



Research Article

Prevalence of Different Types of Urinary Incontinence and their Association with Age and Parity

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Abstract

Introduction: Urinary incontinence (UI) is one of the most common diseases in the world, occurring majorly in females. One out of five women in the world suffers from disease. Based on pathophysiology urinary incontinence is divided into 3 types: stress urinary incontinence, urge urinary incontinence and mixed urinary incontinence.

Material and Method: It is a cross sectional study. It was conducted at Netaji Subhash Chandra Bose medical college and hospital from October 2016 to October 2017. A total of 418 women above 18 years of age who have none of the exclusion criteria (active UTI, pregnancy and 6 weeks postpartum, malignancy, any neurological illness, all patients with true illness) were included.

Result: Stress urinary incontinence had highest prevalence of in our study, followed by mixed urinary incontinence and urge urinary incontinence. The prevalence of urinary incontinence is much higher in older age groups (above 40 yr). In young women the prevalence of urinary incontinence is usually low, but prevalence peaks around menopause, with a steady rise thereafter in later life. In our study all the primipara were found to be continent. The prevalence of urinary incontinence increases with increasing parity.

Conclusion: As people are living longer and the number of elderly keeps increasing, urinary incontinence becomes a very significant problem. Urinary incontinence has an impact on the quality of life and affects productivity and decreases activity levels in women.

Keywords: Urinary incontinence, stress urinary incontinence, urge urinary incontinence, mixed urinary incontinence, parity.

Introduction

Urinary incontinence (UI) affects 23% to 55% of women⁽¹⁻³⁾. The most common types are stress urinary incontinence (SUI), urge urinary incontinence (UUI), and mixed urinary incontinence (MUI)⁽⁴⁾. Urinary incontinence (UI)

is one of the most common diseases in the world, occurring majorly in females. One out of five women in the world suffers from disease. The common reasons of its occurrence in women are: stress urinary incontinence, i.e. exerting pressure on the abdominal region, sneezing, coughing,

laughing or doing sports; in cases of overactive bladder, with urge-incontinence, it occurs with a strong, uncontrollable urge to urinate, with a high chance of losing urine if a restroom is not found; and mixed incontinence, when there is loss of urine associated to both situations, i.e. it is preceded by efforts and symptoms of urgency.

Types of Urinary Incontinence

Based on etiology and pathophysiology, urinary incontinence is classified into three types:

Stress Urinary Incontinence

According to the international continence society, stress urinary incontinence is defined as the involuntary leakage of urine with exertion such as coughing, sneezing and laughing.

Stress incontinence means the escape of urine through the urethra when the intra abdominal (and therefore intravesical) pressure is raised by a sudden movement, coughing, sneezing, laughing, walking or, in certain cases, even turning in bed. In extreme cases, it requires a rise in bladder pressure to only 20 or 30 cm of water to cause a leak, in the mildest, the pressure may have to be raised to 70 or 80 cm of water. The amount of urine lost at any one time is usually only a few drops, and this is a feature important in the diagnosis.

Urge Urinary Incontinence

Urge urinary incontinence is the involuntary leakage of urine accompanied by or immediately preceded by a strong sudden urge to urinate, commonly referred to as 'Overactive bladder', this incontinence is usually caused by involuntary contraction of the detrusor muscles of the bladder wall at inappropriate times. There is no gradual build up desire to urinate in this type of incontinence and a large amount of urine is lost during each incontinence episode. Urge urinary incontinence may be triggered by simple everyday occurrences such as the sound of the running water, exposure to cold temperatures, or drinking cold beverages. Idiopathic etiologic factors include myogenic, neurogenic, and urethrogenic

manifestations. Anatomical factors such as bladder outlet obstruction, pelvic masses, urethral diverticulum, urinary stones, bladder cancer, or benign urothelial growths could cause urge incontinence.

Ordinarily the patient is continent but once she experiences a desire to void, the bladder escapes from inhibition and contracts so strongly that it opens its urethral sphincter. So, immediately after the urge to void occurs, the woman has 'to run to avoid an accident'. If she is too late, the bladder empties itself in part or whole.

Mixed Urinary Incontinence

It is the involuntary leakage of urine associated with exertion and urgency, it is a mixture of stress and urge urinary incontinence. Basically the bladder is overactive and the urethra and urethral sphincter muscles are underactive or deficient. It may be stress predominant mixed urinary incontinence or urge predominant mixed urinary incontinence.

