

## URINARY INCONTINENCE IN POSTMENOPAUSAL WOMEN - A STUDY IN URBAN POPULATION

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**ABSTRACT: Objective:** To find out the incidence of stress urinary incontinence (SUI), urge urinary incontinence, mixed urinary incontinence in post menopausal women and to note the incidence of concomitant urinary incontinence and genital prolapse in post menopausal women. **METHOD:** This longitudinal study was conducted in the departments of Obstetrics and Gynaecology, department of Urology, Calcutta National Medical College and Hospital, Kolkata, India. The study comprised of 158 post menopausal women attending Gynaecology OPD attached to Calcutta National medical college, from March, 2011 to February, 2012. Detailed history, thorough general survey with special emphasis on BMI and clinical examination, routine blood investigations and urodynamic Study of all patients were done and recorded. Statistical analysis was done by using SPSS software (Version 18) after proper arrangement of all the data in tabular form and presented as simple percentage. **RESULTS:** Most of the patients ,presenting with urinary incontinence were belonged to the age group 51-55yrs (32%) and most of the patients (51%) were belong to normal range of BMI .47% patients had 3 to 5 vaginal delivery, 54% patients had pelvic organ prolapse. Incidence of urinary incontinence in post menopausal women was 44% and incidence of stress UI, mixed UI and urge UI was 61%, 26% & 13% respectively. **CONCLUSION:** Urinary incontinence is a wide spread problem especially in post menopausal women. There are high prevalence and negative consequences of involuntary urine loss. Urinary incontinence is associated with POP, high BMI, menopausal duration, number of vaginal birth.

**KEYWORDS:** Post menopausal women-POP-BMI

**INTRODUCTION:** Urinary incontinence (UI) is defined by the International Incontinence Society as "The complaint of any involuntary loss of urine which is a social or hygienic problem and objectively demonstrable."<sup>1</sup> UI may occur as a result of numbers of abnormalities of function of lower urinary tract or as a result of other illness, which tend to cause leakage in different situation. Women's UI should be categorised as stress urinary incontinence (SUI), mixed urinary incontinence, or urge UI / over active bladder (OAB).

Worldwide, over 200 million people are living with urinary incontinence (UI).<sup>1</sup> Estimated 19% of women under the age of 45 experience UI and 29% of women over the age of 80 also experience this condition. Stress urinary incontinence (SUI) is commonly found in healthy adult women-approximately 30% of the women under 30 years old and 14% to 41% of the women between the ages of 30 to 60.<sup>1</sup>

So urinary incontinence (UI) is a common condition that may affect women of all ages, especially in elderly persons, with a wide range of severity and nature. Although rarely life

threatening, urinary incontinence (UI) is a major clinical problem that has a profound effect on quality of life and activities of daily living (2-4). Women with UI report fear, shame and humiliation, and worry about the odour of urine from pads and wet underclothing (5). UI is physically debilitating and socially incapacitating, and is associated with loss of self-confidence, feelings of helplessness, depression, and anxiety (3). On the other hand stress urinary incontinence (SUI) and pelvic organ prolapse may coexist (7). UI has become a costly public health problem (6).

Here we have used a validated questionnaire and few investigations to find out any urinary incontinence in post menopausal women. We evaluated the incidents of post menopausal women presenting with urinary incontinence and also its association with pelvic organ prolapse.

**METHOD:** This longitudinal study was conducted in the departments of Obstetrics and Gynaecology, department of Urology, Calcutta National Medical College and Hospital, Kolkata, India after approval from the Ethical Committee of this Institution. The study comprised of 158 post menopausal women presenting with urinary incontinence with or without pelvic organ prolapse, attending Gynaecology OPD attached to Calcutta National medical college, from March, 2011 to February, 2012. Informed consent was taken from all the patient after proper counselling. Detailed history (Questionnaires methods), thorough clinical Examination, routine blood investigations and urodynamic Study of all patients were done and recorded. Post menopausal women with previous urological surgery, previous POP correcting operation, with chronic cough or chronic cardiological disease symptoms or investigation suggesting any malignancy, pervious history of spinal cord or any back surgery, problem of spinal cord or nervous system were excluded from this study.

