

## FACTORS FOR URINARY INCONTINENCE IN FEMALES PRESENTING IN TERTIARY CARE HOSPITAL

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### ABSTRACT:

**Introduction:** Urinary incontinence (UI) is a common, debilitating and costly problem in women. This problem has detrimental effects on health related quality of life. UI does not lead to death, but it causes substantial debility, social seclusion, psychological stress and economic burden.

**Objectives:** to determine the frequency of different factors of urinary incontinence in females.

**Methodology:** A total of 85 women with urinary incontinence of age 25-65 years were included. Patients with taking immunosuppressive medicines, h/o pelvic trauma and spinal cord injury were excluded. After taking informed written consent and relevant history, all risk factors were noted in each patient..

**Results:** In my study, the risk factors associated with urinary incontinence in females include age >45 years (48.24%), parity >3 (47.06%), obesity (89.41%), vaginal delivery (71.76%), post hysterectomy (28.24%), episiotomy (48.24%), weight of baby >4 kg (50.59%), menopause (25.88%), smoking (32.94%), diabetes mellitus (21.18%) and urinary tract infection (61.18%).

**Conclusion:** This study concluded that early screening and management of these factors should be done in every woman with urinary incontinence to prevent this devastating condition and improving the social life of these particular patients.

**Keywords:** Urinary incontinence, Obesity, Post hysterectomy.

### INTRODUCTION:

Urinary incontinence is defined by the International Continence Society as the involuntary loss of urine that represents a hygienic or social problem to the individual.<sup>[1]</sup> Urinary incontinence in females is quite a common problem which will interfere with their quality of life.<sup>[2]</sup> UI is not considered as a disease by many clinicians because there is no specific causative factor exists and the etiology is multifactorial in many cases.<sup>[3,4]</sup> Urinary incontinence (UI) is a common, debilitating and costly problem in older women.<sup>[5]</sup> This problem has detrimental effects on health related quality of life. UI does not lead to death, but it causes substantial debility, social seclusion, psychological stress and

economic burden.<sup>[6,7]</sup> Even in an individual patient, urinary incontinence may have multiple etiologies, with varying degrees of contribution to the overall disorder. Structural and functional disorders involving the bladder, urethra, ureters, and surrounding connective tissue can contribute. Medical co-morbidities also can be important.<sup>[7,8]</sup> The risk factors associated with urinary incontinence in females include age >45 years (56.3%), parity >3 (50.6%), obesity (96.6%), vaginal delivery (90.0%), post hysterectomy (56.8%), episiotomy (35.2%),

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weight of baby >4 kg (51.7%), menopause (60.9%), smoking (37.3%), diabetes mellitus (16.5%) and urinary tract infection (52.3%).<sup>[9,10]</sup>

As urinary incontinence has been associated with loss of independence and decreased participation in social and domestic activities, so the determination of the causative factors which cause urinary incontinence and early diagnosis are the crucial for better protection and healing. The rationale of this study is to evaluate the frequency of different factors of urinary incontinence in females. This study will provide us the local stats of the problem which will encourage for early screening and management of these factors to prevent this devastating condition and improving the social life of these particular patients.

#### METHODOLOGY:

This descriptive, cross-sectional study was conducted at the Department of Urology, Shahida Islam Medical College, Lodhran, and Kidney Centre, Bahawal Victoria Hospital, Bahawalpur, from December 2017 to June 2018. A sample of 85 patients was selected through consecutive non probability sampling technique and by taking 95% confidence level, 8% margin of error and anticipated population proportion as 16.5%. Women with age 25-65 years and diagnosed as having urinary incontinence on history and positive cotton swab test (a cotton swab angle greater than 30 degree denotes urethral hyper mobility) and paper swab test (direct observation of urine using cough stress test) were included. Patients

with taking immunosuppressive medicines, h/o pelvic trauma and spinal cord injury were excluded. After taking informed consent and relevant history, all risk factors were noted in each patient. All this data was recorded on a predesigned proforma which contained two parts i.e. part 1st contained the patient's bio-data while part 2nd contained the study variables. Statistical analysis was performed using SPSS version 23.0. Mean and standard deviation were calculated for age, duration of urinary incontinence, parity and weight of baby. Frequency and percentage were calculated for obesity (yes/no), vaginal delivery (yes/no), hysterectomy (yes/no), episiotomy (yes/no), menopause (yes/no), smoking (yes/no), diabetes mellitus (yes/no) and UTI (yes/no).

#### RESULTS:

Age range in this study was from 25 to 65 years with mean age of  $43.56 \pm 9.11$  years. Majority of the patients 44 (51.76%) were between 25 to 65 years of age as shown in Table I. Mean duration of urinary incontinence was  $4.76 \pm 2.41$  months. Mean parity was  $3.39 \pm 0.82$ . Mean weight of baby was  $3.21 \pm 1.05$  kg. In my study, the risk factors associated with urinary incontinence in females include age >45 years (48.24%), parity >3 (47.06%), obesity (89.41%), vaginal delivery (71.76%), post hysterectomy (28.24%), episiotomy (48.24%), weight of baby >4 kg (50.59%), menopause (25.88%), smoking (32.94%), diabetes mellitus (21.18%) and urinary tract infection (61.18%).

