Journal of Scientific Research in Medical and Biological Sciences
ISSN 2709-0159(print) and ISSN 2709-1511 (online)
Volume 5, Issue 2 Article 7
DOI: https://doi.org/10.47631/jsrmbs.v5i2.778

# AN EPIDEMIOLOGICAL STUDY OF URINARY INCONTINENCE AMONG A SAMPLE OF ADULTS IN BAGHDAD CITY

**[1]Wurood Abdul Razzaq Ahmed, [2*]Muna Abdul Kadhum Zeidan, [3]Amel Mustafa Kamil**

[1]Intermediate Technical University
[2]Assistant professor (M.S.C) at the collage of Health and medical Techniques -Baghdad-Iraq / Email: munaalwaeli60@gmail.com
[3]Assistant professor (M.S.C) at the collage of Health and medical Techniques –Baghdad. Iraq

**ARTICLE INFO**

**Recieved: 15 March 2024**
**Revised: 10 April 2024**
**Accepted: 20 May 2024**

**Keywords:**
The Following Types of Incontinence: Stress Urinary, Urgent, Mixed

**Corresponding Author:**
Muna Abdul Kadhum Zeidan

Email:
munaalwaeli60@gmail.com



ABSTRACT

*Background: The issue of urinary incontinence (UI) is becoming more prevalent, particularly among the elderly population. Urinary incontinence sufferers of women and men with growing old. The aimed of study to identifies of patients' prevalence urinary incontinence in Baghdad city. Patients and methods: This cross-sectional study was conducted at Baghdad city. A convenience sampling of 400 patients with UI was chosen using a non-probability sampling method. The patient is determined by the diagnosis made by the doctor who meets the criteria for urinary incontinence. The data was collected by direct interviews with the participants after translating the questionnaire to the local language (Arabic) by using closed-ended questions was taken to every patient. The data collect started from the 1th January 2024 till the 4th April 2024. Results: The results of this study found that the mean of ages was 54.4±14.7 years with range from 19 to 95 year. Regarding sex, the results found 67.3% of the participants were females, and 32.8% were males. In addition, of the results study reveal that 43% of the patients have urinary incontinence type urge, followed by31% mixed, and 26% stress. Conclusions: The current study demonstrated that most patients with UI have prevalence of urinary incontinence. Also, this study explained that advanced age in women and men, have Educating the public about urinary incontinence through the mass media could go a long way in reducing the stigma associated with this problem.*

## INTRODUCTION

Any complaint of uncontrollable pee leaking is known as urinary incontinence, or UI. UI is a prevalent issue among patients, particularly the elderly—most of whom are over 65. (1). Three categories exist for urinary incontinence: combination, stress, and urgency. The term "stress urinary incontinence" (SUI) describes the leakage of urine as a result of elevated intra-abdominal pressure, which is brought on by coughing and exertion and is caused by a malfunctioning urethra. Urinary excretion with or above the distance after the sensation of excretion is called urgent urinary incontinence (UUI); If both urgency and stress are present at the same time, it is called a hybrid type (MUI). Urinary excretion is associated with the reduction of anatomical support due to trauma, vaginal delivery, obesity. Obesity is defined as a low-grade inflammatory condition leading to insulin resistance, metabolic abnormalities, and T2DM (2) and increased intra-abdominal pressure due to chronic constipation, lifting heavy objects, and exercise.(3)(4) , DM is

thought to be a significant cause of death in the majority of poor countries, particularly in Iraq.(5) Environment is another causative factor involving infection and stress (6)UI is a common condition that affects millions of people worldwide and has significant detrimental effects on social and personal wellness that are likely yet underappreciated. Specifically, UI affects more women than men, despite the fact that women's UI is still frequently underappreciated. (7) Urinary incontinence is not only a very frequent issue, but it also has a high rate of morbidity and substantial costs for the healthcare system. The chance of being placed in a care facility is greatly increased by UI, which is a major cause of impairment and dependency. It also increases the likelihood of career stress and negativity, which is a significant contributing factor to institutional care placement. (8) is an easy-to-use method for quantifying the prevalence of urine incontinence (UI) among older people living in the community. (8) It is believed that 50% of women will suffer UI symptoms at some point in their life, regardless of clinical classification, and that women are more likely than males to experience UI (60% to 30%).(9) A population-based study carried out in the United States revealed that the overall prevalence of urine incontinence was 45%, with a range of 28% among women aged 30-39 and 55% among women aged 80-90.19 Furthermore,(10) examined the prevalence of urine incontinence in various nations (particularly those in Europe) in a systematic review. The overall prevalence was estimated to be 20% on average. Urgency incontinence was reported to be 31%, mixed incontinence to be 25%, and stress incontinence to be 49%. Additionally, based on a review study carried out by.(11)

Among Turkish women, the prevalence of urine incontinence varied from 16.4% to 49.7%. Additionally, the rates of stress, urgency, and mixed urine incontinence were 20.8%–68%, 2.9%–43%, and 7.8%–64.3%, respectively. 51.7% was the overall prevalence of UI. Stress, hurry, and mixed UI were found in 5.4%, 13.3%, and 33% of cases, respectively.

(11) Women are more likely than men to experience stress urinary incontinence (SUI), with a prevalence estimate ranging from 4% to 35%. In the Iraq (12).

**Aims of the study:**

1.To determine the sociodemographic and general characteristic of patients with urinary incontinence who are *among a sample in Baghdad city.*

2.To determine the prevalence and potential attributes of urinary incontinence symptoms between adults.

3-To determine the association between studied variables and sociodemographic and general characteristic among patients**.**

## METHODOLOGY

**Patients and Techniques:**

Design and context of the study:

Hospitals in Baghdad (Yarmouk Teaching Hospital, Imam Al-Kazemin Medical City Hospital, Al-karma Teaching Hospital, Al-Sadr General Hospital, Ghazy Al-Hariri Hospital for Surgical Specialties, and Baghdad Teaching Hospital) hosted this cross-sectional study. Data collection began on January 7-1- 2023, and continued until April 4-4- 2024.

**Sample Quantity**

According to Daniel and Cross (2018) [8], the sample was calculated using a formula based on expected prevalence or proportion (a study by Ahmed et al. (2013) [9] in Iraq found that the overall

prevalence of urinary incontinence (UI) was 51.7%), with a 95% margin of error (0.05) in the confidence interval. Therefore, in order to strengthen the study, we took 400 patients instead of the minimum 384 required for patients with urinary incontinence, as indicated below:

$$n = \frac{Z^2 P(1-P)}{d^2}$$

**Selection criteria:**

**Inclusion criteria:**

All adult patients with UI 18 years or more for both sexes who attending to Baghdad Hospitals (Yarmouk teaching Hospital/Imam Al-Kazemin medical city hospital /Al-karma Teaching hospital/ Al-Sadr General hospital/Ghazy Al-Hariri hospital for surgical specialties/Baghdad Teaching hospital)

**Exclusion criteria:**

The patients who refuse to participate and provide incomplete information. The study also excludes patients who do not reside in Baghdad Governorate.

