

## Original Research Article

# Urinary incontinence: prevalence, risk factors, impact on quality of life and treatment seeking behaviour among middle aged women

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## ABSTRACT

**Background:** Urinary incontinence (UI) is one of the priority health issue recognized by WHO. Urinary incontinence (UI) is defined by the international continence society as "a condition in which involuntary loss of urine is objectively demonstrable and is a social and hygiene problem. It is a common and distressing medical condition severely affecting quality of life (QOL). Urinary incontinence is a common health problem among women, with the prevalence varying from 8-45% in different studies.

**Methods:** This study was based among the population around SRM-IMS, Bareilly. Total 464 women were interviewed out of 2860 total inhabitants.

**Results:** Out of 464, 236 females were selected for this study. 28 women had urinary incontinence. The overall prevalence of urinary incontinence in our study was about 12%. There was significant association of increasing age and presence of urinary incontinence. Urinary incontinence does impact on quality of life of a woman having urinary incontinence. Impact of personal factors do not have much impact on urinary incontinence. 22% women had stress urinary incontinence, 38% had urgency incontinence and 38% had mixed type of urinary incontinence.

**Conclusions:** Various obstetrical factors do contribute to urinary incontinence. Urinary incontinence is a significant health problem in the society leading to restriction in social and sexual activities. Almost 1 in 12 women suffering from urinary incontinence. Simple epidemiological tools such as a questionnaire can unveil the urinary incontinence subjectively. Further efforts are to be done to improve the quality of life and minimizing the urinary incontinence by pursuing them for treatment.

**Keywords:** QOL, UI, WHO

## INTRODUCTION

Urinary incontinence (UI) is one of the priority health issue recognized by WHO. An understanding of the epidemiology of this condition effectively leads to a better appreciation of its importance and its impact on the population and the health care delivery system. The last two decades have seen intensified research on the prevalence of UI and the identification of its determinants. Urinary incontinence (UI) is defined by the international continence society as "a condition in which

involuntary loss of urine is objectively demonstrable and is a social and hygiene problem.<sup>1</sup> It is a common and distressing medical condition severely affecting quality of life(QOL).<sup>2</sup>

Urinary incontinence is a common health problem among women, with the prevalence varying from 8-45% in different studies.<sup>3-4</sup> This wide variation may be due to different factors such as under reporting caused by shame and the belief that it is natural consequence of ageing.<sup>5</sup> Women in India have also been reported to have high

tolerance threshold for seeking treatment because of shyness, fear of surgery, lack of money, dependency on husband and non-availability of female doctors in the periphery.<sup>6</sup>

Urine leakage can be through urethra or extra-urethral. Urethral incontinence is either stress urinary incontinence or urgency incontinence. Sometimes it is mixed. Urine leakage from sites other than the urethra is usually due to urinary fistula congenital or acquired.

Leakage of urine occurring per urethra on increase in intra-abdominal pressure such as laughing, coughing or sneezing is known as stress urinary incontinence. It is this type of incontinence that predominates among women accounting for as much as 65% of all types of UI in women. It is highest in young and middle aged group. There is a relative decrease with increasing age.<sup>7,8</sup>

Urgency urinary incontinence (UUI) is defined as involuntary urine leakage associated with sudden desire to urinate and failing to reach the toilet in time. It is one of the component of the overactive bladder (OAB) which includes symptoms such as urgency, nocturia and frequency. Approximately one third of patients are diagnosed to have UUI.<sup>9</sup> There is a relative increase with increasing age.<sup>10</sup>

Potential risks factors for UI include increasing age, increasing parity, vaginal deliveries, obesity, pelvic surgery, diabetes mellitus, depression, constipation, chronic respiratory problems.<sup>11</sup> This problem leads to many women adapting their life style so as to avoided of social and sexual activities. Urine leakage can give rise to comorbid conditions like skin rashes due to wet skin. Financial burden is one of the consequences of this condition.<sup>12</sup>

Very limited studies are available on its prevalence, causative factors and impact on quality of life in India. This present study examines the prevalence of this condition, associated risk factors, type of incontinence and its effect on quality of life.