Statistical analysis was done by using SPSS software (Version 18) after proper arrangement of all the data in tabular form and presented as simple percentage.

**RESULTS:** In our study, there were 158 patients from our Gynaecology OPD, in whom we have done all the necessary clinical evaluation and investigation as planned in our predesigned proforma. In the table 1 we have demonstrated the relative distribution of the patients, according to their age and it is evident that most patients belonged to the age group 51-55yrs (32%).

Age	Number	Percentage (%)
50 yrs or less	20	13
51 to 55 yrs	51	32
56 to 60 yrs	32	20
61 to 65 yrs	33	21
66 to 70 yrs	16	10
above 70 yrs	6	4

**Table 1: Distribution of patients according to their age**

Total 158 numbers of patients were divided into six groups according to their age. Most of the postmenopausal women in our study were in the age group 51yrs to 55yrs (32%) and there were only 4 post menopausal women above 70 yrs of age.

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From our study, we have found most of the patients (51%) belong to normal range of BMI. Relative distribution of patients according to Body Mass Index are analysed in table 2.

B.M.I (Range)	No. of women	Percentage (%)
< 18.5	9	6
18.5 - 24.99	80	51
25 - 29.99	40	25
30 - 34.99	29	18
35 - 39.99	0	0
≥ 40	0	0

Table 2: Distribution of patients according to Body Mass Index

Most of the patients (47%) in our study had 3 to 5 vaginal delivery and out of 158 women only 14 women had more than 5 vaginal deliveries, this may reflect the Indian scenario of utility of contraceptive measures. Relative distributions of patients according to number of vaginal delivery are shown in table no. 3.

No. of Vaginal Delivery	No. of women	Percentage (%)
≤ 2	69	44
3 - 5	75	47
> 5	14	9

Table 3: Distribution of patients according to number of vaginal delivery

In our study most of the patients (54%) had pelvic organ prolapse

Type of Patient	No. of Patient	Percentage (%)
without POP	85	54
with POP	73	46

Table 4: Distribution of patients according to presence of pelvic organ prolapse

Incidence of urinary incontinence in post menopausal women is 44% and 56% women presented without incontinence.

Type of Patient	No. of Patient	Percentage (%)
without Incontinence	89	56
with Incontinence	69	44

Table 5: Incidence of urinary incontinence in our study

In our study we have seen that incidence of stress UI, mixed UI and urge UI was 61%, 26% & 13% respectively.

Type of Incontinence	No. of Patient	Percentage (%)
Urge + Stress	18	26
Urge	9	13
Stress	42	61

Table 6: Distribution of patients according to type of urinary incontinence

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Incidence of UI in post menopausal POP patients in our study was 67%

Type of Patient	No. of Patient	Percentage (%)
POP without Incontinence	24	33
POP with Incontinence	49	67

Table 7: Incidence of urinary incontinence in POP patients

Analysis from our study revealed that the incidence of UI is highest in patients with more than 5 vaginal deliveries.

No. of Vaginal Delivery	No. of Patient	Patient with Incontinence	Percentage (%) of Incontinence
≤ 2	69	17	25
3 - 5	75	38	51
> 5	14	14	100

Table 8: Association of urinary incontinence with number of vaginal delivery

In our study we have seen that incidence of UI in women whose menopausal age ≥10 yrs was 73%.

No. of Patient with ≥10 years menopausal age	Patient with Incontinence	Percentage (%)
77	56	73

Table 9: Shows number of patients with UI, whose menopausal age ≥10 yrs

In our study most of the women was within normal range BMI. Analysis from our study revealed that chance UI is greater with increased BMI. , incidence was higher in overweight and obese women that were 65% & 76% respectively.

B.M.I (Range)	No. of Patient	Patient with Incontinence	Percentage (%)
< 18.5	9	1	11
18.5 - 24.99	80	20	25
25 - 29.99	40	26	65
30 - 34.99	29	22	76
35 - 39.99	0	0	0
≥ 40	0	0	0

Table 10: Association of UI with BMI

**DISCUSSION:** Worldwide over 200 million of people are living with urinary incontinence (UI)(1).Estimated 19% of women under the age of 45yrs and 29% of women over the age of 80yrs experience this condition(1).