**Sampling techniques:**

A convenience sampling of 400 patients with UI was chosen using a non-probability sampling method. participants are included in the study thanks to the fact that they happen to be at the correct place at the right time. Researchers simply add respondents who are available to participate in the study until they have reached the necessary number of participants in the sample. The patient is determined by the diagnosis made by the doctor who meets the criteria for urinary incontinence.

Statistical Analysis: Data were collected using a questionnaire, with each question's information being transferred to code sheets. The data was then input into a personal computer and subjected to statistical analysis using the IBM-SPSS-27 statistical package (software business). Simple metrics of frequency, percentage, mean, standard deviation, and range (lowest and highest values) were used to display the data. Using the Pearson Chi-square test (α2-test), the significance of the difference for various percentages (qualitative data) was examined. The P-value was considered statistically significant when it was equal to or less than 0.05. Outcomes/4.1.

## RESULTS AND DISCUSSION

**Socio-demographic Characteristics of patients with Urinary incontinence**

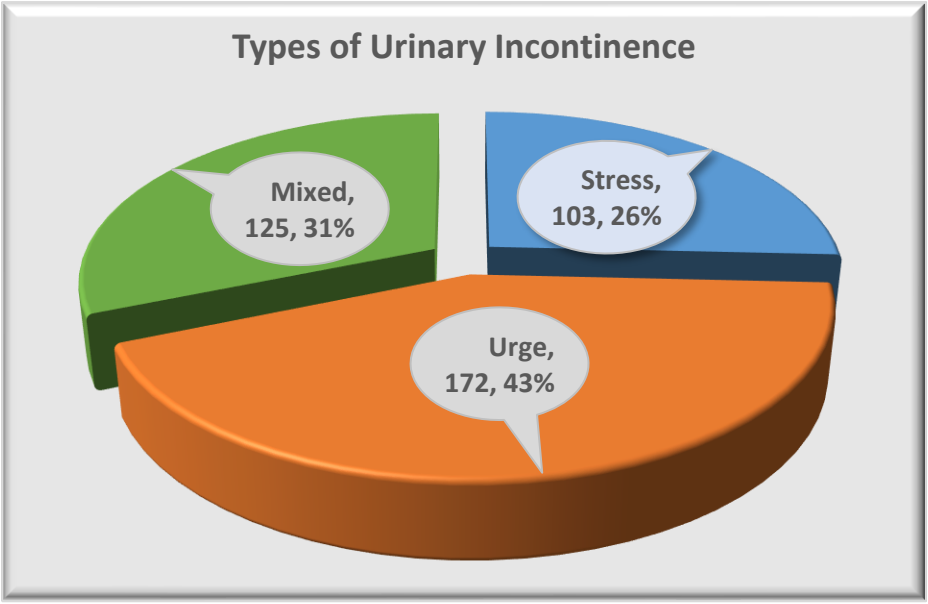
In table (4.1) the current of this results showed that the highest percentage of this study indicate that 25.8% of the patients belonging to age group (60-69 years), followed by 23.0% (50-59 years), and the lowest percentage (4.8%) of patient belonging to age group (20-29 years). The mean of ages was 54.4±14.7 years with range from 19 to 95 year. Regarding sex, found 67.2% of the patients were females, and 32.8% were males. While the highest percentage (88.2%) of the patients live in urban regions. And highest percentage of education level for patients were illiterate (29.3%) while the lowest percentage were only read and write. As for Marital status, the present study reveals that the highest percentage (74.2%) of the patients were married, while the lowest percentage (3.5%) of them were divorced. A high percentage (90.3%) of the patients were unskilled workers.in regard to SES the results found that the highest percentage (50.0%) of patients with low SES. According to the study's results, 33.5% of the patients met the criteria for

obesity class 1, while 27.3% were overweight. Additionally, a family history of urine incontinence was present in 60.8% of the patients.

**Table (4.1):** The participants' distribution based on sociodemographic attributes

| **Socio-demographic characteristics** | | **No.** | **%** |
|---|---|---|---|
| **Age groups** | 20-29 years | 19 | 4.8 |
| | 30-39 years | 47 | 11.8 |
| | 40-49 years | 73 | 18.3 |
| | 50-59 years | 92 | 23.0 |
| | 60-69 years | 103 | 25.8 |
| | ≥70 years | 66 | 16.3 |
| | **Mean ± SD (Range)** | **54.4±14.7 (19-95)** | |
| **Sex** | Male | 131 | 32.8 |
| | Female | 269 | 67.2 |
| **Residence** | Urban | 353 | 88.2 |
| | Rural | 47 | 11.8 |
| **Education level** | Illiterate | 117 | 29.3 |
| | Read and write | 40 | 10.0 |
| | Primary School Graduate | 101 | 25.3 |
| | Intermediate graduate | 39 | 9.75 |
| | Secondary School Graduate | 41 | 10.25 |
| | University and higher | 62 | 15. |
| **Marital status** | Single | 18 | 4.5 |
| | Married | 297 | 74.2 |
| | Divorced | 14 | 3.5 |
| | Widow | 71 | 17.8 |
| **Occupational status of patient** | High professional | 10 | 2.5 |
| | Lower professional | 29 | 7.2 |
| | Unskilled workers | 361 | 90.3 |
| **Socio-economic status** | Low (<60) | 200 | 50.0 |
| | Moderate (60-80) | 156 | 39.0 |
| | High (>80) | 44 | 11.0 |
| **BMI categories** | Normal | 40 | 10. |
| | Overweight | 109 | 27.25 |
| | Obesity class 1 | 134 | 33.5 |
| | Obesity class 2 | 73 | 18.25 |
| | Obesity class 3 | 44 | 11. |
| **Family history of urinary incontinence** | Yes | 243 | 60.8 |
| | No | 157 | 39.2 |

**Figure (4.2)** show distribution of the results study reveal that 43% of the patients have urinary incontinence type urge, followed by31% mixed, and 26% stress




**Epidemiological Characteristics of patients with Urinary incontinence**

According to table 4.3's data, the majority of patients (74.5%) had been suffering from their illness for one to five years. Among them, the lowest percentage (1.0%) had urine incontinence for the first 16 to 20 years of their illness. The illness lasted an average of 4.4±5.2 (range:1-46) years. Regarding the age at which the disease first manifested itself, the current study discovered that 23.8% of patients were diagnosed with urine incontinence between the ages of 51 and 60, and 22.8% were in the age range of 61 to 70. The range of the disease beginning age was 3 to 94 years, with a mean of 49.9±15.3 years.

