

# Prevalence and Risk Factors of Urinary Incontinence among Females Attending the Urology Clinic at Alexandria Main University Hospital

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## Introduction

Urinary incontinence (UI) is the involuntary leakage of urine and is a significant global health issue, particularly affecting women. Prevalence estimates vary greatly due to differences in population, definition, and methodologies, but UI is known to increase with age. It can lead to both social and psychological distress, significantly affecting the quality of life. In aging populations, UI is more common, especially among older women, with estimates of up to 60% prevalence. UI is linked to increased disability, dependency, and care home placement, as well as a major factor in stress and career impact. Although aging itself is not a direct cause, age-related changes in the lower urinary tract function make older adults more prone to UI. In Egypt, UI prevalence has increased, but cultural stigma prevents patients from discussing it with healthcare providers, leading to underreported cases. This study seeks to address these concerns.

## Aim of the work

To estimate prevalence of all types of UI among women attending the Urology clinic at Alexandria Main University Hospital. To assess risk factors associated with UI among women attending Urology clinic at Alexandria Main University Hospital.

## Patients and Methods

A cross-sectional hospital-based study was conducted from December 2022 to June 2023, with an estimated sample size of 1300 female participants aged 18 years and above. Patients were excluded if they were pregnant, had active urinary tract infections, urolithiasis, or urological malignancies. Data were collected via a validated questionnaire covering demographic information, medical history, gynecological history, and urinary incontinence status, using the International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF). Statistical analysis was performed using SPSS software. Chi-square tests, bar charts, and correlation tests were employed to analyze the results.

## Results

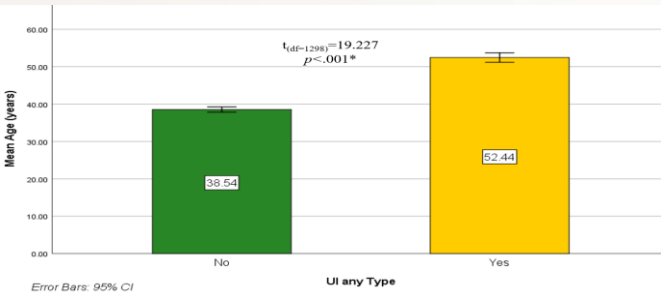


Figure (1): Simple bar chart of Age (years) by the presence of UI in the studied group.

