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## Original Research Article

# Urinary incontinence among female patients attending a selected public hospital in Bangladesh

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## ABSTRACT

**Background:** Urinary incontinence is a frequent public health problem with negative social consequences, particularly for women. Women are much more susceptible to urinary incontinence than men. Female susceptibility is the result of anatomical, social, economic and cultural factors.
**Methods:** A cross sectional study was conducted to find out the factors related to urinary incontinence, distribution of types of incontinence among female patients and their health care seeking behavior and socio-demographic characteristics among 121 adult female patients who attended the outpatient department of Gynae and Obstetrics department and Urology department of Dhaka Medical College and Hospital during the period of January to June 2016. Data were collected through face to face interview.
**Results:** The mean age of the respondents was 43.42 years and the mean monthly income of the respondents was 17409.09 taka. Little above nine-tenths (91.7%) of the respondents were Muslim and the majority of the respondents (47.9%) were living in pacca house. More than seven-tenths (73.6%) of the respondents were married and over 35% of the respondents were illiterate. Among the respondents about 42.1% of them had pressure type of incontinence, followed by mixed incontinence (27.3%). Over 65% had some complication during delivery and little above six-tenths (61.2%) had gynecological problems.
**Conclusions:** Female urinary incontinence is a frequent and a major embarrassing healthcare problem in Bangladesh. Patients who had complications during labor, having multipara, recurrent UTI, gynecological problem such as uterine prolapse, urethral injury, had high percentage of urinary incontinence. Patients with urinary incontinence should be encouraged to seek treatment early as the problem can be treated.

**Keywords:** Urinary, Incontinence, Health, Female, Patients

## INTRODUCTION

Urethral incontinence is the constant or periodic loss of urine without warning and may be urge incontinence, stress incontinence, overflow incontinence or sphincter weakness incontinence.[1] The prevalence of urge incontinence increases with aging, when uninhibited bladder contractions are caused by neurologic disease such as spinal cord tumors, multiple sclerosis or stroke.[1]

Urinary incontinence is one of the serious public health problem with negative social consequences, more especially for women. Women are much more susceptible to urinary incontinence than men. This may be due to

anatomical, social, economic and cultural factors. Anatomical and physiological differences, such as reproductive and hormonal changes associated with pregnancy and menopause. A study reported that more than one-third of women over the age of 65 years have some degree of incontinence and in men the prevalence ranges from 3-11%.[2] The prevalence of urinary incontinence in the elderly population varies from 30% to 50% according to age and the prevalence ranges from 10 to 60%, depending on the countries and population studied.[2,3]

Urinary incontinence in the elderly presenting with symptoms which interfere with their daily function and activity leads to negative consequences on health related quality of life. Affected individuals clearly restrict social activities because of shame and embarrassment due to urine leakage, mal odor or wetness. Relationships with friends and family may also be affected and interference with social activities occurs up to 50%.[4]

Urinary incontinence is a significant health problem worldwide with considerable social and economic impact on individuals and society. It has a larger economic impact than many chronic conditions and diseases. The severity of incontinence ranges from loss of drops to complete bladder emptying. It may occur daily, multiple times a day, or only occasionally. It may be fairly predictable or totally unpredictable.[1] Stress incontinence is predominance in young and middle aged women. However in older women mixed incontinence is most common.[5,6] Among all age groups, stress incontinence is most common (49%) followed by mixed incontinence (29%) and pure urge incontinence (21%).[7]

A study conducted in Canada, Germany Italy, Sweden, and England reported that 53% of the women with OAB reported their symptoms were discomforting. This percentage increases to 67% when it includes women who have OAB and urgency urinary incontinence. Fifty percent of the women who reported their condition was discomforting sought help from a health care professional.[8] Another study also conducted in Pakistan on demonstration of help-seeking behavior among females 18 years of age and older reported that 52% of the women experiencing at least one or more urinary symptom in the past. The most common symptom reported in this study was stress urinary incontinence (38.4%), following this respectively were burning sensation during urination (34.4%), frequency (26%), painful urination (20.4%), urgency urinary incontinence (18.8%), and dribbling incontinence (12.4%).[9] Functional incontinence is leakage that occurs because of the physical inability to reach the toilet in a timely fashion. This often occurs at night in elderly people with severe musculoskeletal or vision deficits. There is no specific genitourinary pathophysiology associated with this condition. It is often cured with a bedside commode.[10]

