ORIGINAL ARTICLE

THE FREQUENCY, TYPES AND RISK FACTORS OF URINARY INCONTINENCE IN WOMEN PRESENTING TO THE GYNAECOLOGY OUTPATIENTS OF A TERTIARY CARE HOSPITAL

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ABSTRACT

Objectives: To determine the frequency, types, and risk factors of urinary incontinence in women presenting to the Gynaecology outpatient department of a tertiary care hospital

Materials and Methods: This was a cross-sectional study conducted at the consultants' clinics of Lady Reading Hospital, Peshawar, from October 2019 to September 2020. Five hundred and sixty women aged more than 18 years were interviewed through a questionnaire. The questionnaire contained information regarding Age, Parity, BMI, and types of Urinary Incontinence. Data were analyzed using SPSS-23 where frequencies and percentages were used for categorical variables and mean and SD for numerical variables.

Results: The overall frequency of urinary incontinence was 32.5% (n=182) and showed an increasing trend with age, BMI and parity. The mean age of the sample was 56.16 years (±9.67), mean BMI of 30.10 kg/m2(±4.29),and mean parity of 4.49 (±1.39). The final logistic regression model showed that increasing age [OR: 0.9 95% CI: 0.6–1.49], BMI more than 30 kg/m2 (OR 0.63, 95% CI: 0.43–0.94), and mean of six children delivered (OR 0.95 95% CI: 0.59–1.53) were associated with increased odds of having urinary incontinence. The distribution of urge urinary incontinence, stress urinary incontinence and mixed urinary incontinence was 40.11% (n=73), 35.71% (n=65), 24.73% (n=45) respectively.

Conclusion: Almost one-third of the women attending consultant gynecological clinics had some form of urinary incontinence. The severity of urinary incontinence was associated with age, BMI, and parity.

Key words: urinary incontinence, Age, Parity, BMI

This article may be cited as: Fahim F, Fahim WB, Zahoor F. The frequency, types and risk factors of Urinary Incontinence in women presenting to the Gynaecology outpatients of a Tertiary Care Hospital. J Med Sci 2021 October;29(4):273-276

INTRODUCTION

Urinary incontinence is a common problem affecting women in the middle age as well as in the peri and postmenopausal age group [1,2]. The International Continence Society (ICS) has defined urinary incontinence as "the complaint of any involuntary leakage of urine" [3,4]. Severe urinary incontinence might have a significant effect on women's lives[5,6], but even mild urinary incontinence can distinctively affect daily life. Based on symptoms, urinary incontinence is mainly divided into stress incontinence, urge incontinence, and mixed symptoms.

Prevalence estimates for urinary incontinence are extremely varied even in the international literature. This variation has been attributed to the different definitions of urinary incontinence, different characteristics of the studied population, and different data collection methods e.g. postal questionnaire, reporting personal interviews, or clinical assessment[7,8]. Prevalence rates are varied between 12% and 53% in a review of 48 epidemiology studies[9]. A study in 2016 showed a median prevalence of 27.6% in urinary incontinence among females of different non-institutional populations[10]. There is a lack of significant studies on the Pakistan population which gives an epidemiological outlook to this problem. It is however of value to determine the spectrum of urinary incontinence in our population.

Certain factors influence the development of urinary incontinence in females. It has been found that age, education, reproductive history, BMI, chronic medical diseases, personal and social factors have a direct or indirect effect on urinary incontinence[11].

The lack of any robust data on the prevalence of urinary incontinence in our population led us to conduct this cross-sectional study. The main objective of this study was to determinethe frequency, types, and risk factors of

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Date received: 03-04-2021
Date revised: 03-10-2021
Date accepted: 27-12-2021

urinary incontinence in women presenting to the Gynaecology outpatient department of Lady Reading Hospital Peshawar.

MATERIAL AND METHODS

This cross-sectional study was conducted among women attending consultants` clinics in the Outpatient Department of Gynaecology, Lady Reading Hospital, Peshawar. The study was conducted from October 2019 to September 2020. The protocol was approved by the Ethical Board Medical Teaching Institution, Lady Reading Hospital, Peshawar.

The participants were enrolled in the outpatient department Lady Reading Hospital, Peshawar. The study report included all women aged >18 years. Urinary incontinence was defined as leakage of urine at least once during the past four weeks as described by the International Continence Society (ICS). [12]

Data was collected using a questionnaire by the consultants and nurses working with the consultants in OPD and clinics. During the personal interview, the study was explained and informed consent was taken. Pregnant women were excluded from the study. Data were analyzed using SPSS-23 where frequencies and percentages were used for categorical variables and mean and SD for numerical variables.

