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A STUDY TO ESTIMATE THE PREVALENCE OF URINARY INCONTINENCE IN WOMEN AGED ABOVE 40 YEARS VISITING A TERTIARY CARE HOSPITAL AT THE FOOTHILLS OF THE HIMALAYAS

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ABSTRACT

Background: Urinary Incontinence (UI) is a highly prevalent condition with negative impact on quality of life. There has been a growing interest in UI with social implications for the individual sufferer.

Aims & objectives: The study aimed to assess the prevalence of UI and to analyze the clinical and demographic profile related to it.

Materials & methods: A cross-sectional observational study was designed to estimate the prevalence of UI in women aged above 40 years attending outpatient department of Obstetrics and Gynecology in a tertiary care hospital located at the foothills of the Himalayas. They were screened for urinary incontinence with the help of a standardized questionnaire (ICIQ-UI Form) after obtaining informed consent. 32% (48/102) of the

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women reported that they suffered from UI.28 (19% of total), women had Stress Urinary Incontinence SUI); 12(8% of total participants) women had Urge Urinary (UUI) Incontinence and 8 (5% of total) women had Mixed UI. Therefore, out of the total sufferers of UI, 58% had SUI, 25% had UUI and 17% had mixed UI.

Conclusion: The statistics estimated in this study reflects the hidden problem as only the tip of the iceberg. The increase in mean life expectancy of women warrants intense survey to tackle this public health problem of UI.

Keywords: Urinary Incontinence.

INTRODUCTION

Urinary incontinence (UI) is defined as the demonstrable involuntary leakage of urine that is hygienically and/or socially unacceptable to the patient. [1,2]. At the time of urination, the urinary bladder muscles contract and the sphincters around the urethra relax forcing urine out of the urethra. Incontinence occurs when the urinary bladder muscles contract but the sphincters fail to shut the urethra, resulting in leakage ofurine[3].It can be further classifiedinto:*Stress Urinary Incontinence* (SUI), *Urge Urinary Incontinence* (UUI) and *Mixed Urinary Incontinence*. Stress UI- this is the most common and occurs to increased intra- abdominal pressure (e.g. coughing, sneezing, laughing, lifting heavy objects)[8]. It may be due to loss of support in the bladder neck and urethra during increased intra-abdominal pressure resulting in urethral hyper-mobility and due to weakening of the urinary sphincter resulting in intrinsic sphincter deficiency. Urge UI involves the detrusor muscle ofthe bladder. It occurs due to detrusoroveractivity, poor detrusorcompliance, bladderhypersensitivity. Mixed UI is the more common in older women [9]. It occurs when stress urinary incontinence and urge urinary incontinence present together.

It is a common problem in elderly women[4] with widespread human and social implications such as shame, depression, pressure sores, sleep disturbances, urinary tract infections and, sometimes, social ostracisation of the sufferer, primarily due to lack of awareness, thus, affecting their quality of life. Patients feel inhibited to report this problem for fear of public embarrassment.

There is limited data focusing on the epidemiology of UI in women from Asian countries whereaslarge scale studies have been conducted on the women of western countries [5].This problem is more common in women because pregnancies, vaginal deliveries and menopause affect the bladder, urethra and muscles of the pelvic floor. During childbirth, the muscles

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might be weakened or damaged. Elderly women may be more affected due to hormonal changes during menopause. In addition, the urethra in women is shorter and any damage to it may cause incontinence. Urinary incontinence has been identified as a health priority by World Health Organization [6].According to the American Urological Association [10], one-quarter to one-third of men and women in the USA experience urinary incontinence. UI is more common among women than men. An estimated 30% femalesaged 30-60 years are thought to suffer from it. The prevalence of UI among older women has been reported in different studies, with an overall prevalence of 14% in US studies [11,12]. In European

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studies, the prevalence was estimated at 37% [13,14].