## METHODS

This population based study was conducted at SRMS-IMS, Bareilly, Uttar Pradesh, India. from 1<sup>st</sup> April 2011 to 31<sup>st</sup> March 2014 in the department of surgery-urology. Head of the Department of Surgery and Dean were informed about the study and proforma was submitted to ethic committee of institution and their consent taken.

The study was conducted in two villages (Bhagwantapur and Bhikampur) near our institute. These two villages have a total of 2860 inhabitants. Out of 2860, 464 were women between 30 to 70 years of age. About 228, were not included for the study due to non-availability, refusal for the study or not fit for our study. Local government officials were also informed and consent taken from

them. These two villages have mixed populations. They were all only farmers or farming plus some private jobs in cities. Literacy rate was only 20% among 236 women selected for the study.

Five groups of questionnaires was designed which consist of;

- Patient personal characteristics
- Obstetrical history
- Miscellaneous risk factors
- Urinary complaints
- Impact of urinary incontinence on quality of life.

Resident in surgery on rotation was involved in the study. Female attendant or husband were asked to be present during interviewing. Questions were explained in Hindi which is the language in the area around our institution. The purpose of the study was explained to the patient and informed consent was taken from all them. Privacy and confidentiality were insured during the whole process.

A survey schedule was used to identify the cases of urinary incontinence through face to face interviews. Specific data were collected as shown in questionnaire proforma.

Stress urinary incontinence was considered if a woman said she leaked urine during coughing, sneezing laughing or even standing. Urge incontinence was considered when a woman complained that she lost urine after severe urge and she was unable to hold. Mixed incontinence was considered if she said yes to both the situations.

Patients with acute urinary infections, neurological diseases and diabetes were excluded from this study. Patients with involuntary leakage of urine through sites other the normal urethra were also excluded from this study.

Personal characters were noted and analysed in scientific manner.

Severity and type of incontinence noted in patient own language and then tabulated as per our medical terminology.

In obstetrical history number of children, age at first delivery, mode of delivery (normal/instrumental delivery), duration of labour and birth weight of the newborn was taken as these factors may be associated with the incidence of urinary incontinence.

Risk factors Chronic constipation, chronic cough, any pelvic surgery and h/o/PID etc. all impact on the outcome of urinary incontinence.

Impact of urinary incontinence on quality of life were measured on six parameters. They are limitation in daily activities, limitation in social function attendance,

problem in sexual life, financial burden, psychological stress and work place problems. Response is graded as none, mild, moderate and severe.

Patients were also interviewed regarding their treatment seeking behavior.

Analysis was done using percentage, range, mean, standard deviation and chi-square test.

**RESULTS**

Study selected 236 females for this study. Out of 236, only 28 females had urinary incontinence. The overall prevalence of urinary incontinence among study population was about 12%. There is significant association between advancing age and presence of urinary incontinence.

**Table 1: Age wise prevalence of urinary continence.**

Age (years)	Total women surveyed=n	Women having incontinence=n (%)
30-35	58	3 (5.2%)
36-40	28	2 (7.2%)
41-45	26	5 (19.2%)
46-50	32	2 (6.5%)
51-55	24	6 (25%)
More than 56	68	10 (14.8%)

**Table 2: Impact of personal factors on urinary incontinence in women.**

Personal characteristics	Women surveyed=n	Women with urinary incontinence=n (%)
<b>Marital status</b>		
Married	198	24 (12.2%)
Divorced	8	1 (12.5%)
Widow	22	2 (9%)
Unmarried	8	1 (12.5%)
<b>Occupation</b>		
Worker	12	1 (8.4%)
Non-worker-house wife	224	27 (12%)
<b>BMI</b>		
<18	12	2 (16.4%)
18-25	218	22 (11%)
>25	6	4 (67%)
<b>Literacy</b>		
Educated	8	1 (12.5%)
Uneducated	228	27 (11.8%)

Personal characteristics like marital status, occupation, socioeconomic status and body mass index in relationship with incidence of urinary incontinence is depicted in Table 2. During data collection, we included socioeconomic factor also, but after study we realized

that all women belong to almost same status, so we removed this factor in final tabulation. There was no significant change in presence of different personal factors and occurrence of urinary incontinence.

