

## Gynecology &amp; Reproductive Health

## Prevalence of Urinary Incontinence and Associated Factors among Patients Attending Gynaecology Clinic at Korle-Bu Teaching Hospital Accra Ghana

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**ABSTRACT**

**Background:** Urinary incontinence (UI) has been found to be a common condition in the general population, especially among the older female adults. It has enormous negative impact on quality of life especially with high financial of containment. The prevalence is often difficult to determine because UI is often underreported and undertreated.

**Objective:** This study aimed to determine the prevalence of urinary incontinence and its associated factors among female patients attending the gynecology clinic at Korle-Bu Teaching Hospital (KBTH), Accra. Ghana.

**Methods:** Descriptive cross-sectional study of 182 women attending the Gynecology clinic at KBTH. Participants recruited by consecutively and data collected with semi-structured interviewer administered questionnaire after informed consent. Data was analysed using SPSS version 26. Descriptive analysis was done, using frequency, Chi-square test for categorical variables and logistic regression for any associations at a significance level of  $p \leq 0.05$  and at 95% confidence interval.

**Result:** A total 182 patients participated in this study and the prevalence of UI was 29.67%. (54/182). Age was the only sociodemographic factor significantly associated with urinary incontinence ( $p=0.013$ ) with the highest proportion observed in patients over 50 years old (50.00%). Out of the 54 patients with UI symptoms only 44.44% (24/54) disclosed their symptoms to healthcare providers and only 37.91% (69/182) of patients had their caregivers make any enquiry on urinary incontinence symptoms.

**Conclusion:** The prevalence of UI among patients attending the out-patient Gynaecology clinic at the Korle-Bu Teaching Hospital was found to 29.67%. Age and parity of at least one was significantly associated with UI. Majority of patients never disclosed their symptoms to care givers and similarly majority of caregivers never enquired about UI symptoms from their patients. Both the general public and caregivers need awareness creation on UI among women and the impact on quality of life as well as availability of treatment.

**Keywords**

Urinary incontinence, Caregivers, Parity, Outpatient gynecology clinic.

**Introduction**

Urinary incontinence is a significant health issue that affects

individuals globally, with substantial social and economic implications. International Continence Society (ICS) defines incontinence as the complaint of any involuntary loss or leakage of urine [1].

Prevalence rates of UI varies widely reflecting different study

designs and study populations and different classifications, sub-classifications in terms bothersomeness to patients and even the different types of incontinence, nevertheless the impact even for an individual is enough to warrant attention especially that most are treatable or manageable by clinicians. Population studies from numerous countries have reported that the prevalence of UI ranged from approximately 5% to 70%, with most studies reporting a prevalence of any UI in the range of 25–45 % [2]. An earlier study in Ghana reported a prevalence rate of 12% [3].

Institutional based studies tend to underestimate UI prevalence because of under-reporting by patients and under-diagnosis by healthcare providers [4]. Urinary incontinence is regarded as a disgraceful situation, with a negative effect on quality of life (QOL) and is usually kept disguised; it is an important disease leading to physical, social, psychological/mental, sexual and economic problems among women of all age groups [5]. Many factors are associated with UI [6], including unmodifiable factors (e.g., age, gender, menopause, history of vaginal delivery) and potentially modifiable factors (e.g., smoking, alcohol intake, toileting behaviors [7] constipation, and obesity) [8].

Generally, the clinical diagnosis of UI is easily made but the specific aetiology and subsequent treatment often require specialist care. Korle-Bu Teaching Hospital is a tertiary care hospital and has the expertise to handle such cases but what is the extent of the problem among its patients and what are the associated factors including caregivers input. Thus this study set out to answer the above question.

**Table 1:** Urinary Incontinence and Socio-demographic Characteristics.

| Variable                 | Urinary incontinence |                   | Total<br>n (%) | X <sup>2</sup> | p-value        |
|--------------------------|----------------------|-------------------|----------------|----------------|----------------|
|                          | n (%)                | n (%)             |                |                |                |
| <b>Age-group (years)</b> | <b>Yes (n=54)</b>    | <b>No (n=128)</b> |                |                |                |
| ≤30                      | 4 (15.38 )           | 22 (84.62 )       | 26 (100 )      |                |                |
| 31-40                    | 19 (28.36)           | 48 (71.64 )       | 67 (100 )      | 12.0163        | <b>0.007**</b> |
| 41-50                    | 12 (23.08 )          | 40 (76.42 )       | 52 (100)       |                |                |
| >50                      | 19 (51.35 )          | 18 ( 48.65)       | 37 (100)       |                |                |
| Mean Age ± SD            | 47.04± 2.09          | 40.28±1.08        | 42.18±12.81    |                |                |
| <b>Educational level</b> |                      |                   |                |                |                |
| None                     | 11 (37.93 )          | 18 (62.07 )       | 29 (100 )      |                |                |
| Primary                  | 15 (28.30 )          | 38 (71.70)        | 53 ( 100)      | 1.3330         | 0.721          |
| Secondary                | 15 (30.61 )          | 34 (69.3)         | 49 ( 100)      |                |                |
| Tertiary                 | 13 (26.00 )          | 37 (74.00 )       | 50 (100 )      |                |                |
| <b>Parity</b>            |                      |                   |                |                |                |
| None                     | 12 (19.05)           | 51 (80.95 )       | 63 (100 )      |                |                |
| 1-2                      | 17 (30.91)           | 38 (69.09 )       | 55 (100)       | 6.1778         | 0.103          |
| 3-4                      | 19 (39.58)           | 29 (60.42 )       | 48 (100)       |                |                |
| ≥5                       | 6 (37.50)            | 10 (62.50 )       | 16 (100 )      |                |                |
| <b>Occupation</b>        |                      |                   |                |                |                |
| Civil servant            | 6 (33.33)            | 12 (66.67 )       | 18 (100 )      |                |                |
| Skilled worker           | 2 (12.50)            | 14 (87.40 )       | 16 (100)       |                |                |
| Semi-skilled             | 31 (30.10)           | 72 (69.90)        | 103 ( 100)     | 7.6201         | 0.178          |
| Unskilled                | 6 (37.50)            | 10 (62.50 )       | 16 (100 )      |                |                |
| unemployed               | 5 (62.50)            | 3 (37.50 )        | 8 (100 )       |                |                |
| Student                  | 0 (0.00 )            | 4 (100 )          | 4 (100 )       |                |                |