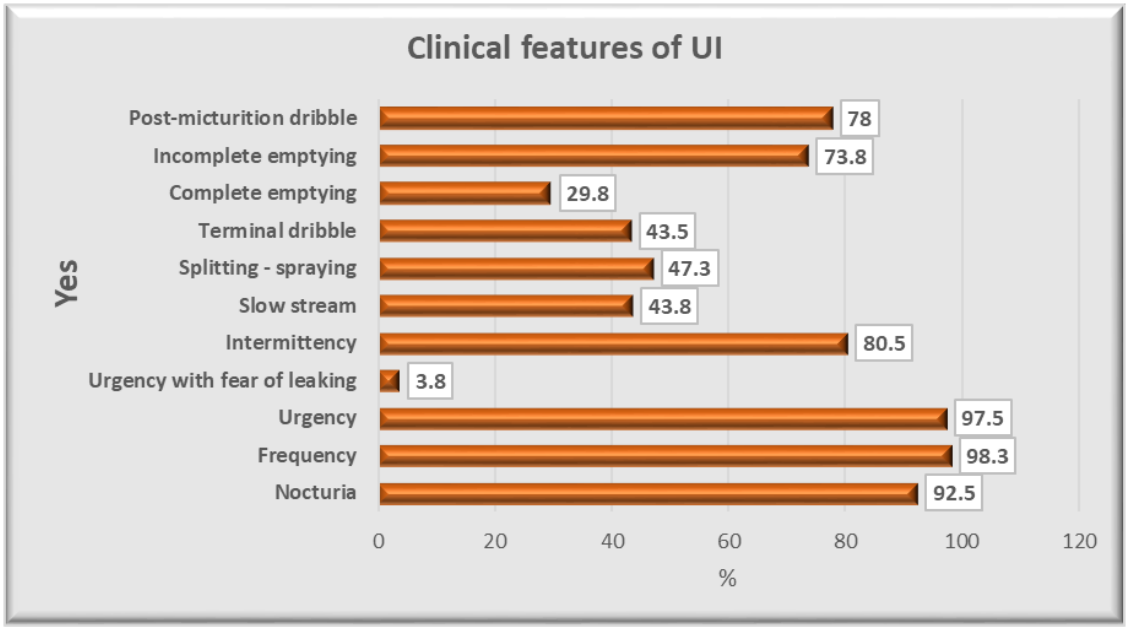
**Table (4.3):** The patients' distribution based on epidemiological characteristics

| Epidemiological Characteristic | | No. | % |
|---|---|---|---|
| **Duration of disease** | 1-5 years | 298 | 74.5 |
| | 6-10 years | 74 | 18.5 |
| | 11-15 years | 17 | 4.3 |
| | 16-20 years | 4 | 1.0 |
| | >20 years | 7 | 1.8 |
| | **Mean ± SD (Range)** | **4.4±5.2 (1-46)** | |
| **Age onset of disease** | ≤10 years | 4 | 1.0 |
| | 11-20 years | 9 | 2.3 |
| | 21-30 years | 35 | 8.8 |
| | 31-40 years | 71 | 17.8 |
| | 41-50 years | 70 | 17.5 |
| | 51-60 years | 95 | 23.8 |
| | 61-70 years | 91 | 22.8 |
| | >70 years | 25 | 6.3 |
| | **Mean ± SD (Range)** | **49.9±15.3 (3-94)** | |

**(4.4)** Characteristics of people with incontinence in the urine.

In table 4.3 and Figure 4.3, the results of this study indicate that the high percentages of 92.5%, 98.3%, 97.5%, 80.5%, and 78.0% of patients with UI have clinical features such as Nocturia, frequency, urgency, intermittency, and post-micturition dribble, respectively. While only 3.8%, 0.5%, 2.3%, 29.8% and 11.3% of the patients with UI reported about urgency with fear of leaking, never- dose not leak, leaks for no obvious, complete emptying, and leaks all the time, respectively. Also, the results found that more than half of patients have no slow stream, splitting – spraying, terminal dribble, and leaks when you are a sleep.

**Figure (4.4):** The distribution of the patients according to clinical features




In table (4.5) The study's findings indicated a strong correlation between the various forms of urine incontinence. Regarding age groups, sex, marital status, and occupational status of patient (P. value <0.05) the highest percentage (26.7%) of patients who ages ≥70 years have urinary urge compared to other types. Also, the highest percentage (69.2%) of male's patients have urinary urge compared to other types. While 24.8% of widowed patients is higher significant for mixed type of urinary incontinence compared to stress and urge. Regarding occupational status, 7.8% of patients who high professional have is higher significant for stress type of urinary incontinence compared to stress and mixed. While there were no significant differences between types of urinary incontinence regarding residence, education level, socio-economic status, and family history of urinary incontinence (P. value>0.05).