RESULTS

A total number of 560 consecutive women were eligible for recruitment, October 2019 to September 2020. One-hundred and eighty-two women gave a history that they had experienced urinary incontinence in the last four weeks, giving an overall prevalence of 32.5%.

The mean age of patients was 56.16 years (±9.67), had a mean BMI of 30.10 kg/m^2(±4.29), and delivered a mean number of 4.49(±1.39) children. The incontinent women were older (56.16 years vs 36 years), had a higher BMI (30.10 kg/m^2 vs 26.8 kg/m^2), and delivered more children (4.49 vs 4.0) than continent women. Independent two-sample T-test was used to calculate P-values (Table-I)

The overall frequency of urinary incontinence in the study group was 32.5%. It showed an increasing trend with an increase in age, BMI, and parity. In the final logistic regression model, age 60–69 years. [OR: 0.9 95% CI: 0.6–1.49], BMI more than 30 kg/m^2 (OR 0.63, 95% CI: 0.43–0.94) and mean of six children delivered (OR 0.95 95% CI: 0.59–1.53) were associated with increased odds of having urinary incontinence. (Table No.3)

The type of urinary incontinence was evaluated in women presenting with incontinence of urine. The distribution of urge urinary incontinence, stress urinary incontinence and mixed urinary incontinence was 40.11% (n=70), 35.71% (n=65) and 24.73% (n=45), respectively. Urge urinary incontinence and stress urinary incontinence was predominant in women aged 55 years (±9.30), whereas mixed urinary incontinence was more prevalent in older women (P= .04). Women with urge incontinence had higher BMI.

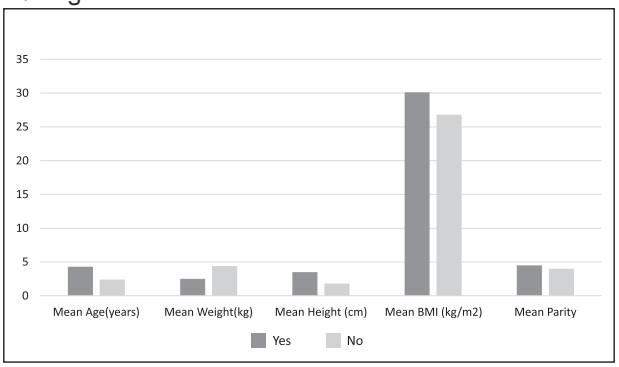

Fig 1: Demographic characteristics of participants

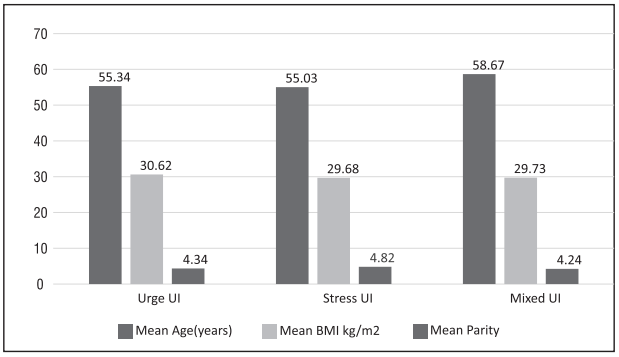

Fig 2: Urinary incontinence and clinical and demographic characteristics

Table 1: Demographic characteristics of the participants (Total=560)

	Variables	Urinary Incontinence		P. Value
		Yes (n = 182)	No (n = 378)	
1	Mean Age (Year)	56.16 (±9.67)	36	0.00
2	Mean Weight (kg)	71	67	
3	Mean Height (cm)	157.48	158.60	
4	Mean BMI (kg/m2)	30.10 (±4.29)	26.8 (±4)	0.00
5	Mean Parity	4.49 (±1.39)	4 (±1)	0.00