Material and Method

The present study is a cross sectional study. It was conducted at Netaji Subhash Chandra Bose medical college and hospital from October 2016 to October 2017. A total of 418 women above 18 years of age who have none of the exclusion criteria (active UTI, pregnancy and 6 weeks postpartum, malignancy, any neurological illness, all patients with true illness) were included.

The study sample drawn from the patients attended gynecological OPD of NSCB Medical College Jabalpur. Data was collected using a predesigned proforma meeting the objectives of the study with their consent. Structured history followed by general physical examination, systemic and gynecological examination was carried out. Data on urinary leakage, type, frequency, amount, and impact of incontinence also recorded. Diagnosis was based on International Uro Gynecological Association (IUGA) guidelines considering symptoms and clinical evaluation only.

Result

Table 1- Prevalence of different types of urinary incontinence

Characteristics	No. of cases	Prevalence
Prevalence of UI among total population	109	26.07
Prevalence of SUI among total population	77	18.4
Prevalence of Urge UI among total population	12	2.9
Prevalence of Mixed UI among total population	20	4.8

Graph No. – 1 Prevalence of Urinary Incontinence Among Studied Population

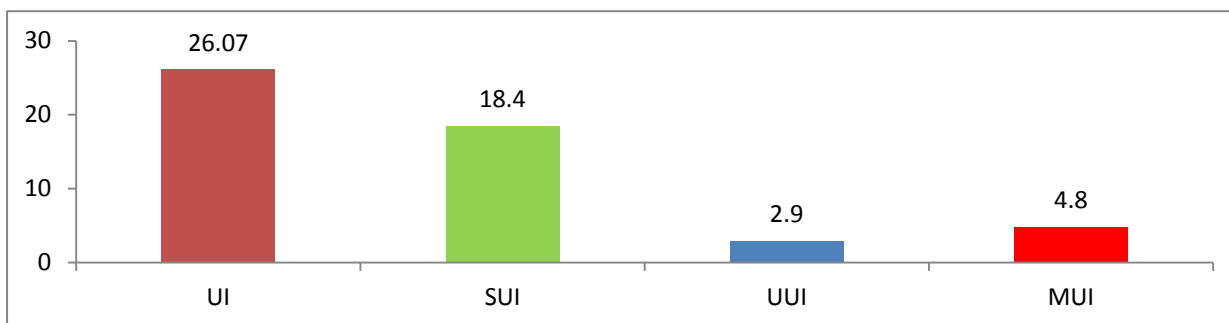


Table 2 Association of different types of urinary incontinence with age

Age (in Years)	Total (n=418)	No UI (n=309)	SUI (n=77)	UUI (n=12)	MIXED UI (n=20)
<30	176	176	0	0	0
30-39	108	104 (96.3%)	0	4 (3.7%)	0
40-49	61	20 (32.8%)	29 (47.5%)	4 (6.6%)	8 (13.1%)
50-59	49	9 (18.4%)	28 (57.1%)	4 (8.2%)	8 (16.3%)
60 and more	24	0	20 (83.3%)	0	4 (16.7%)
Mean±SD	35.61±12.162	29.75±6.544	53.66±8.497	44.33±7.152	51.40±6.700