**Table-I: Age distribution of patients (n=85).**

| Age (in years) | No. of Patients | %age         |
|----------------|-----------------|--------------|
| 25-45          | 44              | 51.76        |
| 46-65          | 41              | 48.24        |
| <b>Total</b>   | <b>85</b>       | <b>100.0</b> |

**Table II: Frequency of different factors of urinary incontinence in females**

| Factors                        | Frequency (%) |             |
|--------------------------------|---------------|-------------|
|                                | Yes           | No          |
| <b>Age &gt;45 years</b>        | 41 (48.24%)   | 44 (51.76%) |
| <b>Parity &gt;3</b>            | 40 (47.06%)   | 45 (52.94%) |
| <b>Obesity</b>                 | 76 (89.41%)   | 09 (10.59%) |
| <b>Vaginal delivery</b>        | 61 (71.76%)   | 24 (28.24%) |
| <b>Post-hysterectomy</b>       | 24 (28.24%)   | 61 (71.76%) |
| <b>Episiotomy</b>              | 41 (48.24%)   | 44 (51.76%) |
| <b>Weight of baby &gt;4 kg</b> | 43 (50.59%)   | 42 (49.41%) |
| <b>Menopause</b>               | 22 (25.88%)   | 63 (74.12%) |
| <b>Smoking</b>                 | 28 (32.94%)   | 57 (67.06%) |
| <b>Diabetes mellitus</b>       | 18 (21.18%)   | 67 (78.82%) |
| <b>Urinary tract infection</b> | 52 (61.18%)   | 33 (38.82%) |

**DISCUSSION:**

Many studies conducted on urinary incontinence reported that this condition is 2-3 times more prevalent in females and is considered as a normal process with increasing age irrespective of different races, cultures and geographical areas.<sup>[11-14]</sup> A systematic review has shown the prevalence of urinary incontinence as 16.2% to 81.9%.<sup>[14]</sup> Studies done in Turkey has shown the prevalence of urinary incontinence of 20.5-68.8%.<sup>[11]</sup>

In my study, the risk factors associated with urinary incontinence in females include age >45 years (48.24%), parity >3 (47.06%), obesity (89.41%), vaginal delivery (71.76%), post hysterectomy (28.24%), episiotomy (48.24%), weight of baby >4 kg (50.59%), menopause (25.88%), smoking (32.94%), diabetes mellitus (21.18%) and urinary tract infection (61.18%). The risk factors associated with urinary incontinence in females include age >45 years (56.3%), parity >3 (50.6%), obesity (96.6%), vaginal delivery (90.0%), post hysterectomy (56.8%), episiotomy (35.2%), weight of baby >4 kg (51.7%), menopause (60.9%), smoking (37.3%), diabetes mellitus (16.5%) and urinary tract infection (52.3%).<sup>[9,10]</sup>

Obesity was the most commonly observed factor in this study and was found in 89.41% patients. Interestingly, the rate of obesity is not consistent between studies that have evaluated factors of urinary incontinence in females i.e. Nigam Aet al<sup>[15]</sup> reported a 19.6% prevalence of

obesity, whereas Singh U et al<sup>[16]</sup> found a 19.6% prevalence. Agarwal BK et al<sup>[17]</sup> in his study has shown much larger percentage of obesity in urinary incontinent females i.e. 67.0%. Another study has shown that frequency of stress urinary incontinence in obese women is twice as compared to non-obese women irrespective of their age and parity. This urinary incontinence is a reason for depression and insomnia in patients which further affects their social as well as sexual life.<sup>[18]</sup> Noblett et al<sup>[19]</sup> in his study has concluded that obesity may create the abdominal pressure on the bladder as well as on pelvic floor which results in leakage of urine. On the other hand, a study done by Priya B et al in India, has shown no significant difference of BMI in women with and without urinary incontinence.<sup>[20]</sup>

Vaginal delivery was the most commonly observed factor in this study and was found in 71.76% patients. Interestingly, the rate of vaginal delivery is not consistent between studies that have evaluated factors of urinary incontinence in females i.e. Fernández-Cuadros ME et al<sup>[15]</sup> reported a 71.0% prevalence of vaginal delivery, whereas Singh U et al<sup>[16]</sup> found a 26.9% prevalence. In most of the studies, it was shown that as a result of labour process, damage to nerve, muscles and tissue stretching may cause pelvic floor dysfunction which may result in urinary incontinence after vaginal delivery.<sup>[21]</sup> The prevalence of incontinence in primipara was slightly higher than previously reported in literature.<sup>[22]</sup> A study done in India<sup>[20]</sup> has shown that 53.4% multipara women have

urinary incontinence which is quite similar to our study in which 47.06% multipara women were found to have urinary incontinence. This shows that there is significant association of parity and urinary incontinence.

In this study, we have also found increasing age as an important factor for urinary incontinence. Previously many studies are done on this for finding the reason behind this but no conclusive evidence of aging has been found. Most authors suggested that structural and functional changes in pelvic floor muscles with increasing age may be a reason for urinary incontinence in aged women. A study has found the urge urinary continence as the most common type in aged women.<sup>[23]</sup>

### CONCLUSION:

This study concluded that the risk factors associated with urinary incontinence in females include age >45 years (48.24%), parity >3 (47.06%), obesity (89.41%), vaginal delivery (71.76%), post hysterectomy (28.24%), episiotomy (48.24%), weight of baby >4 kg (50.59%), menopause (25.88%), smoking (32.94%), diabetes mellitus (21.18%) and urinary tract infection (61.18%). So, we recommend that early screening and management of these factors should be done in every woman with urinary incontinence to prevent this devastating condition and improving the social life of these particular patients.

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Submitted for publication: 11.05.2019

Accepted for publication:  
After Revision 10.07.2019

“WHEN THE WORLD PUSHES YOU TO YOUR KNEES, YOU'RE  
IN THE PERFECT POSITION TO PRAY”

**Hazrat Ali (Karmulha Wajhay)**