## METHODS

A cross sectional study was conducted to find out the factors related to and various types of urinary incontinence among female patients and their treatment seeking behavior. Respondents were selected from Gynae and Obstetric Department and Urology Department in Dhaka Medical College and Hospital. Availability of a large number of incontinent patients and well coverage for all kinds of incontinent patients were the prime reasons for selecting the particular hospital as the study place. The study was conducted from January to April 2016. A total of 121 incontinent female patients who were available and willing to participate were selected using purposive sampling technique.

All the data were collected by semi structured questionnaire using face to face interview. A semi structured questionnaire was developed in English. The questionnaire was developed using the selected variables according to the specific objectives. The questionnaire was translated into Bangla and it was pretested in another hospital with similar characteristics. The questionnaire was then finalized after necessary modification according to the findings of pretesting. The interview was conducted by maintaining privacy as far as possible. Before preceding the data collection, the detail of the study was explicitly explained to each eligible respondents and verbal consents were taken from the respondents. Collected data were checked and verified at the end of work in each day. Any inaccuracy and inconsistency was corrected in the next working day. Data processing and analyses were done using SPSS (statistical package for social sciences) version 19. Data were analyzed according to the objectives of the study. The test statistics used to analyze the data were descriptive statistics and chi square.

### *Ethical implications*

The study was done through collection of data using questionnaire and neither any intervention nor any invasive procedures was undertaken. However, prior to initiation of the study ethical clearance was taken. Before initiation of the interview a brief introduction on the aims and objectives of the study was presented to the respondents. They were informed about their full right to participate or refuse to participate in the study. A complete assurance was given to them that all information provided by them would be kept confidential and their names or anything which can identify them would not be published or exposed anywhere. Their participation and contribution was acknowledged with due respect. After completion of these procedures the interview was started with their due consent. The study was approved by ethics committee of the faculty of allied health sciences (FAHS) through Department of Public Health, Daffodil International University, Dhaka, Bangladesh.

## RESULTS

### *Socio demographic characteristics of respondents*

Table 1 showed that the majority (62.8%) of the respondents were in the age group 45 and below years and the mean age of the respondents was 43.42 years. Among the respondents about 79.3% of the respondents had monthly income of 5000 and above. The mean monthly income of the respondents was 17409.09 taka. Little above nine-tenths (91.7%) of the respondents were Muslim and the rest were Hindu (8.3%). The majority of the respondents (47.9%) were living in pacca house, followed 31.4% of them who were living in Tin shed and 11.6% of them were living in semi pucca. Most of the respondents (55.4%) lived in joint family and the rest (44.6%) of them lived in nuclear family. More than seven-tenths (73.6%) of the respondents were married and the rest were unmarried. Over 35% of the respondents were illiterate and the rest of them had primary and above. The majority of the respondents (74%) were housewives, followed by retired (8.7%) and only about 5.2% of them were service holders. Among the respondents, the majority of them lived in town (55.7%) and 38.3% of them lived in village and rest of them lived in slum 96.0%.

**Table 1: Socio demographic characteristics of respondents.**

| Variables | Frequency | Percentage (%) |
|---|---|---|
| **Age (years)** | | |
| ≤45 | 76 | 62.8 |
| ≥46 | 45 | 37.2 |
| Mean ±SD | 43.42±16.97 | |
| **Income (taka)** | | |
| ≤5000 | 25 | 20.7 |
| >5000 | 96 | 79.3 |
| Mean ±SD | 17409.09±1229.34 | |
| **Religion** | | |
| Muslim | 111 | 91.7 |
| Hindu | 10 | 8.3 |
| **Housing status** | | |
| Pacca | 58 | 47.9 |
| Semi-pacca | 14 | 11.6 |
| Tin shed | 38 | 31.4 |
| Kacha | 11 | 9.1 |
| **Family type** | | |
| Nuclear | 54 | 44.6 |
| Joint | 67 | 55.4 |
| **Marital status** | | |
| Married | 89 | 73.6 |
| Unmarried | 32 | 26.4 |
| **Educational status** | | |
| Illiterate | 44 | 36.4 |
| Up to primary | 34 | 28.1 |
| SSC and above | 43 | 35.5 |
| **Occupation** | | |
| Service holders | 6 | 5.2 |
| Housewives | 86 | 74.8 |
| Servants | 5 | 4.3 |
| Retired | 10 | 8.7 |
| Others | 8 | 7.0 |
| **Residence** | | |
| Village | 44 | 38.3 |
| Town | 64 | 55.7 |
| Slum | 7 | 6.0 |