Graph No. 2 Age Specific Prevalence of Urinary Incontinence

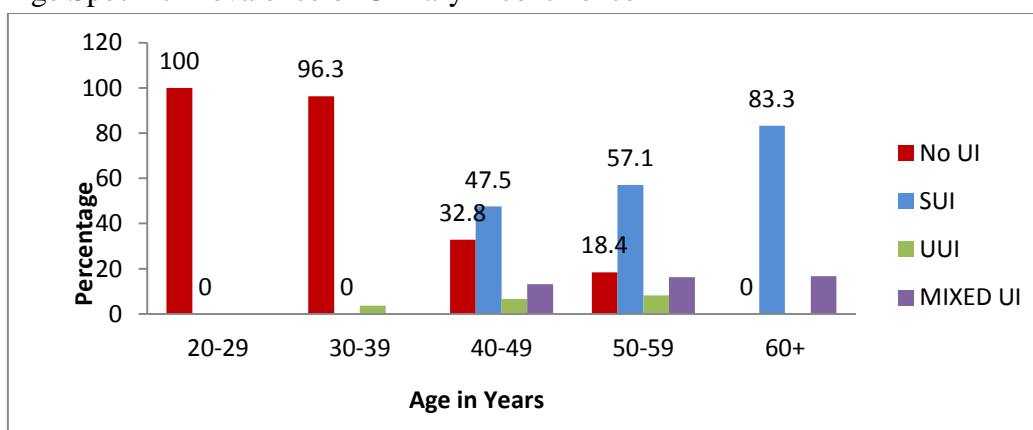


Table 3 Association of different types of urinary incontinence and parity

PARITY	Total (n=418)	No UI (n=309)	SUI (n=77)	UUI (n=12)	MIXED UI (n=20)
1	145	145	0	0	0
2	157	136 (86.6%)	13 (8.3%)	8 (5.1%)	0
3	56	20 (35.7%)	28 (50.0%)	0	8 (14.3%)
4 and more	60	8 (13.3%)	36 (60.0%)	4 (6.7%)	12 (20.0%)

Graph No. 3 Parity and Urinary Incontinence

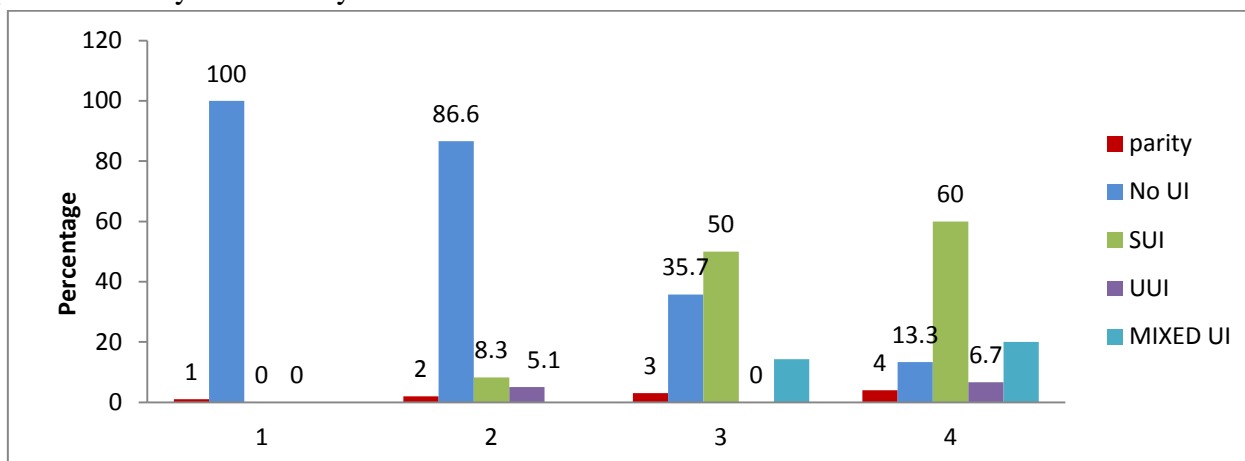


Table 1 shows the prevalence of different types of Urinary Incontinence. 18.4% of women had Stress Urinary Incontinence, 2.9% had Urge Urinary Incontinence and 4.8% had Mixed Urinary Incontinence. And the total prevalence of Urinary incontinence is 26.07%

So the stress urinary incontinence had highest prevalence of urinary incontinence in our study, followed by mixed urinary incontinence and urge urinary incontinence.

Table 2 shows that the prevalence of Stress Urinary Incontinence increases with age, and Urge Urinary Incontinence found more common in middle age group. (40-60 yr). The mean age of the case observed at 53.66 (\pm 8.49) for SUI cases, 44.33 (\pm 7.152) for urge UI cases, and 51.40 for mixed UI cases however the mean age of normal cases ie not having any UI was seen at 29.75 (\pm 6.54) this indicates that the mean age of cases having any type UI was significantly higher than the cases having no UI ($P < 0.05$).

The prevalence of urinary incontinence is much higher in older age groups (above 40 yr). In young

women the prevalence of urinary incontinence is usually low, but prevalence peaks around menopause, with a steady rise thereafter in later life.

