

## Original Article

### **FREQUENCY AND ASSOCIATED RISK FACTORS OF URINARY INCONTINENCE AND IT'S IMPACT ON LIFE OF WOMEN.**

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#### **ABSTRACT:**

**Objective:** The study was conducted to determine the frequency of urinary incontinence, its types, associated risk factors, and its impact on the life of women.

**Material and Methods:** This cross-sectional study was conducted in the gynaecological out patient department (OPD) of Akhtar Saeed Trust Teaching Hospital from July 2018 to December 2018. The patients of age 18 or more who complained of involuntary loss of urine were selected from gynae OPD, and after informed consent, they were further questioned about the problem according to the questionnaire. The data was analyzed on SPSS version 17.

**Results:** Out of 1425 patients, 210 patients answered yes to the complaint of urinary incontinence. 198 patients who agreed to participate were interviewed according to the questionnaire. The overall frequency of incontinence was 13.8 % (198). Stress incontinence was the most common type of incontinence found in 127 patients (64.1%), urge incontinence was seen in 37 patients (18.7%), and mixed incontinence was present in 34 patients (17.2%). Urinary incontinence was found to be markedly high in women above 40 years of age (69.7%). One hundred seventy-nine patients (90.4%) belonged to poor socioeconomic status, 17 patients were from the middle class, and two patients (1%) belong to upper socioeconomic status. Incontinence especially stress incontinence, was associated with increasing parity as 81 patients (40.9%) were grand multipara making it a significant risk factor for urinary incontinence. Other risk factors were vaginal delivery (85.4%), increased BMI that is > 25 per kg/m<sup>2</sup> (47%), constipation (51%), history of prolapse (34.8%), and chronic respiratory disease (10%). Urinary incontinence was seen more in postmenopausal women (48%) and in those having a habit of tobacco/tea coffee intake (60.5%). Urinary incontinence greatly affected women's quality of life as 71 patients (35.9%) avoided going out of the house due to this problem, 38 patients (19.2%) had reduced sexual relationships, and 23 patients (11.6%) had to use sanitary towels.

**Conclusion:** Urinary incontinence is a common health issue which is usually under-reported though it greatly affects the quality of life of women, especially above 40 years of age.

**Key Words:** Urinary Incontinence, BMI, Parity

#### **INTRODUCTION:**

According to the international continent society, urinary incontinence (UI) is defined as "involuntary loss of urine".<sup>1</sup> Urinary incontinence is an under-reported health problem, although it is a common problem.

It causes both physical and psychological nuisance to a woman and significantly affects one's quality of life, which can lead to segregation from society.<sup>2</sup> Urinary incontinence is classified into three types, i.e. Stress, urge, and mixed incontinence.<sup>3</sup> Prevalence of stress urinary incontinence is the highest compared to urge, and mixed incontinence and research reveals that its incidence increases in the 5<sup>th</sup> decade of life.<sup>4</sup> Potential risk factors for UI include increasing age, parity, vaginal deliveries, obesity, surgery, constipation, and chronic respiratory problems such as cough.

Most of the studies on this topic had been carried out in developed countries but limited data is available in underdeveloped

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countries like Pakistan. An updated data of UI in the underdeveloped country will be of great importance to help to formulate strategies for prevention and control for urinary incontinence.

### MATERIAL AND METHODS:

This is a cross-sectional study conducted in Gynae OPD of Akhtar Saeed Trust Teaching Hospital from July 2018 to December 2018. The patients in Gynae OPD were asked about any experience of involuntary loss of urine. The women with such complaints were categorized as patients of urinary incontinence and were included in the study after informed consent. The age of the participants was 18 years and above. Subsequently, the participants were asked a standard questionnaire for the clinical and demographic profiles. The types of urinary incontinence are stress, urge, and mixed types. Stress incontinence is the involuntary loss of urine on sneezing, coughing, laughing, or lifting heavy weight. Involuntary loss of urine on sudden or strong urge is classified as urge incontinence. If someone has symptoms of both stress and urge incontinence are classified as having a mixed type of incontinence.

All patients who attended the Gynae outpatient department for any gynecological complaint were included in the study and exclusion criteria included pregnancy, active pelvic and urinary tract infection. Descriptive statistics were presented in the form of tables.

### RESULTS:

The frequency and percentage of variables were determined. Out of 1425 patients attending Gynae outdoor department, 210 patients answered yes to the complaint of urinary incontinence. One hundred ninety-eight patients who agreed to participate were interviewed according to the questionnaire. The overall frequency of incontinence was 13.8 % (198). The most common type of urinary incontinence was stress incontinence (64.1%), urge incontinence was seen in 37

patients (18.7%), and mixed incontinence was present in 34 patients (17.2%). (Table 2)

Urinary incontinence was found to be more common in women of 40 years of age (69.7%). Among these, 37.4% of patients were in their fourth decade of life (41 to 50 years).