The severity and types of urinary incontinence are shown in Table 3. In present study, most common type was urgency incontinence followed by mixed and stress urinary incontinence.

**Table 3: Type and severity of urinary incontinence.**

Frequency of episodes	SUI	UI	Mixed	Total
Few episodes per month	2	4	4	10
Few episodes per fortnight	2	4	2	8
Few episodes per week	1	2	2	5
One episode per day	1	1	1	3
More than one episode per day	0	0	2	2
Total	6	11	11	28

The role of obstetrical factors like parity, age at first delivery, type delivery, route of delivery and prolonged labour were significant for outcome of urinary incontinence. They are described in Table 4.

**Table 4: depicting obstetrical factors and their relation to urinary incontinence.**

Obstetrical factors	Urinary incontinence absent	Urinary continence present	P-value
<b>Parity</b>			
Nulliparous	16	0	0.002
<2 children	72	8	
>2	148	20	
<b>Age at first delivery</b>			
<18	78	16	.01
19-25	132	10	
NA	26	2	
<b>Type of delivery</b>			
Home delivery	212	26	.001
Hospital delivery	24	2	
<b>Route of delivery</b>			
Vaginal	204	22	0.001
Caesarean	32	6	

There are various other factors shown in Table 4 which affect the outcome of urinary incontinence Table 5.

Table 7 describes the impact of urinary incontinence on he QOL of women. In our study population, there was no financial burden because they never consulted any doctor. They did not have any psychological disturbances because they took it as natural at this age. There were only social and sexual limitations. Work limitation was

significant only in urgency urinary incontinence because in stress urinary incontinence they managed to take care of situations where they feel that stress will cause urinary incontinence.

**Table 5: Other risks factors in urinary incontinence.**

Factors	Urinary incontinence absent	Urinary incontinence present	P-value
<b>Chronic cough</b>			
No	202	4	0.001
Yes	34	24	
<b>Chr. constipation</b>			
No	224	18	0.001
Yes	12	10	
<b>Urinary infection</b>			
No	204	16	0.001
Yes	32	12	
<b>Any pelvi op.</b>			
No	194	12	0.204
Yes	42	16	
<b>H/O dil. and cur.</b>			
No	222	24	0.244
Yes	14	4	

**Table 6: The reasons for non-consulting rate.**

Reasons	n (Total pt)	%
Consider as normal	12 (28)	42.9%
Will resolve by itself	6 (28)	21.45%
Shyness	4 (28)	14.3%
Financial	4 (28)	14.3%
Fear of hospital	2 (28)	7.05%
Husband has no time	0 (28)	0%

Table 7 describes the impact of urinary incontinence on the QOL of women. In our study population, there was no financial burden because they never consulted any doctor. They did not have any psychological disturbances because they took it as natural at this age. There were only social and sexual limitations. Work limitation was significant only in urgency urinary incontinence because in stress urinary incontinence they managed to take care of situations where they feel that stress will cause urinary incontinence.

**Table 7: describes the impact of urinary incontinence on quality of life.**

Disabling system	Sui	Ui	Mixed
Work limitation	0	4	3
Sexual limitation	3	4	4
Social limitation	3	3	4
Financial burden	0	0	0
Psychological	0	0	0
<b>Total</b>	<b>6</b> <b>(21.5%)</b>	<b>11</b> <b>(39.25%)</b>	<b>11</b> <b>(39.25%)</b>

## DISCUSSION

The overall prevalence of urinary incontinence in our study was about 12%. There was significant association of increasing age and presence of urinary incontinence. In our study about 60% cases of urinary incontinence were in the age group of beyond 50 years. The cause for this is unclear. This is partly explained by progressive loss of muscle tone, decreased contractility, changes in the hormonal stimulation and repeated injuries during vaginal deliveries.<sup>13</sup>

Impact of personal factors like marital status, worker or non-worker, body mass index and literacy do not have much impact on urinary incidence except body mass index.