**Table (4.5)** compares the various forms of urine incontinence based on demographic attributes.

| | | **Urinary incontinence** | | | | | | **P. value** |
|---|---|---|---|---|---|---|---|---|
| | | **Stress** | | **Urge** | | **Mixed** | | |
| | | **No.** | **%** | **No.** | **%** | **No.** | **%** | |
| **Age groups** | 20-29 years | 9 | 8.7 | 2 | 1.2 | 8 | 6.4 | **<0.001** |
| | 30-39 years | 18 | 17.5 | 13 | 7.6 | 16 | 12.8 | |
| | 40-49 years | 29 | 28.2 | 10 | 5.8 | 34 | 27.2 | |
| | 50-59 years | 23 | 22.3 | 39 | 22.7 | 30 | 24.0 | |
| | 60-69 years | 19 | 18.4 | 62 | 36.0 | 22 | 17.6 | |
| | ≥70 years | 5 | 4.9 | 46 | **26.7** | 15 | 12.0 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sex** | Male | 1 | 1.0 | 119 | **69.2** | 11 | 8.8 | **<0.001** |
| | Female | 102 | 99.0 | 53 | 30.8 | 114 | 91.2 | |
| **Residence** | Urban | 93 | 90.3 | 151 | 87.8 | 109 | 87.2 | 0.748 |
| | Rural | 10 | 9.7 | 21 | 12.2 | 16 | 12.8 | |
| **Education level** | Illiterate | 29 | 28.2 | 43 | 25.0 | 45 | 36.0 | 0.653 |
| | Read and write | 8 | 7.8 | 18 | 10.5 | 14 | 11.2 | |
| | Primary School Graduate | 26 | 25.2 | 45 | 26.2 | 30 | 24.0 | |
| | Intermediate graduate | 11 | 10.7 | 19 | 11.0 | 9 | 7.2 | |
| | Secondary School Graduate | 9 | 8.7 | 20 | 11.6 | 12 | 9.6 | |
| | University and higher | 20 | 19.4 | 27 | 15.7 | 15 | 12.0 | |
| **Marital status** | Single | 7 | 6.8 | 4 | 2.3 | 7 | 5.6 | **0.031** |
| | Married | 74 | 71.8 | 137 | 79.7 | 86 | 68.8 | |
| | Divorced | 5 | 4.9 | 8 | 4.7 | 1 | 0.8 | |
| | Widow | 17 | 16.5 | 23 | 13.3 | 31 | **24.8** | |
| **Occupational status of patient** | High professional | 8 | **7.8** | 2 | 1.2 | 0 | .0 | **0.003** |
| | Lower professional | 7 | 6.8 | 12 | 7.0 | 10 | 8.0 | |
| | Unskilled workers | 88 | 85.4 | 158 | 91.8 | 115 | 92.0 | |
| **Socio-economic status** | Low (<60) | 47 | 45.6 | 80 | 46.5 | 73 | 58.4 | 0.211 |
| | Moderate (60-80) | 42 | 40.8 | 74 | 43.0 | 40 | 32.0 | |
| | High (>80) | 14 | 13.6 | 18 | 10.5 | 12 | 9.6 | |
| **Family history of urinary incontinence** | Yes | 61 | 59.2 | 104 | 60.5 | 78 | 62.4 | 0.883 |
| | No | 42 | 40.8 | 68 | 39.5 | 47 | 37.6 | |

(table 4.6). The results of this study indicate that there is a strong correlation (P. value <0.05) between the forms of urine incontinence and the age at which the disease first manifests itself This explained why, in comparison to stress and mixed, the largest number (35.5%) of patients who age between 61 and 70 years at the commencement of the disease have a urinary urge. Regarding the length of the disease, there were no appreciable variations between the different forms of urine incontinence (P. value>0.05).

**Table (4.6):** The comparison between types of urinary incontinence according to epidemiological characteristics

| | | **Urinary incontinence** | | | | | | **P. value** |
|---|---|---|---|---|---|---|---|---|
| | | **Stress** | | **Urge** | | **Mixed** | | |
| | | **No.** | **%** | **No.** | **%** | **No.** | **%** | |
| **Duration of disease** | 1-5 years | 71 | 68.9 | 135 | 78.5 | 92 | 73.6 | 0.269 |
| | 6-10 years | 22 | 21.4 | 30 | 17.4 | 22 | 17.6 | |
| | 11-15 years | 5 | 4.9 | 4 | 2.3 | 8 | 6.4 | |
| | 16-20 years | 3 | 2.9 | - | - | 1 | 0.8 | |
| | >20 years | 2 | 1.9 | 3 | 1.8 | 2 | 1.6 | |
| **Age onset of disease** | ≤10 years | 3 | 2.9 | - | - | 1 | 0.8 | **<0.001** |
| | 11-20 years | 1 | 1.0 | 1 | 0.6 | 7 | 5.6 | |
| | 21-30 years | 16 | 15.5 | 7 | 4.1 | 12 | 9.6 | |
| | 31-40 years | 25 | 24.3 | 17 | 9.9 | 29 | 23.2 | |
| | 41-50 years | 29 | 28.2 | 15 | 8.7 | 26 | 20.8 | |
| | 51-60 years | 15 | 14.6 | 54 | 31.4 | 26 | 20.8 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 61-70 years | 14 | 13.5 | 61 | **35.5** | 16 | 12.8 |
| >70 years | - | - | 17 | 9.8 | 8 | 6.4 |

(4.7) urine incontinence and age of illness initiation are highly significantly correlated, however there is a non-significant correlation (P. value <0.05) between urine incontinence and disease duration.

**Table (4.7):** The comparison between males and females according to epidemiological characteristics

| | | **Sex** | | | | **P. value** |
|---|---|---|---|---|---|---|
| | | **Male** | | **Female** | | |
| | | **No.** | **%** | **No.** | **%** | |
| **Duration of disease** | 1-5 years | 107 | 81.7 | 191 | 71.0 | 0.060 |
| | 6-10 years | 19 | 14.5 | 55 | 20.4 | |
| | 11-15 years | 1 | .8 | 16 | 5.9 | |
| | 16-20 years | 1 | .8 | 3 | 1.1 | |
| | >20 years | 3 | 2.2 | 4 | 1.6 | |
| | **Mean ± SD (Range)** | **3.8±5.3 (1-43)** | | **4.7±5.2 (1-46)** | | |
| **Age onset of disease** | <=10 years | 0 | .0 | 4 | 1.5 | **<0.001*** |
| | 11-20 years | 2 | 1.5 | 7 | 2.6 | |
| | 21-30 years | 7 | 5.3 | 28 | 10.4 | |
| | 31-40 years | 10 | 7.6 | 61 | 22.7 | |
| | 41-50 years | 7 | 5.3 | 63 | 23.4 | |
| | 51-60 years | 41 | 31.3 | 54 | 20.1 | |
| | 61-70 years | 50 | 38.2 | 41 | 15.2 | |
| | >70 years | 14 | 10.8 | 11 | 4.1 | |
| | **Mean ± SD (Range)** | **57.4±13.6 (18-94)** | | **46.3±14.8 (3-79)** | | |

*Significant difference between percentages using Pearson Chi-square test ($X^2$-test) at 0.05 level.

#Significant difference between two means using students sample test at ≤0.05 level.

**Discussion:**

In this study, the results found that 25.8% of the participants belonging to age group (60-69 years), followed by 23.0% (50-59 years), mean ±SD (54.4±14.7 years). These results were compatible with the study findings done in developed countries (15) which found the same results. Also, these results agreed with the study findings conducted in UK (16), which found that urinary Incontinence was more common in older Adults. In USA, a study by (17) which found that mean age of patient UI was 46.6 ±0.20. According to a study in Taiwan (18) reported that lower urinary tract symptoms, bladder and urethral functions change with age, particularly voiding function. This can explain that older persons have increased urinary incontinence owing to age-related variables. Urination control may decline with aging when bladder and urethra muscles weaken. Age-related diseases such prostate enlargement in males and pelvic organ prolapse in women may cause urine incontinence. As people age, neurological problems, drugs, and cognitive impairment increase, increasing the chance of urine incontinence (19) (20).