In India, few studies have been conducted regarding the prevalence of urinary incontinence. However, in the study conducted by Uma Singh et al, frequency of UI was seen to be 22% [15]. In a study conducted by Biswas et al in a rural health facility in women above 50 years, the prevalence was found to be 27%.[16]

Studies clearly show the significance of UI in certain populations, however, this particular population in the foothills of Himalayas as in this study has not been specifically targeted. As many women in such a population take part in weight bearing work and bear multiple children with reduced birth spacing, this population needs to be targeted to study the prevalence of UI. The rationale behind opting to conduct the survey at a tertiary care hospital located peripherally (at the foothills of the Himalayas) is mainly due to the lifestyle of women in such areas. It is well known that these women, due to lack of awareness, go through repeated childbirths with significantly reduced birth spacing. Moreover, their everyday lives may comprise performing numerous activities, including lifting heavy objects, whether to run their household, or as a part of daily labour. Furthermore, access to health services is not optimal in these resource limited areas. Research on neglected yet socially relevant health problems, especially related to women health is an urgent need. With this background the study was conducted to assess the prevalence of UI and its associated factors in women aged above 40 years attending an Obstetrics and Gynaecology OPD in a tertiary care hospital.

ISSN: 0975-3583, 0976-2833 VOL16, ISSUE 01, 2025

MATERIALS AND METHODS

Study design, setting and population: This observational study with cross-sectional design was conducted over a period of two months from April to June, 2021ina tertiary care hospital at the foothills of the Himalayas in West Bengal, India. All women aged above 40 years attending the Out Patient Department were screened for urinary incontinence with the help of a standardized questionnaire after obtaining informed consent.

Sample size and sampling technique: A purposive sample of 150 patients were consecutively chosen based on the selection criteria.

Inclusion criteria: Women (nulliparous and multiparous) above 40 years of age attending the study facility during the study period and gave informed consent were included.

Exclusion criteria: Pregnant women, or women having any genital malignancy or having any intra-abdominal or pelvic space-occupying lesion: benign (e.g. fibroid) or malignant, or with chronic comorbid conditions like diabetes mellitus, asthma, chronic kidney disease, or with neurological and psychological diseases or with serious illness, were excluded.

Data Analysis: For statistical analysis, data was entered into a Microsoft Excel spreadsheet and then analysed. Continuous data were presented in the form mean, median mode. Categorical data was summarized as count and percentages in tables, pie chart and bar graphs.

Ethics: Institutional Ethics Committee approval (Memo No. IEC/NBMC/2020-21/52) was obtained at the inception. Informed consent was obtained from the participants prior to enrollment in the study in their preferred language.

RESULTS

Table 1: Distribution of type of Urinary Incontinence among incontinent women (N=48)

Type of Urinary incontinence	No. of patients	% of UI population
Stress	28	58%
Urge	12	25%
Mixed	8	17%

Study findings revealed that out of the 150 women who participated in the survey, 48

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women, almost one third of the participants had some type of urinary incontinence (UI).

ISSN: 0975-3583, 0976-2833 VOL16, ISSUE 01, 2025

Hence, 32% of the women reported that they suffered from UI and 68% of women reported no UI. Reportedly, 28 women had Stress Urinary Incontinence (19% of total), 12 women had Urge Urinary Incontinence (8% of total) and 8 women had Mixed Urinary Incontinence (5% of total). Therefore, out of the total women having urinary incontinence, 58% had SUI, 25% had UUI and 17% had MUI. Thus, it was seen that the prevalence of SUI was highest. Among these 48 women, 30 (63%) of them reported that they did or had done weight bearing work on a daily basis whereas 18 (37%) of them reported that they had a sedentary lifestyle. Out of the total 150 women who participated in this survey, 87 had reached menopause whereas 63 had not. Of the 87 women who had reached menopause, 33 were reported to have UI. This showed that 53% of women with menopause had some type of UI. On the other hand, out of the 63 women who did not reach menopause, only 15 had UI. This meant 24% of women who had not reached menopause in our study reported UI.

DISCUSSION

In this cross-sectional study, a few determinants of UI were analysed. The prevalence of urinary incontinence in women aged above 40 years in this study population in a tertiary care hospital was found to be 32%. This corroborated with the findings of Prabhu and Shanbhag [20] (25.5%) and Seshan and Muliira [21] (33.8%). There are studies which have reported a higher or a lesser prevalence which may be due to a different study population and demographic.