## Methods

The study was a cross sectional study that was conducted amongst female patients at the gynaecology unit of Korle Bu Teaching Hospital, the largest referral centre in the Ghana.

Structured questionnaire was administered to patients who consented after consecutive recruitment. Using the Cochran formula ( $n_0 = z^2pq/e^2$ ) at 12% prevalence of UI [3], margin of error of 0.05 at 95% CI and 10% adjustment for inconsistencies, the minimum sample size was calculated to be 178. All female patients were eligible and 182 patients were recruited into the study. Variables collected besides socio-demographic factors included parity, mode of delivery, BMI, previous surgery, chronic cough, urinary incontinence disclosure by patients and care provider enquiry on urinary incontinence. Data was collected using Microsoft Excel 2010 and transported to SPSS version 26 for analysis. Descriptive analysis was done, using frequency, Chi-square test for categorical variables and logistic regression for any associations at a significance level of  $p \leq 0.05$  and at 95% confidence interval. The study was given administrative approval the Korle-Bu Teaching Hospital: KBTH-ADM/000129/2-24

## Results

A total 182 patients participated in this study and the prevalence of UI was 29.67 %. (54/182). Age was the only sociodemographic factor significantly associated with urinary incontinence ( $p=0.013$ ) with the highest proportion observed in patients over 50 years old (50.00%). The relationships of the various sociodemographic factors and urinary incontinence is shown in table 1 below.

| BMI class  |              |           |          |        |       |
|------------|--------------|-----------|----------|--------|-------|
| Normal     | 33 (94.29 )  | 2 (5.71 ) | 35 (100) |        |       |
| Overweight | 12 (100.00 ) | 0 (0.00 ) | 12 (100) | 1.1860 | 0.553 |
| Obese      | 8 (100.00 )  | 0 (0.00 ) | 8 (100)  |        |       |

*n* = Number of participants; % = Percentage,  $X^2$  = Chi square, *p*-value<0.005 is significant, BMI = Body Mass Index.

**Table 2:** Association between Urinary Incontinence and clinical factors.

| Variable  | Urinary incontinence |            | Total<br>n (%) | $X^2$  | p-value        |
|---|----------------------|------------|----------------|--------|----------------|
|   | Yes [n (%)]          | No [n (%)] |                |        |                |
| <b>Vaginal Delivery</b>                             |                      |            |                |        |                |
| Yes   | 39 (97.50 )          | 1 (2.50 )  | 40 (100 )      |        |                |
| No  | 9 (90.00 )           | 1 (10.00 ) | 10 (100 )      | 1.1719 | 0.279          |
| <b>Previous chronic cough or respiratory issues</b> |                      |            |                |        |                |
| Yes   | 12 (100.00 )         | 0 (0.00 )  | 12 (100 )      |        |                |
| No  | 38 (95.00)           | 2 (5.00)   | 40 ( 100)      | 0.6240 | 0.430          |
| <b>Previous pelvic or abdominal surgeries</b>       |                      |            |                |        |                |
| Yes   | 19 (96.43)           | 1 (5.00 )  | 20 (100 )      |        |                |
| No  | 35 (97.22)           | 1 (2.78 )  | 36 (100)       | 0.1844 | 0.668          |
| <b>BMI class</b>                                    |                      |            |                |        |                |
| Normal  | 33 (94.29 )          | 2 (5.71 )  | 35 (100)       |        |                |
| Overweight/obese                                    | 20 (100.00 )         | 0 (0.00 )  | 20 (100)       | 1.1860 | 0.276          |
| <b>Parity</b>                                       |                      |            |                |        |                |
| None  | 25 (39.06)           | 38 (60.94) | 63 (100)       |        |                |
| At least 1 child                                    | 29 (24.58)           | 89 (75.42) | 118 (100)      | 4.1729 | <b>0.041**</b> |

*n* = Number of participants; % = Percentage;  $X^2$  = Chi square; *p*-value<0.005 is significant.