The results of study reveal that the prevalence of urinary incontinence in women are higher compared to men. This result is in agreement with the study findings done in Turkey (21) which found that prevalence of urinary incontinence in women was a significantly higher than men. According to a study in in the United States (22), reported that women are disproportionately

affected by urinary incontinence compared with men. This can explain that anatomical, hormonal, and behavioural reasons make urine incontinence more common in women than males. Urinary tract infections may weaken pelvic floor muscles and make women more prone to bladder control issues due to their shorter urethras. Also, hormonal changes during pregnancy, delivery, and menopause might weaken these muscles. The increased occurrence in women is partly due to obesity, chronic constipation, and high-impact activities. Social norms and stigma may deter men from reporting symptoms, underreporting and perhaps underestimating male predominance (23).

The current study reveals that the highest percentage (88.2%) of the patients with UI live in urban regions. This result is in agreement with the study findings done in a Region of Southeastern China by (24), which found that the prevalence of urinary incontinence was 1.6 fold higher among women living in urban areas compared to those living in rural areas. This can explain that due to various interrelated circumstances, urban patients have a greater incidence of urine incontinence than rural ones. Risk factors including obesity, diabetes, and sedentary lifestyles are more common in urban areas, which may cause urine incontinence (25). Urban locations may have more urine incontinence diagnoses and reports owing to healthcare availability and societal stigma, skewing prevalence statistics higher (26).

Regarding education level, the results found that 29.3% of the patients were Illiterate. These results are consistent with the study findings done in a Region of Southeastern China by (24), which found that the prevalence of UI was higher in patients had primary school or below (32.8%) compared to other categories. The possible explanation may be due to lower education levels may diminish health literacy, limiting people's comprehension of preventative measures and early health intervention. Economic restrictions or a lack of awareness about available alternatives may also limit this demographics' healthcare resources and services. Lower-educated people may work more physically demanding professions, increasing their risk of UI. The findings support the studies by (27) and (28) which also discovered that 59.7% of their sample had a comparable educational background and that women with lower education levels (finished or incomplete elementary school) had a 1.59-fold higher frequency of UI than women with higher education levels.

Regarding marital status, the current study shows that the largest proportion of patients (74.2%) who were married also experienced UI. This outcome is consistent with research findings from Turkey. (29) which found that 77.1% of UI patients were married. Several interconnected reasons explain why the majority of participants are married and have UI. Pregnancy and delivery cause physical and physiological changes in married people, especially women, that increase UI risk. Due to age-related pelvic floor muscle and hormonal changes, UI incidence rises in the age group linked with marriage and long-term relationships. Social variables may also increase UI reporting rates since married people feel more comfortable reporting difficulties in supportive relationships. Married individuals may potentially have greater rates of UI due to lifestyle variables including weight increase and physical exercise. Ninety-three percent of the patients with urine incontinence were unskilled laborers. This outcome is consistent with research conducted in Brazil (30), which found that the majority of UI patients were housewives with no job. The majority of UI patients were unskilled workers, according to data from other research that support the findings of (31) and (32). Due to the fact that treatment for UI frequently involves behavioral therapy, close supervision, and care that must be followed throughout daily activities, these characteristics—lower educational attainment and an informal occupation—indicate that the healthcare provider has to implement an appropriate plan. Its effectiveness is dependent on an

accurate comprehension and interpretation of the data on the management of symptoms linked with this dysfunction (30). 50.0% of the patients in this study are from low socioeconomic backgrounds. These findings are consistent with a previous Taiwanese study (33), which discovered that both men and women had a higher incidence of user-involved infections (UI) when

they experienced severe economic troubles (AOR 2.71, 95% CI 1.72–4.25 and AOR 1.94, 95% CI 1.31–2.88, respectively) compared to those who did not. The biggest proportion of urinary incontinence (UI) patients are low-income due to various linked causes. UI diagnosis and treatment are delayed in low-income areas because to restricted healthcare availability. Because of financial instability, poor nutrition, and bad living circumstances, they may have increased stress and lower health, which might increase UI risk factors. Educational differences may also reduce their knowledge of UI symptoms and remedies. This group is also more likely to work physically demanding occupations, which might raise UI risk. Due to these socio-economic and health issues, UI is more common among low-income people. According to the study's findings, the majority of people with urine incontinence were obese or overweight. These outcomes were in line with research conducted in Kuwait (34) that showed 70.2% of patients with mild to very severe UI were overweight or obese. These findings also align with a study conducted by (35). Additionally, cohort studies have revealed a link between an earlier onset of obesity and a higher risk of getting UI in middle life.

(36) (37). Furthermore, a previous study reported that elevated BMI decreases the chances of improvement and increases the chances of worsening UI symptoms (38). Increase in weight may exacerbate or contribute to pelvic floor disorders by increasing intra-abdominal pressure and chronic pressure on ligaments and nerves, leading to excessive stretching (39).

In the present study, 60.8% of the UI patients had family history of urinary incontinence. This result is in agreement with the study findings conducted in Turkey (29) which found that most UI patients had family history of urinary incontinence. Another study in Turkey reported that 5.9 times higher in women with a family history of UI (40). Genetic factors may predispose people to urine incontinence owing to anatomical flaws, connective tissue abnormalities, or neurological anomalies, as this association suggests. Familial patterns may also represent environmental or behavioural variables that cause the disease (41)

The results of this study reveal that 43% of the patients have urinary incontinence type urge, followed by 31% mixed, and 26% stress. These results are consistent with the study findings conducted in Turkey (29) which found that The distribution of the types of UI was 47.4% urge, 33.1% mixed type, and31% stress incontinence. .. According to a prior Kuwaiti survey, UUI was the most prevalent form of user interface, followed by MUI (36). On the other hand, Tanzania (42) stated that 42% of people had UI overall. Regarding the various forms of UI, 17% of the female participants exhibited stress UI, 9% displayed urge UI, and 16% displayed mixed UI.

The results found that the highest percentage (74.5%) of the patients were duration of their disease from 1-5 years. This result is in agreement with the study findings of the survey in Russia, Czech Republic, and Turkey (43), which found that duration of urinary symptoms was relatively brief (approximately 60% ≤ 3 years) and was associated with relatively modest effects on quality of life and work performance in the majority of individuals.