Figure (2): Distribution of types of urinary incontinence

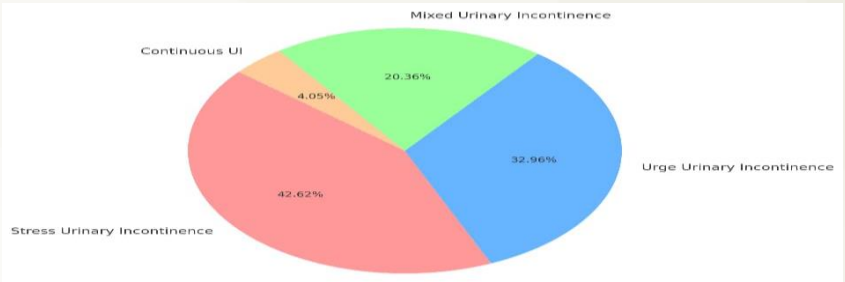


Table (1): Comparison of gynecological history of the two studied groups

|                                   | Urinary Incontinence (n=1300) |             | p-value                  |
|-----------------------------------|-------------------------------|-------------|--------------------------|
|                                   | No (n=965)                    | Yes (n=335) |                          |
| <b>Sexual activity</b>            |                               |             |                          |
| Yes (n=954, 73.38%)               |                               |             |                          |
| - n                               | 781                           | 173         |                          |
| - % within sexually active        | 81.87%                        | 18.13%      |                          |
| - % within group                  | 80.93%                        | 51.64%      | p<.001*                  |
| No (n=346, 26.62%)                |                               |             | OR = 3.975 [3.041-5.195] |
| - n                               | 184                           | 162         |                          |
| - % within sexually inactive      | 53.18%                        | 46.82%      |                          |
| - % within group                  | 19.07%                        | 48.36%      |                          |
| <b>Contraception</b>              |                               |             |                          |
| Yes (n=581, 44.69%)               |                               |             |                          |
| - n                               | 452                           | 129         |                          |
| - % within contraceptive user     | 77.80%                        | 22.20%      |                          |
| - % within group                  | 46.84%                        | 38.51%      |                          |
| No (n=719, 55.31%)                |                               |             | OR = 0.711 [0.551-0.916] |
| - n                               | 513                           | 206         |                          |
| - % within non contraceptive user | 71.35%                        | 28.65%      |                          |
| - % within group                  | 53.16%                        | 61.49%      |                          |
| <b>Hysterectomy</b>               |                               |             |                          |
| Yes (n=58, 4.46%)                 |                               |             |                          |
| - n                               | 24                            | 34          |                          |
| - % within hysterectomy           | 41.38%                        | 58.62%      |                          |
| - % within group                  | 2.49%                         | 10.15%      | p<.001*                  |
| No (n=1242, 95.54%)               |                               |             | OR = 4.429 [2.585-7.588] |
| - n                               | 941                           | 301         |                          |
| - % within non hysterectomy       | 75.76%                        | 24.24%      |                          |
| - % within group                  | 97.51%                        | 89.85%      |                          |
| <b>Menstrual Status</b>           |                               |             |                          |
| Pre-menopausal (n=1027, 79.00%)   |                               |             |                          |
| - n                               | 846                           | 181         |                          |
| - % within pre-menopausal         | 82.38%                        | 17.62%      |                          |
| - % within group                  | 87.67%                        | 54.03%      | p<.001*                  |
| Post (n=273, 21.00%)              |                               |             | OR = 6.049 [4.535-8.068] |
| - n                               | 119                           | 154         |                          |
| - % within post menopausal        | 43.59%                        | 56.41%      |                          |
| - % within group                  | 12.33%                        | 45.97%      |                          |

Table (2): Comparison of medical history of the two studied groups

| Medical history        | Urinary Incontinence (n=1300) |              | p-value                    |
|------------------------|-------------------------------|--------------|----------------------------|
|                        | No (n=965)                    | Yes (n=335)  |                            |
| <b>Constipation</b>    |                               |              |                            |
| - No (n=1105) (85.00%) | 878 (90.98%)                  | 227 (67.76%) | p<.001*                    |
| - Yes (n=195) (15.00%) | 87 (9.02%)                    | 108 (32.24%) | OR = 4.801 [3.494-6.598]   |
| <b>DM</b>              |                               |              |                            |
| - No (n=1105) (85.00%) | 901 (93.37%)                  | 204 (60.90%) | p<.001*                    |
| - Yes (n=195) (15.00%) | 64 (6.63%)                    | 131 (39.10%) | OR = 9.040 [6.465-12.642]  |
| <b>Hypertension</b>    |                               |              |                            |
| - No (n=1005) (77.31%) | 865 (89.64%)                  | 140 (41.79%) | p<.001*                    |
| - Yes (n=295) (22.69%) | 100 (10.36%)                  | 195 (58.21%) | OR = 12.048 [8.926-16.263] |
| <b>Chest Disease</b>   |                               |              |                            |
| - No (n=1197) (92.08%) | 941 (97.51%)                  | 256 (76.42%) | p<.001*                    |
| - Yes (n=103) (7.92%)  | 24 (2.49%)                    | 79 (23.58%)  | OR = 12.099 [7.507-19.500] |
| <b>Cardiac Disease</b> |                               |              |                            |
| - No (n=1257) (96.69%) | 952 (98.65%)                  | 305 (91.04%) | p<.001*                    |
| - Yes (n=43) (3.31%)   | 13 (1.35%)                    | 30 (8.96%)   | OR = 7.203 [3.710-13.985]  |
| <b>POP</b>             |                               |              |                            |
| - No (n=1241) (95.46%) | 948 (98.24%)                  | 293 (87.46%) | p<.001*                    |
| - Yes (n=59) (4.54%)   | 17 (1.76%)                    | 42 (12.54%)  | OR = 7.994 [4.483-14.255]  |

## Conclusion

The study revealed that 25.76% of women attending the clinic experienced UI, with stress urinary incontinence (SUI) being the most common type (42.62%), followed by urgency urinary incontinence (32.96%). Risk factors significantly associated with UI included age, BMI, parity, and menopausal status. These findings align with global trends and underline the importance of recognizing and addressing UI in clinical practice. Addressing UI requires comprehensive strategies that include both preventive measures and appropriate treatment options. Given the psychological, social, and physical implications of UI, early diagnosis and intervention are crucial to improving women's quality of life, particularly in aging populations.