

## Contributing Factors for Urinary Incontinence in Postnatal Women—a Survey

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### **Abstract:**

**Background:** Urinary incontinence is the unintentional or uncontrollable leakage of urine or the inability to control the urge to urinate in certain circumstances. Most common cause of urinary incontinence is pregnancy, urinary tract infection; smoking and alcohol consumption, chronic cough, parity, constipation, obesity, pelvic surgeries, activity level, and weakness of pelvic floor muscle. Urinary incontinence affects physical activities, self-perception, self-confidence and social activities thus, presenting with low quality of life. Poor awareness of treatment may leads to many suffers or only surgery is treatment hence present study is based on screening the cause and its contributing factors and provide awareness.

**Objectives:** To find various contributing factors for urinary incontinence in postnatal women.

**Methodology:** 100 postnatal women from tertiary care hospital, Belagavi were screened for the study after meeting the inclusion criteria.

**Result:** Mean age of patients in present study was 36.44 years with mean BMI 22.78 Kg/m<sup>2</sup>. Among which 90.24% underwent normal delivery and others underwent caesarian section. Occupation of the subjects was housewife, farmer or others among which 64.54% were farmer by occupation. Results of the study suggested that Type of delivery and working status of postnatal women were major contributing factors for urinary incontinence.

**Conclusion:** The present study found that the contributing factors for urinary incontinence are mode of delivery, parity, urinary tract infection, occupation and level of physical activity, but major contributing factors were type of delivery and working status of women.

**Keywords:** Urinary Incontinence, Postpartum Women, Contributing Factors, Screening

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### I. Introduction

Urinary incontinence is the unintentional or uncontrollable leakage of urine or it can be define as inability to control the urge to urinate in certain circumstances. The common type of urinary incontinence is urge urinary incontinence and stress urinary incontinence, in which stress urinary incontinence is a common type of incontinence. [1] A study was done to check the prevalence for urinary incontinence among 3000 women out of which 625 women were having urinary incontinence and 484 (73.8%) women diagnosed with stress urinary incontinence.[2] Stress incontinence commonly occurs when certain kind of physical movements put pressure on bladder like jumping, sneezing, coughing, exercise, heavy weight lifting. Both men and women have episodes of urinary incontinence but women are more likely to suffer with urinary incontinence. The most common causes of urinary incontinence are pregnancy, urinary tract infection; smoking, alcohol consumption, chronic cough, parity, constipation, higher BMI, obesity, pelvic surgery, activity level, and weakness of pelvic floor muscles. [3]Stress urinary incontinence is closely associated with BMI. Overweight women have increased intra-abdominal pressure, which adversely stresses the pelvic floor and leads to urinary incontinence.[4] Vaginal delivery leads to stretching injury of the pelvic floor muscles, nerves and connective tissues. In many cases, resultant trauma may leads to poor support of pelvic floor. [5] A study was done on the effect of mode of delivery and the incidence of incontinence which proved that vaginal delivery increases the risk of incontinence. [6]Parity also causes urinary incontinence. A cohort study mentioned that after 30 weeks of pregnancy, 31 % of nulliparous and 42 % multiparous women experienced urinary incontinence and parity was a strong and significant risk factor. [7]

Pelvic floor muscles usually stabilize the urethra but when it becomes weak it prevents stabilization. When abdominal pressure increases, it compresses the urethra and due to pelvic floor weakness, leakage of urine occurs. [8]Physical activity levels also have an association with urinary incontinence. Sedentary women as compared to those who are moderately active have increased chances of urinary incontinence than physically active women. [9]Consequences of incontinence includes low self-esteem, changing of life style in order to avoid potentially embarrassing situations, effects are more associated with urge incontinence than stress incontinence. [10]A study suggested that UI is associated with a significant reduction in wellbeing in Community dwelling women. [11] Urinary incontinence affects the physical activities, self-confidence,

emotional disturbance, change in activities of daily living, social activities. It will lead to poor quality of life. Therefore, the present study aimed to find various contributing factors for urinary incontinence and provide awareness in postnatal females.

## II. Materials And methodology

The study was a cross sectional study done at tertiary care hospital, Belagavi. A total of 259 postnatal women visiting the IPD and OPD of the hospital were screened from November 2015 to January 2016 of which 100 met the inclusion criteria. Data of 100 postnatal women was collected. Institutional ethical committee approval was obtained prior to the commencement of the study.