The prevalence of stress, urge and mixed were found to be 19%, 8% and 5% respectively in this study. Thus, stress urinary incontinence was the commonest type. This was consistent with the epidemiological studies of UI in India which also found SUI to be the commonest type in women.[15]

It was seen that women doing weight bearing work were at a greater risk of developing UI. Studies have shown that the SUI is more common in women doing weight bearing work. [22] Urine leaks due to increase in intra-abdominal pressure.

Urinary incontinence was much higher in women who had vaginal deliveries. However, since most women in our study population had vaginal deliveries, this should not be viewed as a correlation.

This association could only be considered if the study had equal number of women with vaginal deliveries and with Caesarean sections. It should be noted, however, that child birth

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is a key determinant of UI and its association with child birth or postpartum is more than 60% in incontinent women.[23] Vaginal deliveries may damage and weaken the bladder, urethra and pelvic floor muscles which may result in incontinence.

The study also showed that more women after menopause develop UI. The chosen demographic in this study was women above 40 years of age.

Majority of these women had already reached menopause. However, on separating the menopausal women from the non-menopausal ones, it was seen that the percentage of menopausal women who developed UI was far more than non-menopausal women. This could be due to the fact that hormonal changes after menopause may cause weakening of the pelvic muscles and loss of bladder control leading to UI.

It was also seen that the severity of the condition increased with age. This is in corroboration with the studies conducted by etc. [24, 25].

The sample size of this study was small and targeted a particular age group. The data was self- reported. A more thorough study with a larger sample size targeting women of all age groups should be carried out along with the associations between the various risk factors for urinary incontinence in India in the coming years.

CONCLUSION

Urinary Incontinence is highly distressing to the patient. The problem increases with age. The statistics estimated in this study reflects the hidden problem as only the tip of the iceberg. Due to increase in mean life expectancy of women, this problem of urinary leakage is soon going to be a public health burden.

A lot more research is required to understand and establish management options. Awareness regarding UI in addition to knowledge about the magnitude of the problem and the available treatment options is essential to improve the quality of life of women universally. This will help to formulate future strategies by health care providers to curtail the miseries of the sufferers.

ISSN: 0975-3583, 0976-2833 VOL16, ISSUE 01, 2025

REFERENCES

1. American College of Obstetricians and Gynecologists. Urinary incontinence in women. Obstetrics and gynecology. 2005 Jun;105(6):1533-45.
2. Sandvik H, Hunskaar S, Vanvik A, Bratt H, Seim A, Hermstad R. Diagnostic classification of female urinary incontinence: an epidemiological survey corrected for validity. Journal of clinical epidemiology. 1995 Mar 1;48(3):339-43.
3. DeLancey JO, Trowbridge ER, Miller JM, Morgan DM, Guire K, Fenner DE, Weadock WJ, Ashton-Miller JA. Stress urinary incontinence: relative importance of urethral support and urethral closure pressure. The Journal of urology. 2008 Jun;179(6):2286-90.
4. Goode PS, Burgio KL, Richter HE, Markland AD. Incontinence in older women. Jama. 2010 Jun 2;303(21):2172-81.
5. Singh U, Agarwal P, Verma ML, Dalela D, Singh N, Shankhwar P. Prevalence and risk factors of urinary incontinence in Indian women: A hospital-based survey. Indian journal of urology. 2013 Jan 1;29(1):31-6.
6. Agarwal BK, Agarwal N. Urinary incontinence: prevalence, risk factors, impact on quality of life and treatment seeking behaviour among middle aged women. International Surgery Journal. 2017 May 24;4(6):1953-8.
7. Jayachandran C. Prevalence of stress, urge and mixed urinary incontinence in women. Masters Theses and Doctoral Dissertations. 2007 Jan1:228.
8. Nygaard IHeit M. Stress urinary incontinence Obstet Gynecol2004104607-620. 2. Nygaard I, Heit M. Stress urinary incontinence. Obstet Gynecol. 2004; 104:607-20.
9. Steers WD. Pathophysiology of overactive bladder and urge urinary incontinence. Reviews in urology. 2002; 4(Suppl 4):S7.
10. Roberts RO, Jacobsen SJ, Jacobson DJ, Reilly WT, Talley NJ, Lieber MM. Natural history of prostatism: high American Urological Association Symptom scores among community-dwelling men and women with urinary incontinence. Urology. 1998 Feb 1; 51(2):213-9..
11. Suskind AM, Cawthon PM, Nakagawa S, Subak LL, Reinders I, Satterfield S, Cummings