The distribution of the types of incontinence, 22% women had stress urinary incontinence, 38% had urgency incontinence and 38% had mixed type of urinary incontinence. These findings were not similar to the study conducted by Kumari et al and Trupti N et al.<sup>14</sup> These studies had shown higher incidence of stress urinary incontinence. Our study is different from other studies, may be due to difference in population studied.

Urinary incontinence is a significant health problem in the society leading to restriction in social and sexual activities. It also leads to considerable financial loss as well as various kind of psychological disturbances.<sup>15</sup>

Various obstetrical factors do contribute to urinary incontinence. Child bearing is an established risk factor for urinary incontinence. The labor and delivery process may cause pelvic floor dysfunction as a result of nerve damage, muscular damage and direct tissue stretching and disruption. More than two children, first child bearing age of less than 18, prolonged labor, vaginal deliveries and forceps deliveries, all contribute to the occurrence of urinary incontinence later in life.<sup>16</sup>

The relationship between occurrence of urinary incontinence and chronic cough and chronic constipation can be explained by increased abdominal pressure in these conditions.<sup>17</sup> There was a significant association between urinary tract infection and urgency incontinence.

### Reasons for non-consulting

A variety of reasons were reported by women for non-consultation. About 43% of affected women considered urinary incontinence as a normal part of a women's life and mentioned this as a reason was for not seeking any treatment. A similar reason was cited in studies.<sup>18</sup> Low consultation rate and the lag in consultation indicate that in India women have profound tolerance. Fear of hospital, lack of time, financial problem, shyness, non-availability of doctors and the situation will resolve by itself were also stated as reasons for non-consultation.

### ***Effect of urinary incontinence on quality of life (QOL)***

Urinary incontinence does impact on quality of life of a woman having urinary incontinence. In our study, urgency incontinence and mixed incontinence were more common as compared to pure stress urinary incontinence. Somehow, stress urinary incontinence, as stated by patients can be managed by avoiding situations associated with increase intra-abdominal pressure. Urgency urinary incontinence is really unpredictable and difficult to manage. They said, “my clothes are wet with urine and cannot do any religious work and my husband and children avoid me”. In our study, main concern of women was their inability to perform religious activity and also involved social limitation.

There is, thus, a definite need to make available an effective way of treatment for these helpless women. Women of our study were given treatments by us. Pelvic floor exercises were taught at their own place and women reported very good results. Same conclusion was withdrawn from other studies.<sup>19</sup> Urge incontinence cases were given various drugs for overactive bladder like Oxybutynin, Tolterodine, Solifenacin, Darifenacin etc. Patients of stress urinary incontinence were treated with pelvic floor exercises and drugs like alpha stimulants like Duloxetine. Few of them responded with this treatment. They were requested to visit hospital for urological evaluation like blood tests, urine tests, cystoscopy, X-ray KUB, sonography and cystometry. They all refused. With treatment in the form of pelvic floor exercises and drugs 75% of them improved in 6 months on follow up. Rest of the patients could not be evaluated further to find out the cause of treatment failure because of refusal. This study was based on verbal response. Perception of quality of life may have been subjective. Limitations of study include recall bias. Intervention could not be done because of patients refusal.

### **CONCLUSION**

Almost 1 in 12 women suffering from urinary incontinence. Simple epidemiological tools such as a questionnaire can unveil the urinary incontinence subjectively. Difference in the prevalence of stress urinary incontinence and urge urinary incontinence may be due to a difference in population studied. The outcome is predicted both by obstetrical and other risk factors. Further study is required to delineate the individual factors playing a role in stress or urge incontinence. There is significant impact of urinary incontinence on quality of life. Further efforts are to be done to improve the quality of life and minimizing the urinary incontinence by pursuing them for treatment.

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