Table 2: Frequency of urinary incontinence to clinical characteristics

Age (Years)	Numbers (560)	Percentage	Odds Ratio (95%CI)
18–29	23	4.34 (1)	1
30–39	67	16.41 (11)	0.23 (0.03–1.9)
40–49	112	20.53 (23)	0.76 (0.34–1.68)
50–59	162	40.74 (66)	0.38 (0.22–0.66)
60–69	173	41.61 (72)	0.96 (0.62–1.49)
70+	23	39.13 (9)	1.11 (0.46–2.7)
BMI (kg/m2)			
< 25	119	16.8 (20)	1
25–30	238	31.93 (76)	0.43 (0.25–0.75)
≥ 30	203	42.36 (86)	0.63 (0.43–0.94)
Parity			
1	20	10% (2)	1
2–3	173	23% (40)	0.37 (0.08–1.66)
4–5	267	38% (101)	0.49(0.32–0.76)
6+	100	39% (39)	0.45 (0.59–1.53)

Table 3: Urinary incontinence and clinical and demographic characteristics

	Urge UI	Stress UI	Mixed UI
Mean Age (Years)	55.34 (19.30)	55.03 (±10.57)	58.67 (±8.97)
Mean BMI (kg/m2)	30.62 (±3.60)	29.68 (±4.76)	29.73 (±4.66)
Mean Parity	4.34 (±1.26)	4.82 (l 1.61)	4.24 (±1.15)

DISCUSSION

This cross-sectional study assessed the frequency of urinary incontinence in women > 18 years and the clinical characteristics of women presenting with different types of UI. Overall 32.5% experienced UI at least once per month. The frequency of urinary incontinence increased with age, BMI and parity. Urge incontinence was the commonest type of urinary incontinence, followed by stress urinary incontinence and mixed urinary incontinence.

There have been very few studies assessing prevalence rates of female urinary incontinence in local literature. Most of the local literature shows a wide prevalence range of 11.5% and 44.4% [13,14,15]. Our findings are consistent with the above mention studies. In Pakistan, life expectancy is lower as compared to other regions of the world, as a result lesser number of elderly women were part of the cohort. However, early age of menopause and less frequent use of hormone replacement therapy makes our population more vulnerable to lower urinary tract dysfunction.

Even international literature assessing prevalence rates of urinary incontinence gives a range between 24.5% and 49.7%[16-20]. A Turkish study using a validated questionnaire indicated a 25.8% prevalence rate in women over 20 years of age[18], which was similar to a French study [(1)] showing a prevalence rate of 26.8%. The prevalence rate of 26.3% was reported in the community developing Australian women over 20 years of age[19]. Abramas et al. reported 25% overall and 7% severe urinary incontinence at a similar age group in Norwegian women[20]. The overall prevalence rates (32.5%) were higher than the above studies but lower than France (44%), Germany (41%), and UK (42%)[20].

In the present study, the rate of urinary incontinence increased with age, BMI, and increasing parity. Indeed age > 50years, BMI > 25kg/m^{2,} and delivery of more than 3 children were the most predictive factors. These risk factors confirm those described in the literature [21,22].

In our sample, urge incontinence was the predominant form of urinary incontinence, followed by stress urinary incontinence and mixed urinary incontinence. The highest rate of urge urinary incontinence was found in women aged 70 years and more.

Stress urinary incontinence was predominant before the age of 70 years, while mixed urinary incontinence was more common in the age range of 60–69 years. The highest rate of stress incontinence was in women between 30–39 years of age. These findings are in agreement with French[1] and a Turkish Study[3]. Local literature however shows stress urinary incontinence as most commonly reported subtypes.

Similar to age, BMI and parity were significant variables in the prevalence of urinary incontinence. Parity was the main risk factor for stress urinary incontinence whereas BMI was a significant variable in urge urinary incontinence[15].This validates the findings in a study done at Agha Khan University Hospital, Karachi. They have also evaluated the effect of mode of delivery on prevalence of stress urinary incontinence. They found it is the pregnancy rather than mode of delivery which contributes to the development of stress urinary incontinence. Our study demonstrated that urinary incontinence is widespread in women attending gynecological clinics.

A few limitations of the present study should be considered. First, this study was dependent on patients' history and no tool was used to confirm it objectively. Moreover, it is a single-center study involving mostly the Pathan population. Further multicenter studies with more objective evidence of UI are required to strengthen the prevalence of this condition at the national level.

CONCLUSION

Almost one-third of the women attending consultant gynecological clinics had some form of urinary incontinence. The severity of urinary incontinence was associated with age, BMI, and parity.

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CONFLICT OF INTEREST: Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE: NIL

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Fahim F: Concept/ Idea, Literature, review, Drafting & Final Review

Fahim WB: Manuscript Writing, Literature review, Analysis & Interpretation of Data

Zahoor F: Concept/idea, Literature review, Drafting & Final Review

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.