ISSN: 0975-3583, 0976-2833 VOL16, ISSUE 01, 2025

S, Cauley JA, Harris T, Huang AJ, Health ABC Study. Urinary incontinence in older women: the role of body composition and muscle strength: from the health, aging, and body composition study. Journal of the American Geriatrics Society. 2017 Jan; 65(1):42-50.

12. Marques LP, Schneider IJ, Giehl MW, Antes DL, d'Orsi E. Demographic, health conditions, and lifestyle factors associated with urinary incontinence in elderly from Florianópolis, Santa Catarina, Brazil. Revista Brasileira de Epidemiologia. 2015 Jul; 18:595-606.

13. Stickley A, Santini ZI, Koyanagi A. Urinary incontinence, mental health and loneliness among community-dwelling older adults in Ireland. BMC urology. 2017 Dec; 17:1-9.

14. Suhr R, Lahmann NA. Urinary incontinence in home care: a representative multicenter study on prevalence, severity, impact on quality of life, and risk factors. Aging clinical and experimental research. 2018 Jun; 30:589-94.

15. Singh U, Agarwal P, Verma ML, Dalela D, Singh N, Shankhwar P. Prevalence and risk factors of urinary incontinence in Indian women: A hospital-based survey. Indian journal of urology. 2013 Jan 1; 29(1):31-6.

16. Biswas B, Bhattacharyya A, Dasgupta A, Karmakar A, Mallick N, Sembiah S. Urinary incontinence, its risk factors, and quality of life: A study among women aged 50 years and above in a rural health facility of West Bengal. Journal of mid-life health. 2017 Jul 1; 8(3):130-6.

17. JL D. Symptom and quality of life assessment. Incontinence: 2nd International Consultation on Incontinence, 2002. 2002.

18. Timmermans L, Falez F, Mélot C, Wespes E. Validation of use of the International Consultation on Incontinence Questionnaire-Urinary Incontinence-Short Form (ICIQ-UI-SF) for impairment rating: a transversal retrospective study of 120 patients. Neurourology and urodynamics. 2013 Sep; 32(7):974-9.

19. Avery K, Donovan J, Peters TJ, Shaw C, Gotoh M, Abrams P. ICIQ: a brief and robust measure for evaluating the symptoms and impact of urinary incontinence. Neurourology

ISSN: 0975-3583, 0976-2833 VOL16, ISSUE 01, 2025

and Urodynamics: Official Journal of the International Continence Society. 2004; 23(4):322-30.

20. Prabhu SA, Shanbhag S. Prevalence and risk factors of urinary incontinence in women residing in a tribal area in Maharashtra, India.
21. Seshan V, Muliira JK. Self-reported urinary incontinence and factors associated with symptom severity in community dwelling adult women: implications for women's health promotion. BMC women's health. 2013 Dec; 13:1-8.
22. Wyman JF, Fantl JA, McClish DK, Harkins SW, Uebersax JS, Ory MG. Quality of life following bladder training in older women with urinary incontinence. International Urogynecology Journal. 1997 Jul; 8:223-9.
23. Worlanso A, Shimray AS. Quality of life and health-seeking behaviour of women with postpartum urinary incontinence. Asian Journal of Nursing Education and Research. 2020; 10 (3):298-304.
24. Trutnovsky G, Rojas RG, Mann KP, Dietz HP. Urinary incontinence: the role of menopause. Menopause. 2014 Apr 1; 21 (4):399-402.
25. Jackson SL, Scholes D, Boyko EJ, Abraham L, Fihn SD. Predictors of urinary incontinence in a prospective cohort of postmenopausal women. Obstetrics & Gynecology. 2006 Oct 1; 108(4):855-62.