***Distribution of respondents based on incontinence characteristics***

Among the respondents about 42.1% of them had pressure type of incontinence, followed by 27.3% who had mixed incontinence, 16.5% of the respondents had dribbling incontinence and the rest (14.0%) had urge incontinence. Around 74.4% of the respondents had 4 or below children and the rest (25.6%) had more than 4 children. Among the respondents over 65% had some complication while delivery and little above six-tenths (61.2%) had gynecological problems. Above three-fifths (65.3%) of the respondents had recurrent UTI and 33.9% had chronic disease. About 23.1% of the respondents had history of uterine prolapse and 14.9% of them had history of urethral injury.

***Association between age of urinary incontinence and income, marital status, residence and types of incontinence***

The mean age of urinary incontinence was found to be significantly associated with income of the respondents ($p<0.05$). However the mean age for the urinary incontinence was found significantly associated with marital status of the respondents ($p<0.05$). Significant differences were also found between residence of the respondents and the mean age of urinary incontinence. There was significant difference between mean age and different types of incontinence.

**Table 2: Distribution of respondents based on incontinence characteristics (n=121).**

| Variables | Frequency | Percentage (%) |
|---|---|---|
| **Types of incontinence** | | |
| Pressure | 51 | 42.1 |
| Urge | 17 | 14.0 |
| Mixed | 33 | 27.3 |
| Dribbling | 20 | 16.5 |
| **Category of gravida** | | |
| ≤4 | 90 | 74.4 |
| >4 | 31 | 25.6 |
| **Complication during labor** | | |
| No | 42 | 34.7 |
| Yes | 79 | 65.3 |
| **Gynecological problem** | | |
| No | 47 | 38.8 |
| Yes | 74 | 61.2 |
| **Recurrent UTI** | | |
| No | 42 | 34.7 |
| Yes | 79 | 65.3 |
| **Chronic disease** | | |
| No | 80 | 66.1 |
| Yes | 41 | 33.9 |
| **History of uterine prolapse** | | |
| No | 93 | 76.9 |
| Yes | 28 | 23.1 |
| **History urethral injury** | | |
| No | 103 | 85.1 |
| Yes | 18 | 14.9 |

**Table 3: Association between age of urinary incontinence and income, marital status, residence and types of incontinence (n=121).**

| Factors | Age of urinary incontinence | | | Df | $\chi^2$ | P value |
|---|---|---|---|---|---|---|
| | N | Mean | SD | | | |
| **Income status** | | | | | | |
| ≤5000 | 25 | 30.6 | 13.1 | 2 | 14.002 | 0.000 |
| >5001 | 96 | 41.0 | 14.4 | | | |
| **Marital status** | | | | | | |
| Married | 89 | 37.9 | 12.6 | 2 | 1.498 | 0.000 |

Continued.

| Factors | Age of urinary incontinence | | | Df | $\chi^2$ | P value |
|---|---|---|---|---|---|---|
| Unmarried | 32 | 44.6 | 12.7 | | | |
| | N | Mean | SD | | | |
| **Residence** | | | | | | |
| Village | 46 | 37.7 | 46.5 | | | |
| Town | 67 | 21.0 | 20.4 | 2 | 3.445 | 0.035 |
| Slum | 8 | 27.1 | 26.7 | | | |
| **Types of incontinence** | | | | | | |
| Stress (pressure) | 51 | 41.0 | 14.1 | | | |
| Urge (OAB) | 17 | 43.4 | 15.5 | 3 | 12.783 | 0.000 |
| Mixed | 33 | 55.3 | 18.1 | | | |
| Dribbling (VVF) | 20 | 30.1 | 9.5 | | | |