The current study found that the highest percentage of patients were infected with urinary incontinence in age 51-60 years for accounting 23.8% followed by 22.8% in age 61-70 years. The mean of age onset of disease was 49.9±15.3 years. These results are consistent with the study findings done by (44) which found that 30%-50% of UI occurred at elderly age. Another study Sweden women reported that Prevalence of UI increase with increasing age, and in women aged ≥70 years more than 40% of the female population is affected (15).

In this study, the highest percentage (35.5%) of patients who age at onset of disease 61-70 years have urinary urge compared to stress and mixed. These results were compatible with the study findings done by (45) reported that Stress urinary incontinence – 24% to 45% in women over 30 years, and Urge urinary incontinence –31% in aging age in women; 42% in aging age in men.

The results of this study indicate that the high percentages of 92.5%, 98.3%, 97.5%, 80.5%, and 78.0% of patients with UI have clinical features such as Nocturia, frequency, urgency, intermittency, and post-micturition dribble, respectively. These results are consistent with the study findings done *by* (46) which found that Nocturia is quite common and associated with incontinence. Also, a study by (47), reported that Nocturia, frequency, and polyuria are significant associated with urinary incontinence.

A previous study by (48) which found that majority of the patients with UI reported one or more symptoms in the previous month. In men, the most frequently reported symptoms were urgency and Nocturia. In women, stress incontinence and urgency were the most common symptoms reported.

According to (49) reported that After urinating, there is an involuntary leak of urine known as post-micturition dribbling (PMD). It is categorized as a symptom of post-micturition and is more prevalent in men. While the exact cause of PMD remains unknown, weakening or malfunctioning of the pelvic floor muscles is thought to be the primary contributing factor.

In this study, patients with urine incontinence (UI) typically have Nocturia, frequency, urgency, intermittency, and post-micturition dribbling owing to underlying issues that compromise bladder function and control. These symptoms result from detrusor muscle, urethral sphincter, and neural pathway dysfunctions that prevent urine storage and expulsion. Frequent awakenings and excessive urination are usually caused by diminished bladder capacity and detrusor muscle over activity (50). Involuntary detrusor contractions cause urgency to void. Incomplete bladder emptying and inadequate sphincter control may cause intermittency and post-micturition dribbling (50). Age, prostate difficulties in males, pelvic floor dysfunction, and neurological diseases can worsen these concerns (51).

In this study, most urinary incontinence patients frequently leak before the toilet owing. This can explain that one typical reason is overactive bladder (OAB), when involuntary bladder muscle spasms generate an urgent desire to pee, causing leaks if a bathroom isn't nearby (52). Due to weaker pelvic floor muscles, stress incontinence may cause leaks during abdominal pressure-raising activities including coughing, sneezing, and exercise (53). Other causes include neurological illnesses like multiple sclerosis and Parkinson's disease and some drugs that impact bladder function (54). Age-related changes including diminished bladder capacity and muscular strength might make it hard to retain pee till a toilet (55).

More than half patients with UI suffering from leaks urine when cough or sneeze and leaks when are physically active – exercising and leaks when you have finished urinating and are dressed. This can explain that weakening in pelvic floor muscles and tissues can result from factors like childbirth, aging, hormonal changes during menopause, obesity, and chronic strain from heavy lifting or persistent coughing. These activities increase abdominal pressure, which in turn exerts pressure on the bladder. When the pelvic floor muscles are not strong enough to counteract this pressure, it can lead to involuntary urine leakage (56).

The results of this study found that there were significant differences between types of urinary incontinence and age groups. This revealed that the highest percentage (26.7%) of patients who ages ≥70 years have urinary urge compared to other types. These results agreed with (57) which found that there was direct significant relationship between aging and urge urinary incontinence. We can discuss that Due to physiological, neurological, and behavioural variables; 70-year-olds are more likely to have urge urine incontinence (UUI) than MUI or SUI. Older bladder and urinary tract alterations include lower bladder capacity, higher involuntary bladder contractions, and decreased urethral closure pressure led to UUI. UUI is also more common in elderly persons because to neurological diseases such Parkinson's disease, stroke, and dementia that alter bladder function brain control. Diabetes and cardiovascular disease in this age range might worsen bladder

function and incontinence. Certain bladder-controlling drugs and diminished mobility and dexterity might make handling urge sensations harder for the elderly. These variables make UUI more likely in people over 70 than other urinary incontinence kinds.

The results of this study found that there were significant differences between types of urinary incontinence and sex. This explained that the highest percentage (69.2%) of male's patients have urge urinary incontinence compared to other types, and more than 95% of females have SUI and MUI. These results agreed with the previous study reported that SUI has been reported to be the most common kind of female incontinence in research from wealthy nations (58). While MUI is more common in older women, it is also the most common type of incontinence in younger women.

(59) (11). This can explain that UUI is mostly connected to overactive bladder syndrome, which is more frequent in males and may lead to BPH and prostate surgery. Bladder outlet blockage and detrusor over activity might cause UUI's frequent, rapid urination (60).

In this study, only 1.2% of UUI patients were high professional. At same time 91.8% of UUI patients were unskilled workers. This result is in agreement with the study findings done in Tanzania (42) which reported that low percentage of UUI patients were business. Also, this result is in agreement with the study findings done in Brazil (30) reported that most of UUI patients were retired.

There were significant differences between types of urinary incontinence and marital status (P. value=0.031). This result is in agreement with the study findings done in Saudi Arabia (61) which found that grades of urinary incontinence differed significantly according to participants' marital status, with those married or widowed having the highest prevalence of severe incontinence (8.5% and 19%, respectively; $p < 0.001$). These findings were in line with several research that found age, female sex, and marital status to be the factors linked to UI (62) (63) (64). The study's findings show that there was a highly significant difference in the age at which diseases first appeared between males and girls.

(P. value <0.001). This explained that the onset of disease advanced age of men is higher significant compared to women. These findings are in accordance with those reported by (65), who reported that risk factors for urinary incontinence among women in Jeddah were older age

## CONCLUSION

The current study demonstrated that most patients with UI have prevalence of urinary incontinence. Also, this study explained that advanced age in women and men, have Educating the public about urinary incontinence through the mass media could go a long way in reducing the stigma associated with this problem.

