants and it also included the questions regarding establishment of the presence of subtypes of urinary incontinence.

Frequency and amount (volume) of urinary leakage was used for assessing the severity of symptoms, as reported by the women. No objective measurement such as diaries or counting of pads for validation of their symptoms was used. The impact of UI on various areas of life was also noted.

Outcome Measures: The women answering 'yes' to the questions regarding symptoms and who gave answers to the subsequent questions, about the volume and frequency of urinary leakage that eventually established the presence of UI, were considered to have Urinary incontinence. According to the answers the urinary incontinence was classified as stress (if associated with a sudden coughing, sneezing, running, straining or by heavy work), urgency (if there was urinary leakage before reaching a toilet), mixed (if symptoms of both urgency and stress incontinence were there), others (UI during sleep or if the woman can't start or stop the urinary stream according to her will) and continuous (if there was continuous dribbling/leaking of urine).

Analysis: The data was entered and then analyzed by software SPSS Version 19.0. The qualitative variables were calculated as frequencies and percentages. The association between the sociodemographic features/characteristics and urinary incontinence was analyzed by using the chi-square test and the P-value more than 0.05 was taken as significant. For the quantification of strength of association, odds ratio was calculated. For the investigation of the factors, independently associated with UI, logistic regression was used. Written/Verbal consent from the participants was taken for inclusion in the study.

RESULTS

500 women were selected to participate in this study. The median age of the participant women was 32 years, among them 12% were reported as nulliparous and majority were para 1 to 3. 94.2% of them were married women, and 93.3% had their religion, Islam. About 16% of the participants were illiterate (by definition those without any formal education), and majority of the remaining had primary level education. 86% of women were housewives and almost 80% of the study group, belonged to the poor socio-economic class.

Table 1 shows the sociodemographic features/ characteristics of women included in this study.

Table 2, shows the subtypes of UI and their distribution.

The prevalence of any urinary incontinence was found out as 11.7%, and Urinary stress incontinence was noted to be its the commonest subtype.

Some of the sociodemographic characteristics were found to have an association with an increased likelihood of urinary incontinence like being married, earlier age at marriage, higher parity and old age, Table 3.

Table 1: Socio-demographic features of women

Features	Number (n)	Percentage %
Age(years)		
15-20	84	16.1%
21-25	71	14.3%
26-30	92	18.2%
31-35	80	16%
36-40	81	15.8%
41-45	40	8.5%
46-50	29	6.0%
>50	29	5.5%
Age at marriage(years)		
15-20	340	68%
20-25	100	20%
26 and more	40	8%
unmarried	20	4%
Parity		
Nil	62	12%
1-3	186	35%
4-6	154	30%
>7	100	21%
Education		
Illiterate	80	16%
Primary	360	72%
Middle	18	3.6%
Matriculation	25	5%
Intermediate	12	2.4%
Graduate and postgraduate	5	1%
Religion		
Muslim	467	93.4%
others	33	6.6%
Languages spoken at home		
punjabi	350	70%
urdu	110	22%
siraiki	20	4%
others	20	4%
Women's Occupation		
House Wife	430	86%
Laborer	20	4%
Others(students etc)	50	10%
Socioeconomic Class		
Lower social class	400	80%
Middle social class	90	18%
Upper social class	10	2%

Religion, language spoken at home, occupation and socioeconomic class were not found to have an association with UI. Multivariable analysis was done that showed that older age (OR 1.044, 95% CI 1.036–1.052), earlier age at marriage (OR 1.02, 95% CI 1.003–1.036) and higher parity (OR 1.191, 95% CI 1.161–1.223) had an independent association with increased chances of urinary incontinence.

Table 4 shows the impact of urinary incontinence on many areas of women's lives, frequency and duration of urinary incontinence, amount of urinary leakage and

consultation regarding incontinence availed. It was found that only 18% of women with UI stated that it did not cause any impact on their lives, while about 45% claimed to have moderate to severe effects on their lives. Frequent urinary leakage was common and more than one half of the affected women reported leakage at least daily and in about 40% cases it was claimed to be more than once a day. Also it was found that 15.6% of the women with UI took medical advice for their problem.

Table 2. Subtypes of urinary incontinence (prevalence)

Types of UI(urinary incontinence)	Total Cases	n	%age of cases	%age of those with UI	95% CI
Any type incontinence	500	58	11.7		(10.5-12.2)
Urinary Stress incontinence	500	23	4.6	41.0	(4.2-5.2)
Urgency	500	16	3.2	27.7	(2.6-3.6)
Mixed incontinence	500	14	2.8	24.1	(2.2-3.3)
Others	500	3	0.5	3.1	(0.31-0.61)
Continuous incontinence	500	3	0.5	3.1	(0.31-0.61)