### I. Inclusion criteria

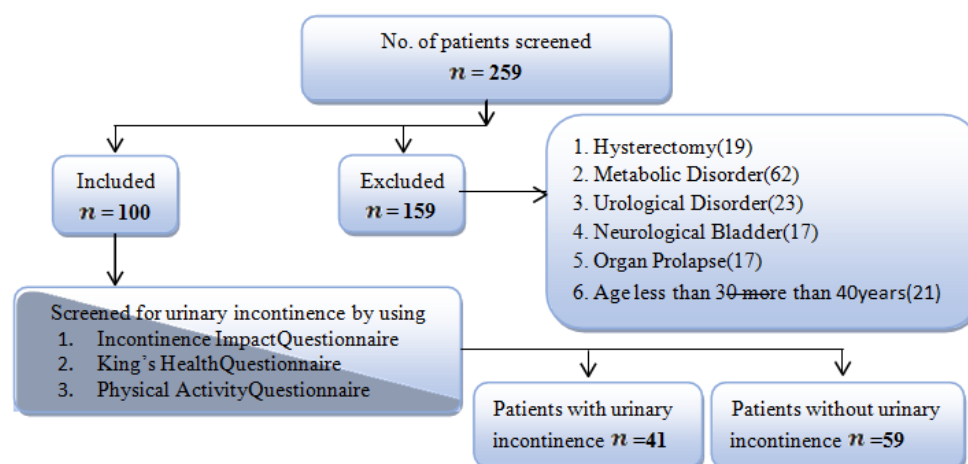
1. Postnatal women after 1 year of delivery
2. Who has undergone either Normal Delivery or caesarean section
3. Age between 25-40 years

### II. Exclusion criteria

1. Subjects having a history of metabolic disorders
2. Urological condition (ex. Renal Calculi)
3. Neurological bladder
4. Spinal cord injuries
5. Organ prolapse and operated for hysterectomy

## III. Procedure

The objectives of the study were explained to the women and a written informed consent was obtained from the study participants. Three questionnaires were administered to find out impact of urinary incontinence, physical activity level and health status of subjects recruited. Urinary incontinence was diagnosed by using **IIQ** (Incontinence Impact Questionnaire). Physical activity was assessed by **PAQ** (Physical Activity Questionnaire) and general health was assessed by using **KHQ** (King's Health Questionnaire).



## IV. Results

A total no of 100 postnatal women were included in the study, among which 41 women complained of urinary incontinence. The mean age of women with urinary incontinence was 36.44 years, mean BMI of women was 22.78 kg/m<sup>2</sup>, 61.54 % women were farmer by occupation, 43.9 % women were having complains of urinary tract infection, 56.09 % women were grand multipara and 90.24 % women had undergone normal delivery. [Reference- table no.1] Values of the questionnaires for urinary incontinence are given below. [Reference- table no.2]

### 1) Incontinence Impact Questionnaire

The mean value of incontinence impact questionnaire was 50.17 and p value was 0.0001 that shows that postnatal women had highly significant urinary incontinence.

### 2) Physical Activity Questionnaire

This questionnaire contains mild, moderate and heavy physical activities. The mean value of mild activity was

31.15% and mean of moderate activity was 56.41% p value of this questionnaire was 0.012 which indicates that level of physical activity also affects women’s health.

**3) King’s Health Questionnaire**

In this questionnaire there were various components mean value of this questionnaire was 353.07 and p value was 0.0001 which indicates level of significance.

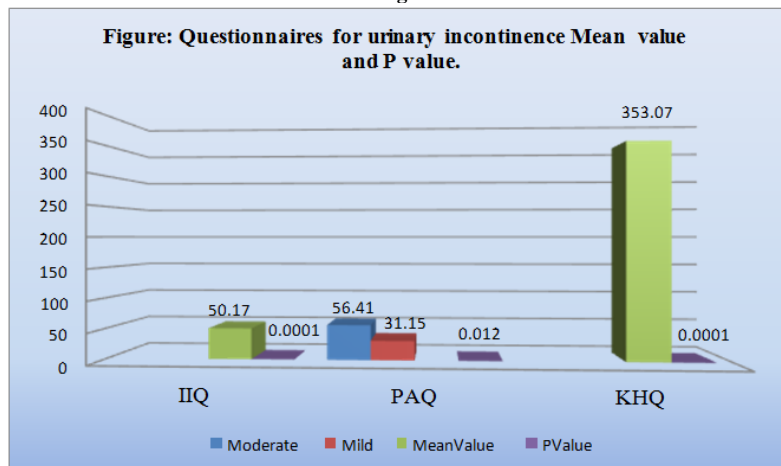
**Table no: 1** various contributing factors of urinary incontinence in postnatal women.