Urinary incontinence was more common in multiparous (33.3%) and grand multiparous patients (40.9%). Regarding educational status, 73 patients (36.9%) were illiterate, 74 patients (37.4%) were educated up to the primary, 39 patients (19.7%) were educated up to matric, and 6% of patients were graduate or postgraduate (Table 1).

**Table-1.** Frequency and percentage of demographic characteristics in patients presenting with urinary incontinence.

Parameters	No.	Percentage (%)
<b>Age</b>		
20 to 30 years	15	7.6
31 to 40 years	45	22.7
41 to 50 years	74	37.4
51 to 60 years	36	18.2
61 or above	28	14.1
<b>Parity</b>		
Nuliparous	8	4.0
Para 1	4	2.0
Para 2-3	39	19.7
Para 4-5	66	33.3
Para 6 and above	81	40.9
<b>Education</b>		
Uneducated	73	36.9
Primary	74	37.4
Matric	39	19.7
Bachelors	7	3.5
Master/Higher	5	2.5
<b>Social Class</b>		
Poor	179	90.4
Middle	17	8.6
Upper	2	1.0

**Table-2.** Frequency and percentage of different types of urinary incontinence.

Type of urinary incontinence	Total	No	Percentage (%)	% of those with UI
Total patients of incontinence	1425	198	13.8	
Stress incontinence	1425	127	8.9	64.1
Urge	1425	37	2.5	18.7
Mixed	1425	34	2.3	17.2

Out of one hundred and ninety-eight patients, one hundred and seventy-nine (90.4%) belonged to lower socioeconomic status, 17 patients (8.6%) were from the middle class, and two patients (1%) from upper socioeconomic status. With increasing parity stress, incontinence was found to be higher as 81 patients (40.9%) were grand multipara making it an important risk factor for urinary incontinence. Other risk factors were vaginal delivery (85.4%), increased BMI more than > 25 (53%), constipation (51%), history of prolapse (34.8%), and chronic respiratory disease (10%). Urinary incontinence, including its all types, was found to be more common in postmenopausal women (48%) and those having habit of tobacco/tea coffee intake (60.5%) (Table 3).

Urinary incontinence affected women's quality of life to a great extent (Table 4), 71 patients (35.9%) had avoided going out of the house due to this problem, 38 patients (19.2%) had reduced sexual relationship, and 23 patients (11.6%) had to use sanitary towels.

Out of 198 patient only 48 patients had ever consulted for their problem and rest of 150 patients (75.8%) did not consult for their problem due to different reasons like 62 patients (31.3%) did not consider it a problem, 63 patients (31.8%) did not consult as they felt ashamed, 22 patients (11.1%) did not think that this problem has a solution and three patients (1.5%) did not consult due to some other reason.

**Table-3.** Frequency and percentage of risk factors for urinary incontinence.

Risk Factors	No.	Percentage (%)
Age > 40 years	138	69.7
Parity >3	147	72.7
Vaginal Delivery	169	85.4
Postmenopausal	103	52
BMI >25 per kg/m <sup>2</sup>	105	53
Asthma	21	10.6
Tobacco/Tea/Coffee	120	60.5
Constipation	101	51

**Table-4.** Impact of urinary incontinence on women's quality of life.

Risk Factors	No.	Percentage (%)
Limit Going Out of House	71	35.9
Reduced Sexual Relation	38	19.2
Use Sanitary Towels	23	11.6

## DISCUSSION:

In this cross-sectional study, urinary incontinence was said to be present if the answer to the leading question about the presence of involuntary loss of urine was found to be yes. This study gives the opportunity to determine frequency types, its associated risk factors, and the impact of this problem on the quality of life of the patient. Out of 1425 Gynae patients, 210 patients on asking a leading question answered yes to the complaint of urinary leakage, 12 patients refused to participate in the study, and the rest of 198 patients agreed and were enrolled. Thus the overall frequency of urinary incontinence was 13.8%. The frequency of stress, urge, and mixed type of incontinence in our study was 8.9%, 2.5%, and 2.3%, respectively, similar to many other studies<sup>5-7</sup> in which the commonest type was stress incontinence. Our study showed a low frequency of urinary incontinence (7.6%) in women with young age (18-30 years), which is very close to an Indian

study<sup>8</sup> in which the figure was 9% whereas this figure is very high in studies reported by Nemir and Middleton<sup>9</sup> which quotes the figure of 54% and 51%, conducted on college students. High frequency of urinary incontinence in women > 40 years is similar to the prevalence in most studies<sup>10,11</sup> where it ranges from 42-46%. The relationship between parity and incontinence in our study was similar to that in previous studies. A definite trend of increased frequency of all types of urinary incontinence with increasing parity proposes cumulative effect of the injury to innervations of the pelvic floor which occurs during normal deliveries.<sup>12</sup>

Pregnancy and childbirth are considered as commonest environmental determinants of urinary incontinence, and more than 60% of women with incontinence link its onset with pregnancy, childbirth or postpartum period, however, the impact of birth mode on urinary incontinence and whether the c-section has its protective role or not remains the subject of ongoing debate. Our study showed the frequency of urinary incontinence higher in a group with vaginal delivery (85.4%) as compared to that in nulliparous (4%), and with c-section (3.5%), this is in agreement to many studies<sup>13,14</sup> showing increased prevalence of urinary incontinence associated with vaginal deliveries. Urge and mixed types of urinary incontinence had less association with vaginal deliveries in our study.