Table 3: Relationship between urinary incontinence and sociodemographic features

Risk factors	No. of Women	No. with urinary incontinence(n)	Prevalence in group	Odds ratio	95%CI	P-value
Urinary incontinence by Age						
17-20 yrs	80	3	4	1.00		<0.001
21-25 yrs	70	5	7	1.81	(1.15-2.88)	<0.001
26-30 yrs	88	9	9	2.51	(1.66-3.80)	<0.001
31-35 yrs	80	9	11	3.06	(2.04-4.65)	<0.001
36-40 yrs	82	13	16	4.54	(3.06-6.67)	<0.001
41-45 yrs	44	9	21	6.41	(4.2-9.7)	<0.001
46-50 yrs	28	6	19	6.08	3.86-9.55)	<0.001
51 or older	28	5	20	5.5	(3.47-8.70)	<0.001
Incontinence by parity						
Para 0	63	3	4.49	0.99		<0.001
Para 1-3	180	15	8.0	1.80	(1.21-2.77)	<0.001
Para4-6	152	18	12	2.9	(1.92-4.35)	<0.001
Para 7 or more	105	20	21	5.67	(3.77-8.50)	
Incontinence by age at marriage						
<20 years	350	5	12	1.00	(0.51-0.95)	0.02
21-25 yrs	75	9	11.3	0.69	(0.46-0.97)	0.03
26-30 yrs	19	2	11	0.67	(0.38-1.12)	0.12
31 years or more	3	0	10	0.58	(0.17-1.99)	0.38
unmarried	30	1	4	0.22	(0.12-0.43)	<0.001

Table 4: Impact of UI (urinary incontinence) on women's life

Impact on women's quality of life	n	%age
No impact	10	17.2%
Slight impact	22	38%
Moderate impact	15	24.5%
Great impact	12	19.1%
Daily life hygiene		
No impact	12	22%
Slight impact	20	33.4%
Moderate impact	16	27.7%
Great impact	10	17%
Life at work		
No impact	16	26.2%
Slight impact	19	33%
Moderate impact	13	21%
Great impact	10	17%
Life at home		
No impact	15	25%
Slight impact	20	34%
Moderate impact	14	24%
Great impact	10	15%
5.Social life		

No impact	20	34%
Slight impact	16	28.4%
Moderate impact	12	21%
Great impact	10	18%
Frequency in urinary leakage(times)		
Once / week or less	17	29%
2 or 3 times/ week	11	19%
Quantity of urinary leakage(volume in ml)		
Small	38	65%
Moderate	15	25%
Large	7	10%
Consultation with a doctor		
Yes		16%
No		84%

DISCUSSION

According to this study the overall prevalence of UI was found out 11.7% among the participants many women with UI stated to have a significant impact on their day to day lives, over 42% of the affected women told that the leakage occurred more than once a day. An increased likelihood of

UI was also found out with increased age, parity and early age at the time of marriage.

The overall prevalence of UI reported in this study was found out to be lower than that of the most of studies performed in developed countries. In comparison to many studies conducted in general female populations, this study had relatively younger age group of women, that is typically because of the 'age pyramid' in Pakistan and majority of developing countries,¹⁰ with only 5.5% of the sample being more than 50 years of age. In comparison to this were 40% of women with age more than 50 years in the population-based study of urinary incontinence that was performed in Norway. In that study the prevalence of UI noted was 25%, with prevalence among the 20–24 and 25–29 year age groups was only 10% and 14%, respectively¹¹

Al Mukhtar Othman et al¹² studied the prevalence of urinary incontinence in non-pregnant, nulliparous women between 25 to 64 years of age. They found the prevalence of 16.7%.

Childbirth, high parity and increased number of vaginal deliveries are found to be associated with an increased likelihood of urinary incontinence^{13,14}. Conversely, older maternal age at birth was also associated with more possibility of UI. In the developing countries, like Pakistan¹¹, women may feel shy to report this problem because of some stigma or embarrassment labelled with it. Certainly the number of women who reported to have daily leakage was quite higher than that found in studies of high income world, for instance, a study conducted in Norway reported the daily occurrence of incontinence in only 20% of women¹³.

The main strength of this study is the representation women of Pakistan. Finding the narrow confidence intervals in the prevalence, strengthens the power of its results. Another strength of this study is the use of a data collection procedure by a questionnaire containing a detailed information and we can get a comprehensive and organized data of each patient. However, there are some weaknesses as well. There is a possibility that some women may not declare the symptoms due of embarrassment. That can cause an underestimation in the prevalence of UI.

In this study, stress incontinence was found out to be the most common subtype (41%). This was in consistence with other studies of stress UI^{8,13,14,16}. However, the second and third most common subtypes of UI in this study were urgency (27.7%) and mixed incontinence (24.1%) respectively. Majority of studies have reported that mixed incontinence is the next common subtype, while urgency was found to be less common^{16,17}. No clear explanation for the difference could be detected.

In this study the overall prevalence of UI was reported to be increased with the age, parity and early age at marriage. This relationship between UI and age¹⁴⁻²² parity^{15,16,19,22} and early age at marriage, is consistent with previous studies.

About 40–45% of women with UI reported it causing moderate to severe impact on their everyday life, hygienic conditions and social life. Unlike to studies in the developing countries leakage of urine, more than once/day was found in more than 42% of cases^{13,17}.

In this study we found that only 16 % of the affected women consulted a doctor for their problem, while studies from the developed world have reported this number as 25–33% of the cases.

CONCLUSION

This study has reported that although UI seems to be less prevalent in Lahore, Pakistan in comparison to the studies conducted in the developed high income countries, the extent of symptoms for instance, daily more than once urinary leakage and higher impact on everyday life in almost half of cases, indicates that this is a considerable problem for the affected women. However, it was also found that a very small number of women went for medical advice regarding their condition.

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