## REFERENCES


1. McDaniel C, Ratnani I, Fatima S, Abid MH, Surani S. Urinary incontinence in older adults takes collaborative nursing efforts to improve. Cureus. 2020;12(7).
2. Chachan TAKA, Huda Farhan, Shatha Hamed. Determination of Irisin, Body Mass Index, and Other Biochemical Parameters in a Sample of Iraqi Type II Diabetic Patients. J Tech. 2022;4(3):53–9.
3. Batmani S, Jalali R, Mohammadi M, Bokaee S. Prevalence and factors related to urinary incontinence in older adults women worldwide: a comprehensive systematic review and meta-analysis of observational studies. BMC Geriatr. 2021;21(1):1–17.
4. Nygaard IE, Shaw JM. Physical activity and the pelvic floor. Am J Obstet Gynecol. 2016;214(2):164–71.

5. Ahmed Mahdi Habeeb, Atta Ah Mousa Al-Sarray, Ali Hussein Al Hafidh, Rafah Sabah Barrak, Afraa Brahim. Assessment of Vitamin D3 Level Among a Sample of Type 2 Diabetic Patients Attending Diabetes and Endocrinology Center in Al-Hilla City. J Tech. 2023;5(3):207–12.
6. Al Hafidh AH. Clinical and Epidemiological Aspects of Ankylosing Spondylitis Patients in a Single Center in Baghdad. J Tech. 2022;4(1):62–6.
7. Pizzol D, Demurtas J, Celotto S, Maggi S, Smith L, Angiolelli G, et al. Urinary incontinence and quality of life: a systematic review and meta-analysis. Aging Clin Exp Res. 2021;33:25–35.
8. Yağmur Y, Gül S. Urinary incontinence in women aged 40 and older: Its prevalence, risk factors, and effect on quality of life. Niger J Clin Pract. 2021;24(2):186–92.
9. Moon S, Chung HS, Kim YJ, Kim SJ, Kwon O, Lee YG, et al. The impact of urinary incontinence on falls: A systematic review and meta-analysis. PLoS One. 2021;16(5):e0251711.
10. Van Loon AB, Almousa S. A comprehensive review was conducted to determine the prevalence of urine incontinence and the risk factors related with it in middle-aged and nulliparous women. (2018) Maturitas 107:78–83.
11. A review of the literature on the prevalence, risk factors, and quality of life in Turkish women with urine incontinence was conducted by Basak T, Kok G, and Guvenc G. (2013) Int Nurs Rev. 60(4): 448–60.
12. Shahid SM, Alsaadi AHL, Kamber HM, Abdulmottaleb QA, Mohammed RH, Abdul-Hameed SAM, et al. The Impact of Stress Urinary Incontinence Duration on the Development of Bladder Outlet Obstruction Signs in Urodynamic Studies. 19(2):180–4 in Al-Kindy Coll Med J. 2023.
13. Daniel WW, Cross CL. Biostatistics: a foundation for analysis in the health sciences. Wiley; 2018.
14. Ahmed HM, Osman VA, Al-Alaf SK, Al-Tawil NG. Prevalence of urinary incontinence and probable risk factors in a sample of kurdish women. Sultan Qaboos Univ Med J. 2013;13(2):269.
15. Milsom I, Gyhagen M. The prevalence of urinary incontinence. Climacteric. 2019;22(3):217–22.
16. Shaw C, Wagg A. Urinary incontinence in older adults. Medicine (Baltimore). 2017;45(1):23–7.
17. Cao C, Zhang C, Sriskandarajah C, Xu T, Gotto G, Sutcliffe S, et al. Trends and racial disparities in the prevalence of urinary incontinence among men in the USA, 2001–2020. Eur Urol Focus. 2022;8(6):1758–67.
18. Lau HH, Su TH, Huang WC. Effect of aging on lower urinary tract symptoms and urodynamic parameters in women. Taiwan J Obstet Gynecol. 2021;60(3):513–6.
19. Neki N. Urinary incontinence in elderly. J Krishna Inst Med Sci Univ ISSN. 2016;2231–4261.
20. Gibson W, Wagg A. Incontinence in the elderly,'normal'ageing, or unaddressed pathology? Nat Rev Urol. 2017;14(7):440–8.
21. Yavuz M, Etiler N. Addressing urinary incontinence by gender: a nationwide population-based study in Turkiye. BMC Urol. 2023;23(1):205.
22. Abufaraj M, Xu T, Cao C, Siyam A, Isleem U, Massad A, et al. Prevalence and trends in urinary incontinence among women in the United States, 2005–2018. Am J Obstet Gynecol. 2021;225(2):166-e1.
23. National Institute of Health. National Institute of Health. 2024. Urinary incontinence.
24. Wang Q, Wan XY, Lin CQ, Que YZ. 9584 women in a region of Southeast China participated in an epidemiological survey to determine the prevalence, risk factors, and effects of female urine incontinence on life. Health Policy Risk Management. 2023; 1477–1487.
25. Steenstrup B, Le Rumeur E, Moreau S, Cornu JN. Sedentary and urinary incontinence in women: a review of the literature. Progrès en Urol. 2018;28(17):973–9.
26. Murukesu RR, Singh DKA, Shahar S. Urinary incontinence among urban and rural community dwelling older women: prevalence, risk factors and quality of life. BMC Public Health. 2019;19:1–11.
27. Sacomori C, Negri NB, Cardoso FL. Incontinência urinária em mulheres que buscam exame preventivo de câncer de colo uterino: fatores sociodemográficos e comportamentais. Cad Saude Publica. 2013;29:1251–9.

28.Knorst MR, Resende TL, Santos TG, Goldim JR. The effect of outpatient physical therapy intervention on pelvic floor muscles in women with urinary incontinence. Brazilian J Phys Ther. 2013;17:442–9.

29. Sensoy N, Dogan N, Ozek B, Karaaslan L. Prevalence rates, risk factors, and quality of life effects of female urinary incontinence. J Med Sci Pakistan. 2013;29(3):818.

30.Moser AD de L, Nogueira N do V, Thomé BI, Paz LP. Prevalence of urinary incontinence subtypes in women. Fisioter em Mov. 2022;35:e356012.

31. Urinary incontinence in older Turkish women: prevalence, risk factors, and impact on daily life activities. Kaşıkçı M, Kılıç D, Avşar G, \irin M. 2015;61(2):217–23; Arch Gerontol Geriatr.

32.Manonai J, Wattanayingcharoenchai R, Sarit-Apirak S, Vannatim N, Chittacharoen A. Prevalence and risk factors of anorectal dysfunction in women with urinary incontinence. Arch Gynecol Obstet. 2010;281:1003–7.

33.Lin Y, Lin Y, Wu I, Chang Y. Urinary incontinence and its association with socioeconomic status among middle-aged and older persons in Taiwan: a population-based study. Geriatr Gerontol Int. 2021;21(2):245–53.