**Table 4: Association between age of initiation and other characteristics.**

| Factors | Age of initiation | | $\chi^2$ | P value |
|---|---|---|---|---|
| | ≤45 | >45 | | |
| | N (%) | N (%) | | |
| **Nutritional status** | | | | |
| Normal | 54 ( 67.5) | 26 ( 32.5) | 0.202 | 0.653 |
| Obese | 26 ( 63.4) | 15 ( 36.6) | | |
| **Chronic disease status** | | | | |
| No | 55 ( 68.8) | 25 ( 31.2) | 0.731 | 0.392 |
| Yes | 25 ( 61.0) | 16 ( 39.0) | | |
| **Gravida** | | | | |
| ≤4 | 73 ( 81.1) | 17 ( 18.9) | 35.260 | 0.000 |
| >4 | 7 ( 22.6) | 24 ( 77.4) | | |
| **Educational Status** | | | | |
| Illiterate | 25 ( 56.8) | 19 ( 43.2) | | |
| Primary | 24 ( 70.6) | 10 ( 29.4) | 2.687 | 0.261 |
| SSC and above | 31 ( 72.1) | 12 ( 27.9) | | |

***Association between age of initiation and other characteristics***

Table 4 showed that there was no significant association between age of initiation of incontinence with nutritional status ($p>0.05$) and chronic disease status of the respondents ($p>0.05$). Gravida of the respondents was found significantly associated ($p<0.05$) with age of initiation of incontinence. However the educational level of the respondents was not significantly associated age of initiation of incontinence ($p>0.05$).

## DISCUSSION

This study is a report on the factors related to urinary incontinence among female patients, the distribution of the various types of urinary incontinence as well as the socio economic characteristics of the affected women. The sample is representative of the women attending a selected public tertiary level hospital during the study period. In this study all women had some or severe degree of urinary incontinence. The majority (62.8%) of the respondents were in the age group 45 and below years and the mean age of the respondents was 43.42 years. This is consistent to the findings of another study.[11]

Among the respondents about 42.1% of them had pressure type of incontinence, followed by 27.3% who had mixed incontinence, 16.5% of the respondents had dribbling incontinence and the rest (14.0%) had urge incontinence. It is nearly similar to the findings of a study conducted in Pakistan.[4] A study reported that the types of UI have been designated as stress, urge, mixed, nocturnal, continuous type and others.[12]

Around 74.4% of the respondents had 4 or below children and over 65% had some complication during delivery and little above six-tenths (61.2%) had gynecological problems. A similar study reported a significant correlation between UI and some of these risk factors such as menopause, constipation, hypertension, DM, family history of UI and the number of deliveries.[13]

Above three-fifths (65.3%) of the respondents had recurrent UTI and 33.9% had chronic disease. About 23.1% of the respondents had history of uterine prolapse and 14.9% of them had history of urethral injury. A study

reported that changes in urinary bladder and pelvic structures, chronic disease and menopausal stages were generally suggested as correlative factor.[14]

The mean age of urinary incontinence was found to be significantly associated with income, marital status and residence of the respondents. Many studies from different countries have reported the association of age and gender with prevalence of Urinary continence.[14-17]

## CONCLUSION

Female urinary incontinence is a frequent and a major embarrassing healthcare problem in Bangladesh. Patients who had complications during labor, having multipara, recurrent UTI, gynecological problem such as uterine prolapse, urethral injury, had high percentage of urinary incontinence. The mean age of urinary incontinence was found to be significantly associated with income, marital status and residence of the respondents. However there was also no significant association between age of initiation of incontinence with nutritional status, chronic disease status of the respondents and the educational level of the respondents.

### *Recommendations*

Urinary incontinence is one of the major public health problem among female patients worldwide. Following recommendations are made based on study findings: antenatal care, safe delivery and postnatal care should be encouraged, learning pelvic floor exercise is essential to strengthen pelvic floor muscle which could prevent urinary leakage after childbirth, UTI should be properly treated, Female education, empower women, availability of family planning method, behavioral modification and life style changes are effective in controlling the symptom.

Patients with urinary incontinence should be encouraged to seek treatment early as the problem can be treated and they will have a better quality of life.

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