### Association between Urinary Incontinence and Clinical Factors

Parity of a least 1 was significantly associated with UI despite the finding that vaginal delivery was not significantly associated with UI among the participants. Also all other selected clinical factors were not significantly associated with UI as shown in table 2 below.

### Communication of UI Symptoms of Urinary Incontinence to Caregivers and Family Members/Friends

Out of the 54 patients with UI symptoms only 44.44 % ( 24/54) disclosed their symptoms to healthcare providers and 79.17% (19/24) disclosed this to a doctor with the remaining 20.83% (5/24) to a nurse. Majority [64.81% (35/54) were uncomfortable discussing their symptoms with healthcare providers de novo. Also only 27.78% (15/54) disclosed their symptoms to family members or friends.

### Caregiver Enquiry about UI Symptoms from Patients

Only 37.91% (69/182) of patients had their caregivers make any enquiry on urinary incontinence symptoms. And even for those who had UI symptoms only 44.44% (24/54) had their caregivers enquire about their symptoms. Majority, 93.95% (171/182) of patients in this study said it was important for caregivers to directly enquire about urinary incontinence symptoms.

### Factors Associated with Urinary Incontinence Amongst Patients Attending Gynaecology Clinic at KBTH for Urinary Incontinence

No factor was significantly associated with UI symptoms on

logistic regression and in addition all confidence intervals included 1 though all the included factors had increased odds of association with UI symptoms as shown in Table 3 below.

**Table 3:** Logistic regression showing independent predictor factors associated with urinary incontinence amongst patients attending gynaecology clinic at KBTH for urinary incontinence.

| Variable                               | Odds ratio | p-value | 95% CI          |
|--|------------|---------|-----------------|
| Age of participant                     | 1.356      | 0.202   | 0.849 – 2.166   |
| Vaginal delivery                       | 2.604      | 0.559   | 0.105 - 64.406  |
| Previous pelvic or abdominal surgeries | 2.048      | 0.767   | 0.018 - 236.894 |
| Parity                                 | 1.131      | 0.913   | 0.124 - 10.344  |

### Discussion

The prevalence of the urinary incontinence among participants was found to be 29.67% in this study. This finding is consistent with many studies worldwide that estimates the prevalence of UI to be between 5% - 70%, with most studies reporting a prevalence of any UI in the range of 25-45% [2]. It is also consistent with the findings from a systematic review in Sub-Saharan Africa that showed a prevalence ranging from 0.65 in Sierra Leone to 42.1% in Tanzania [9]. It is much higher than the 12% found by Ofori et al in Ghana in an earlier study [3].

The study also found age to be the only sociodemographic factor significantly associated with UI among participants and the prevalence increased with increasing age with 50% prevalence

among participants above 50 years. This is consistent with most studies [2,9,10], and understandably so since the aging process impacts directly on the pelvic organ support systems which includes the urinary bladder and urinary continence maintenance and support systems thus translating to higher prevalence of UI with increasing age especially when the healing and repair effect of oestrogen begins to wane during the peri- and post-menopausal periods. In spite of this the prevalence of UI is expected to increase as life expectancy increases, the female life expectancy in Ghana is 68.6 [11]. Although the study did find increased frequencies of UI among patients within the group who had no formal education, unskilled occupation, higher parity, vaginal delivery, overweight/obesity, chronic cough, previous abdominal surgery, there was no significant association with UI. This is inconsistent with most study findings [9,12-17], except for the national population based study by Patel Ushma J et al. 2022, that also find any significant association with education. The inconsistency could be explained by the small numbers of UI patients in these categories. There was however, significant association between UI with parous versus non-parous women.

The study found that 44.4% of patients never disclosed their symptoms to healthcare providers, family or friends. This is consistent with a well-known fact, that UI is largely under reported by patients and social, psychosocial, and cultural reasons have been cited to be contributory to this occurrence [12], however this figure is much lower than the 72% quoted among women aged 50-64 years who never disclosed their UI symptoms in the University of Michigan National Poll on Healthy Aging [18]. This difference could be explained by the age range they used. Nevertheless, this tells how big the problem of under-reporting for such a condition with very high negative impact on quality of life of women is and certainly public health education measures need to be embarked on to improve self-reporting of UI among patients considering the social-cultural sensitivities.

The study also found that about 62% of caregivers did not enquire about UI symptoms among participants and so coupled with under reporting would underestimate the prevalence of UI among patients from institutional data. This finding of low enquiry from caregivers on UI is consistent with that by Susan Wiers et al.

### Conclusion

The prevalence of UI among patients attending the out-patient Gynaecology clinic at the Korle-Bu Teaching Hospital was found to be 29.67%. Age and parity of at least one was significantly associated with UI. Majority of patients never disclosed their symptoms to care givers and similarly majority of care givers never enquired about UI symptoms from their patients. Both the general public and caregivers need awareness creation on UI among women and the impact on quality of life as well as availability of treatment.

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