So, urinary incontinence is a common problem that may affect women of all ages, especially in elderly person.

In a study done in the post menopausal women in an urban area of Beijing, the prevalence of UI in post menopausal women was 61%. In that study SUI was the commonest type (prevalence of 64.5%) (8). The prevalence is not compatible with our study. This disparity may be due to that it was performed in post menopausal women of aged 60yrs or more and as UI is increases with duration of menopausal age.

In another prospective study done in Thailand, 2004, in post menopausal women. They found that prevalence of urinary incontinence was 38.86%, they also concluded that UI is associated with number of vaginal delivery and duration of menopause. All these findings is very similar to our study (9).

In a cross-sectional study to estimate the prevalence and identify factors associated with UI in older women. They found 41% women reported urinary incontinence and associated factors were obesity and increase menopausal age (10).

In our study we also found association of UI with BMI. There was 20 patients (25%) with urinary incontinence in the normal range BMI group, 26 patients (65%) with UI who were overweight and in obese group it was 76% who had UI. This finding is also very similar to another prospective study (10). They also conclude that adiposity and weight gain seems to be a strong independent risk factor for UI.

Another epidemiological study (11) documented that over weight and obesity is an important risk factor for UI.

Taking into account vaginal deliveries (including forceps delivery), there was a significant relationship of increasing prevalence of incontinence with a higher number of deliveries.

In our study there were 51% patients who had UI with 3-5 number of vaginal delivery and the patients who had >5 vaginal deliveries, all reported UI. This association was also seen in other study (12). In that study they analysed the relationship between the increasing numbers of live births and UI incidence. There was a positive correlation between the numbers of live births and increased prevalence of incontinence in each patient (12). The mean number of deliveries in women with each type of UI was found to be more than four (12), It was found that more than 50% of the women who had four or more deliveries were incontinent. Similarly, an increasing number of deliveries increased the prevalence of incontinence (12). In another, they also concluded that women who had more than two deliveries had a higher risk of UI (13).

In this study there were 73 post menopausal women with pelvic organ prolapse (POP) out of them 49 women (67%) had UI. So, in our study incidence of UI in post menopausal women with POP is 67%. In others studies the coexistence of SUI and pelvic organ prolapse in women was reported as high as 62.6% and the presence of UUI was reported to be affected by increased anterior vaginal wall defects(14-16). Fianu et al (17), reported that 15-80% of patients with pelvic organ prolapse had SUI.

In another study, they determined that more than 80% of the patients with pelvic organ prolapse also had SUI and UUI (12).

In a prospective study in 60 patients with genital prolapse, detrusor overactivity was present in seven women (20%) with grade 1 or 2 cystocele versus 13 (52%) with grade 3 or 4 cystocele (18).

Yuan et al (19) reported that POP and SUI shared common pathophysiological etiologies and often coexisted with one another.

In addition to exploring the association between conventional risk factors and UI, we also evaluated the role of pelvic organ prolapse in the development of UI. Because of the close proximity of the anatomical structures within the pelvis, UI and pelvic organ prolapse commonly coexist. It was reported that SUI and pelvic prolapse may occur simultaneously as a result of weakness of the supporting tissues at the urethrovesical junction (14).

Sobhgol and Charandabee (15), reported that posterior pelvic organ prolapse was associated with stress and urge incontinence and vaginal delivery was a predictor of stress, urge and mixed incontinence.

**CONCLUSION:** Urinary incontinence is a wide spread problem especially in elderly persons. There are high prevalence and negative consequences of involuntary urine loss. Among these consequences even social isolation and psychological distress were also seen.

Urinary incontinence is associated with POP, high BMI, menopausal duration, number of vaginal birth. Here we evaluated incidence of UI in post menopausal women and we have seen that the above factors are associated with UI in post menopausal women.

Evaluation of UI in post menopausal women with POP is of great importance. Pre treatment tests are very much useful to identify the associated UI in POP patients and we have seen that women need an urodynamic study to evaluate the type of UI, so that they can be counselled pre operatively regarding concomitant procedure to correct incontinence.

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