Table 3 shows the association of parity and Urinary Incontinence. In our study all the primipara were found to be continent. The prevalence of urinary incontinence increases with increasing parity. The parity is strongly associated with urinary incontinence

Discussion

In our study out of 418 women, 109 women reported urinary incontinence and prevalence was 26.07%, which is similar to the 21.87% found in study done by Uma Singh et al⁽⁵⁾ and 25% in a large EPINCONT study⁽⁶⁾ done in Norway by Hannestad YS, Rortveit G et al. In other studies done by Hagglund D et al, Hannested YS et al., and Yarnell Jw et al.^(7,8,9) used same definition on similar population, prevalence was 24-45%. The prevalence of urinary incontinence in a study done by Abha singh et al⁽¹⁰⁾ was 30%. Brown et al⁽¹¹⁾

found a much higher prevalence (55%) and Black et al a one higher still (62%). The overall prevalence of urinary incontinence for four European countries was 35% done by Hunskaar et al.⁽¹²⁾

In our study we found the highest prevalence of stress incontinence that is 18.4%, followed by mixed urinary incontinence 4.8% and urge urinary incontinence 2.9% which is quite similar to the study done by Uma Singh et al.⁽⁵⁾ in their study the prevalence of stress, mixed and urge type of incontinence was 16.13%, 3.67% and 2.07% respectively. Abha singh et al⁽¹⁰⁾ found the prevalence of stress, urge and mixed urinary incontinence was 24.5%, 6.5% and 3%. These results are similar to most of the other studies done by Hagglund D et al⁽⁷⁾, Sommer P et al⁽¹³⁾, Kinchen KS et al⁽¹⁴⁾ in which also stress incontinence was the commonest type. Brown et al⁽¹¹⁾ reported 13% prevalence of stress incontinence and 14% urge incontinence, and 28% prevalence of mixed urinary incontinence.

In age group <30yr, 176 cases were observed, and all of them were found to be continent.

In age group 30-39 yr 108 cases were observed, out of which 104 (96.3%) cases were continent and 4 cases (3.7%) were having urge incontinence. In age group 40- 49 yr, 61 cases were observed, out of which 20 cases (32.8%) were continent, 29 cases (47.5%) had stress urinary incontinence, 4 cases (6.6%) had urge urinary incontinence and 8 cases (13.1%) were found to have mixed urinary incontinence. In age group 50-59yr 49 cases were observed, out of which 9 cases (18.4%) were continent, 28 cases (57.1%) had stress urinary incontinence, 4 cases (8.2%) had urge urinary incontinence and 8 cases (16.3%) had mixed urinary incontinence. In age group 60 yr and more, 24 cases were found, in which 20 cases (83.3%) had stress urinary incontinence and 4 cases (16.7%) had mixed urinary incontinence.

This shows that the prevalence of stress urinary incontinence increases with age, and urge urinary

incontinence found more common in middle age group.(40-60 yr).

We reported that the prevalence of urinary incontinence increases with age. It is 25.11% in females above 40 yr of age, significantly high prevalence (38.4%) in women above 40yr is found by Abha singh et al. Uma singh et al^(5,10) reported that prevalence was low in females upto 30 yr of age. in women above 30 yrs of age, the prevalence ranged from 27.8% to 42.8% with maximum prevalence in the age group of 61 to 70 yrs of age. It is similar to most of the other studies (36%-43%) in Chiarelli P et al⁽¹⁵⁾ and Danforth K N⁽¹⁶⁾. In the study done by Victor W Nitti⁽¹⁷⁾ the prevalence is relatively low in early life, has a peak around the time of menopause and then rises steadily.

In our study all the primi para were found to be continent. Out of 157 para2 cases, 86.6% were continent, 8.3% had stress urinary incontinence, 5.1% had urge urinary incontinence and none of them showed mixed urinary incontinence. In 56 cases of para3, 35.7% were continent, 50% had stress urinary incontinence and 14.3% had mixed urinary incontinence, none of them showed urge urinary incontinence. In our study 60 cases were of para3 and more, in which 60% had stress urinary incontinence, 6.7% had urge urinary incontinence and 20% had mixed urinary incontinence.

Significant relationship between parity and urinary incontinence was found to be similar with other studies. In our study the prevalence of stress and mixed urinary incontinence increases with increasing parity.

Conclusion

This study signifies how neglected women's health, past menopause particularly genitourinary health is. It also highlights the simple clinical diagnostic parameters needed to establish the presence of incontinence.

It is imperative that more fundamental research to study the etiology and to try to optimize management options is done on urinary

incontinence. This study demonstrate the prevalence of urinary incontinence, and it is important that awareness about this problem amongst the public and healthcare providers be encouraged. Treating urinary incontinence appropriately would greatly improve the quality of life of people suffering from this problem.

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Declarations

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