In this study, urinary incontinence was found to be more common in women having habit of smoking and tea intake. Norwegian EPINCONT study<sup>15</sup> also evaluated the effect of tea intake, and the conclusion of the study was that tea intake was associated with slightly increased risk for all types of incontinence.

The limitation of this study is the fact that it is a cross-sectional study, and it was conducted in women at a single location.

## CONCLUSION:

Urinary incontinence is a common health issue that seriously affects the quality of life

of women, especially above 40 years of age, but remains under-reported.

## AUTHOR'S CONTRIBUTION:

AM: Conceived and designed the study  
NS: Critically reviewed  
NS: Literature review  
US: Data collection  
DN: Drafting the article  
FF: Data analysis and critical review

## REFERENCE:

1. Jácome C, Oliveira D, Marques A, Sá-Couto P. Prevalence and impact of urinary incontinence among female athletes Int J Gynecol Obstet. 2011 Jul 1;114(1):60-3.
2. Khan S. Frequency of Urinary Incontinence among Female Athletes of Karachi. Annals of J. S. M. U. 2018;4(2):80-5.
3. Jebakani B, Sameul R. Effectiveness of pelvic floor exercises for stress urinary incontinence among the postpartum women. Website: www. IJPOT. com. 2017 Jul;11(3):46.
4. Aoki Y, Brown HW, Brubaker L, Cornu JN, Daly JO, Cartwright R. Urinary incontinence in women. Nature reviews Disease primers. 2017 Jul 6;3(1):1-20.
5. Singh U, Agarwal P, Verma ML, Dalela D, Singh N, Shankhwar P. Prevalence and risk factors of urinary incontinence in Indian women: A hospital-based survey. Indian J Urol. 2013 Jan;29(1):31-36.
6. McGrother CW, Donaldson MM, Hayward T, Matthews R, Dallosso HM, Hyde C. Urinary storage symptoms and comorbidities: a prospective population cohort study in middle-aged and older women. Age Ageing. 2006 Jan 1;35(1):16-24.
7. Kinchen KS, Burgio K, Diokno AC, Fultz NH, Bump R, Obenchain R. Factors associated with women's decisions to seek treatment for urinary incontinence. Journal of women's health. 2003 Sep 1;12(7):687-98.
8. Singh U, Agarwal P, Verma ML, Dalela D, Singh N, Shankhwar P. Prevalence and risk factors of urinary incontinence in Indian women: A hospital-based survey. Indian J Urol. 2013 Jan;29(1):31-6.
9. Hansen BB, Svare J, Viktrup L, Jorgensen T, Lose G. Urinary incontinence during

- pregnancy and 1 year after delivery in primiparous women compared with a control group of nulliparous women. *Neurourol Urodyn.* 2012 Jan 20;31(4):475-80.
10. Gyhagen M, Bullarbo M, Nielsen TF, Milsom I. The prevalence of urinary incontinence 20 years after childbirth: a national cohort study in singleton primiparae after vaginal or caesarean delivery. *BJOG.* 2013 Jan;120(2):144-51.
  11. Danforth KN, Townsend MK, Lifford K, Curhan GC, Resnick NM, Grodstein F. Risk factors for urinary incontinence among middle-aged women. *Am. J. Obstet. Gynecol* 2006 Feb 1;194(2):339-45.
  12. Magro F, Gionchetti P, Eliakim R, Ardizzone S, Armuzzi A, Barreiro-de Acosta M, et al. Third European evidence-based consensus on diagnosis and management of ulcerative colitis. Part 1: definitions, diagnosis, extra-intestinal manifestations, pregnancy, cancer surveillance, surgery, and ileo-anal pouch disorders. *J Crohn's Colitis.* 2017 Jun 1;11(6):649-70.
  13. Peyrat L, Haillet O, Bruyere F, Boutin JM, Bertrand P, Lanson Y. Prevalence and risk factors of urinary incontinence in young and middle-aged women. *BJU international.* 2002 Jan 1;89(1):61-6.
  14. Bortolotti A, Bernardini B, Colli E, Di Benedetto P, Nacci GG, Landoni M, Lavezzari M, Pagliarulo A, Salvatore S, Von Heland M, Parazzini F. Prevalence and risk factors for urinary incontinence in Italy. *European urology.* 2000;37(1):30-5.
  15. Hannestad YS, Rortveit G, Daltveit AK, Hunskaar S. Are smoking and other lifestyle factors associated with female urinary incontinence? The Norwegian EPINCONT Study. *BJOG: an Int J Gynaecol and Obstet.* 2003 Mar 1;110(3):247-54.