Sr. No	Contributing factors		Frequency
1.	Age	30-39 years	26
		40 years	15
2.	BMI	Obese	10
		Normal	31
3.	Chewing Habit	Yes	05
		No	36
4.	Working Status	Farmer	16
		Housewife	18
		Other	07
5.	UTI	Absent	23
		Present	18
6.	Gravida	0	01
		1	03
		2	14
		3	14
		4	07
		6	01
		8	01
		7.	Type of Delivery
ND	37		

**Table no: 2** Mean values of the questionnaires for urinary incontinence.

Questionnaire	Mean Value	P Value
Incontinence Impact Questionnaire	50.17	0.0001*
Physical Activity Questionnaire	Moderate - 56.41 %	0.012
King’s Health Questionnaire	353.07	0.0001*

**Fig1:**



**V. Discussion**

The present study aimed to find various contributing factors for urinary incontinence and provide awareness in postnatal females. The mean age of women in this study was 36.44 years. A study was done to check prevalence and consequences of urinary incontinence in age group of 35 to 79 years and concluded that prevalence was higher in younger age group, the major reason reported was not seeking medical help and symptoms were not considered to be serious. [13] In this study, out of 41, 15 patients were age of the 40 years which reflect that chances of urinary incontinence increase with the age. As the age increases pelvic floor muscles become weak which decreases the support of pelvic organs. Urinary incontinence is distressing and disabling condition causing significant morbidity, affecting social, psychological, occupational, domestic,

physical & sexual lives of more than 15- 30% women of all age groups. [12] This leads to poor quality of life and mental status.

In this study, mean BMI was 22.78 kg/m<sup>2</sup> which is not significant. However out of 41 subjects in the study 82.23% were from rural population and 17.77% population were from urban area. Generally, in rural areas females are usually having nutritional deficiency so BMI will not be significant but there is a study which suggests that adiposity and weight gain seem to be very strong factors for incontinence in middle aged women. [14] Habit such as Tabaco chewing is also a risk factor for urinary incontinence but in this study it is not highly significant. Any type of nicotine in our body will affect pelvic floor musculature and leads to its weakness. 61.54% women in this study were farmer by occupation which proves that squatting position and strenuous activity will lead to pelvic floor weakness. An observation done by De Lancey (1990) was that medial portion of levator-ani muscle has a direct connection to endopelvic fascia and vaginal wall, and contraction of levator-ani contributes to stabilization of urethra during sudden increases in abdominal pressure (e.g. heavy weight lifting). In the present study, 18 women out of 41 were having urinary tract infection. Similar to a study which was done on normal population suggested that urinary symptoms are associated with BMI, parity, staining of stool, constipation and prior hysterectomy & it has highly correlation with urinary incontinence.[15]

Parity also contributes to risk of urinary incontinence. More number of offspring, the more chances of urinary incontinence. Parity leads to weakening of pelvic floor muscle. The development of pelvic floor disorders such as urinary and fecal incontinence and pelvic organ prolapse have been associated with pregnancy and vaginal delivery. The prevalence of urinary incontinence has been reported to be up to 34% after a vaginal delivery and is associated with denervation injury to the pelvic floor or mechanical trauma to the urethral sphincter mechanism. [16] A study suggested that pregnancy, number of offspring and childbirth being potent causes of urinary incontinence in adult females. [17] Another study concluded that parity is important risk factor for female urinary incontinence in any stage of women's life. [18] This study demonstrated that symptoms of urinary incontinence are reported after normal and caesarean delivery. However, the prevalence of stress urinary incontinence was greater after multiple vaginal deliveries which suggest that caesarean delivery reduce the risk. Vaginal delivery is associated with pelvic floor weakness which leads to urinary incontinence. A cohort study suggested that occurrence of incontinence during post-partum period is related to the presence of incontinence during pregnancy and vaginal delivery increase the risk. Another study concluded that vaginal delivery itself predisposes for stress urinary incontinence. [19] Rortveit et al found increased moderate or severe stress incontinence with vaginal delivery compared with cesarean delivery. In the present study, King's Health Questionnaire (KHQ), Incontinence Impact Questionnaire (IIQ) and Physical Activity Questionnaire (PAQ) were used as outcome measure. These questionnaires were used because it was easy to administer by patients, highly reliable and valid. The KHQ has two single item and six multiple item domains. A study was done by using King's Health Questionnaire in women with urinary incontinence which suggested that King's Health Questionnaire is valid instrument for measuring the quality of life of the patients with urinary incontinence. [20] A study was done by using Incontinence Impact Questionnaire and it was reported to be reliable for urinary incontinence.[21] Wilson et.al; suggested that 6 years after delivery 53% of women were having chances of urinary incontinence and study also suggested that first pregnancy may result in stress urinary incontinence 5 years later. Women with incontinence 3 months later after first delivery have particular high risk of symptoms. [22] and therefore 5 years post-delivery women were included in the study. Limitation of this study is screening is done in a single hospital setup. Strength of the study is awareness can be brought among females regarding contributing factors for urinary incontinence and preventive measures can be planned.

## VI. Conclusion

The present study found that the contributing factors for urinary incontinence are mode of delivery, parity, urinary tract infection, occupation and level of physical activity, but major contributing factors were type of delivery and working status of women.

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