34.Alsannan B, Alharmi J, Alrahal F, Al Mansoor S, Tulandi T. Prevalence and Quality of Life among Overweight and Obese Women with Different Severity and Types of Urinary Incontinence. Med Princ Pract. 2024;33(1):47–55.

35.Stephenson J, Smith CM, Kearns B, Haywood A, Bissell P. The association between obesity and quality of life: a retrospective analysis of a large-scale population-based cohort study. BMC Public Health. 2021;21:1–9.

36.Al-Sayegh NA. Urinary Incontinence in Kuwait: Prevalence and Risk Factors of Men and Women Nowall A Al-Sayegh1, Al-Batool Leri 2, Amna Al-Qallaf3, Hanan Al-Fadhli4 & Shouq Al-Sharrah5. Int J Health Sci (Qassim). 2014;2(4):47–57.

37.Lai HH, Helmuth ME, Smith AR, Wiseman JB, Gillespie BW, Kirkali Z. Relationship between central obesity, general obesity, overactive bladder syndrome and urinary incontinence among male and female patients seeking care for their lower urinary tract symptoms. Urology. 2019;123:34–43.

38. Greendale GA, Johnson WO, Ye J, Waetjen LE, Feng WY, Sampselle CM, et al. variables linked to both worsening and improving postmenopausal urine incontinence. Gynecol Obstet. 2008;111(3):666-77.

39. Dallosso HM, Matthews RJ, Donaldson MMK, McGrother CW, Group LMRCIS. A longitudinal research in women examined the relationship between stress incontinence and overactive bladder and food and other lifestyle factors. 2003;92(1):69–77; BJU Int.

40.Hasdemir Ö, Akova I, Kılıç E, and Ekici Kosaroglu N. The factors affecting women's prevalence of urinary incontinence and the way it affects their sexual quality of life. J Clin Pract Res. 2024;46(1):32–40.

41. Christensen K, Gaist D, Rohr G, and Kragstrup J. An investigation of the genetic and environmental factors influencing urine incontinence in middle-aged and older Danish population-based twin studies. 83(10):978–82; Acta Obstet Gynecol Scand. 2004.

42.Masenga GG, Shayo BC, Msuya S, Rasch V. Urinary incontinence and its relation to delivery circumstances: A population-based study from rural Kilimanjaro, Tanzania. PLoS One. 2019;14(1):e0208733.

43.Kogan MI, Zachoval R, Özyurt C, Schäfer T, Christensen N. Epidemiology and impact of urinary incontinence, overactive bladder, and other lower urinary tract symptoms: results of the EPIC survey in Russia, Czech Republic, and Turkey. Curr Med Res Opin. 2014;30(10):2119–30.

44.Nitti VW. The prevalence of urinary incontinence. Rev Urol. 2001;3(Suppl 1):S2.

45.Khandelwal C, Kistler C. Diagnosis of urinary incontinence. Am Fam Physician. 2013;87(8):543–50.

46.Dutoglu E, Soysal P, Smith L, Arik F, Kalan U, Kazancioglu RT, et al. Nocturia and its clinical implications in older women. Arch Gerontol Geriatr. 2019;85:103917.

47.Denys M, Decalf V, Kumps C, Petrovic M, Goessaert A, Everaert K. Pathophysiology of nocturnal lower urinary tract symptoms in older patients with urinary incontinence. Int J Urol. 2017;24(11):808–15.

48.Muscatello DJ, Rissel C, Szonyi G. Urinary symptoms and incontinence in an urban community: prevalence and associated factors in older men and women. Intern Med J. 2011;31(3):151–60.

49. Yang DY, Lee WK. A current perspective on post-micturition dribble in males. Investig Clin Urol. 2019;60(3):142.
50. DeMaagd GA, Davenport TC. Management of urinary incontinence. Pharm Ther. 2012;37(6):345.
51. Johnson II TM, Vaughan CP. Urological function and dysfunction in aging: diagnosis and treatment. Handb Clin Neurol. 2019;167:495–509.
52. Kirk JS. Urinary Incontinence in the Pre-Menopausal Woman and Impact on Quality of Life. Molloy University; 2022.
53. Babu T. Relationship between quality of life, physical activity and gestation week in pregnant women. Lietuvos sporto universitetas.; 2017.
54. Panicker JN, Fowler CJ, Kessler TM. Lower urinary tract dysfunction in the neurological patient: clinical assessment and management. Lancet Neurol. 2015;14(7):720–32.
55. Woodward S. Bladder and Bowel Health. Redfern's Nurs Older People. 2023;315.
56. Vijayalakshmi M. Factors influencing urinary incontinence in elderly and its impact on quality of life. Madras Medical College, Chennai; 2017.
57. Amano T, Earle C, Imao T, Takemae K. Are urge incontinence and aging risk factors of erectile dysfunction in patients with male lower urinary tract symptoms? Aging Male. 2016;19(1):54–7.
58. Schreiber Pedersen L, Lose G, Høybye MT, Elsner S, Waldmann A, Rudnicki M. Prevalence of urinary incontinence among women and analysis of potential risk factors in Germany and Denmark. Acta Obstet Gynecol Scand. 2017;96(8):939–48.
59. Cerruto MA, D'Elia C, Aloisi A, Fabrello M, Artibani W. Prevalence, incidence and obstetric factors' impact on female urinary incontinence in Europe: a systematic review. Urol Int. 2013;90(1):1–9.
60. Dmochowski RR, Gomelsky A. Overactive bladder in males. Ther Adv Urol. 2009;1(4):209.
61. Alshehri SZ, Abumilha AK, Amer KA, Aldosari AA, Shawkhan RA, Alasmari KA, et al. Patterns of urinary incontinence among women in Asir Region, Saudi Arabia. Cureus. 2022;14(1).
62. Female urine incontinence in the west of Turkey: prevalence, risk factors, and quality of life impact (Kocak I, Okyay P, Dundar M, Erol H, Beser E). In 2005, Eur Urol. 48(4):634–41.
63. Bele SD, Bodhare TN, and Valsangkar S. an epidemiological investigation of urine incontinence and its effects on the quality of life of rural women 35 years of age and older. 2010;26(3):353–8; Indian J Urol.
64. Ge J, Yang P, Li X, Wang Q, Zhang Y, and Lu Y. A population-based investigation on the prevalence and risk factors of urine incontinence in Chinese women. Journal of Public Health Asia-Pacific, 2015;27(2):NP1118–31.
65. Al-Badr A, Brasha H, Al-Raddadi R, Noorwali F, Ross S. Prevalence of urinary incontinence among Saudi women. Int J Gynecol Obstet. 2012;117(2):160–3.