



Original Article

Frequency of Different Types of Urinary Incontinence and Their impact on Quality of Life of Pakistani Women

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ABSTRACT

The International Continence Society (ICS) defines Incontinence of urine as involuntary loss of urine. **Objective:** To determine the frequencies of different types of incontinence of urine and their impact on quality of life of Pakistani women. **Method:** Descriptive observational study was conducted at outpatient department of five centers. Three validated questionnaires were used for quality-of-life assessment, International Consultation Incontinence Questionnaire Short Form (ICIQ-SF), Medical Outcome Study 36 items Short Form (SF-36) and King's Health Questionnaire (KHQ). **Result:** The study included 436 women. The most frequent type of incontinence of urine was mixed (n=281, 64.45%) followed by stress incontinence (n=129, 29.59%) and urge incontinence (n=26, 5.96%). The women suffering from mixed type of incontinence of urine had maximum effect on quality of life both general and specific. **Conclusions:** All types of incontinence of urine had an effect on quality of life but the mixed type had more impact.

INTRODUCTION

The International Continence Society (ICS) defines Incontinence of urine as "involuntary loss of urine". Incontinence of urine is classified into three types. SUI (Stress Urinary Incontinence) which is defined as involuntary loss of urine due to increased intra-abdominal pressure due to exertion. UUI (Urge Urinary Incontinence) is defined as loss of urine after a desire of urination is developed, and MUI (mixed Urinary Incontinence) when both these types are present. The management of urinary incontinence is always challenging. For the proper

evaluation and treatment of women who are suffering from incontinence of urine and to evaluate its effects on quality of life, a correct diagnosis is necessary [1,2]. Apart from this fact different studies show that about 12.4 % of women of younger age [3], post-menopausal and middle age women show 45 % [4] and among women of older age, 75 % are suffering from some kind of urinary incontinence [5]. Most of the women with incontinence of urine are psychologically stressed, depressed, emotionally disturbed and socially isolated [6]. Considering this, it is

recommended by the ICS (International Continence Society) to include quality of life assessment into clinical practices. Different questionnaires are being used to assess quality of life in the last decades by emergence of valid questionnaires for different pathologies [7]. There are different studies which are carried out in Pakistan about incontinence of urine and its adverse effects on quality of life of patients. But these studies are usually single centered with less number of patients [8]. The purpose of this study was to calculate frequencies of different types of incontinence of urine and their impact on quality of life of Pakistani women attending different centers by using three different validated questionnaires.

METHOD

This study is descriptive observational conducted at outpatient departments of Urology at Sughra Shafi Medical Complex Narowal, Gynae Unit III of SIMS Lahore, CMH Lahore, Jinnah Hospital Lahore and LGH Lahore. All centers deal with urogynaecology and tertiary care and referral centers. Quality of life assessment in incontinence of urine is routinely performed in these centers. All patients coming to these centers were included in the study. As recommended by ICS (International Continence society) detailed information was taken from the patient involving socio demographic, obstetric and gynecological data and urinary symptoms. A complete physical examination and relevant investigations were carried out to make a diagnosis and establish the types of incontinence of urine. Before starting any medicine, the assessment of quality of life was carried out by a valid questionnaire. Three different kinds of validated questionnaires used in this study, SF-36 (Medical Outcomes Study 36-items Short Form Health Survey) [9], KHQ (King's Health Questionnaire) [10] and ICIQ-SF (International Consultation Incontinence Questionnaire Short Form) [7]. Patients coming from first July 2019 to 31 January 2020 were inducted in the study at all centers. The women above 18 years of age who can give their consent were inducted in the study. Data was recorded on a Performa at outpatient department. The patients suffering with incontinence of urine were divided into three different groups according to their type. The SPSS version 20 was used for statistical analysis. Descriptive data was analyzed with relative and absolute frequencies. Total scores of each questionnaire were analyzed by using the median, 25th and 75th quartiles. For analysis of categorical data, the Chi-Square test was used. A p value less than or equal to 0.05 was considered as statistically significant.

RESULTS

A total of 436 patients with urinary incontinence who reported and consented in outpatient departments of both hospitals were included in the study. The most prevalent

urinary incontinence was MUI (N=281, 64.45%), after that SUI (N=129, 29.59%) and UUI (N=26, 5.96%). The range of age of the patients was from 18 to 67 years. The SUI was more in younger patients while UUI was more in older group. By considering the gynecological and obstetric history it was observed that the patients with multiple numbers of pregnancies and deliveries had more UUI and MUI. In post menopausal patients the UUI was more. For the general assessment of quality of life of patients, the questionnaire SF-36 was used with a score ranging from 0 to 100 (Figure 1). Out of eight domains of questionnaire five showed differences. Considering the perception of patient about General Health, Mental Health, Vitality, body aches and Physical Activity, patients who are suffering from MUI had worse scores as compared with other types ($p \leq 0.05$). By using ICIQ-SF questionnaire, the frequency of urinary incontinence was from once daily or once a week was 67.6% and 55.9% (Figure 2). The patients suffering from MUI showed that the complaint of urinary incontinence is between most of times in a day to every time in a day (75.2%, $p \leq 0.01$). While considering volume of loss of urine during incontinence, which was evaluated by ICIQ-SF, all patients of all groups reported that there was a little volume of urine was lost which showed that there was no significant difference between the volume of urine lost among these groups ($p \leq 0.05$) (Figure 2). Patients with MUI showed more negative effect on daily life and showed higher score in the total score as compared with SUI. By using KHQ for assessment of specific quality of life, there was difference in eight domains out of nine (Figure 3). The quality of life was worse as compared to SUI (both presented with same score). Only in the domain of measurement of severity of incontinence, all groups showed different results from each other and MUI showed worse results.

Variables	SUI, n = 129, 29.5%	UUI, n = 26, 5.9%	MUI, n = 281, 64.45%	P value
Age (Years)	45 (36.6-49.2)	66 (54.5-75.0)	52 (45.5-63.0)	0.01
Schooling in years	9 (5.0-12.0)	7.5 (3.0-12.0)	6 (3-10)	0.07
Family income Rs/Per month	10,000 (37000-4000)	13280 (42000-8000)	10765 (36000-7000)	0.34
Menopause	61	20	287	0.01
Co-morbidities	98	18	207	0.31
No. of day time urination	5 (4-8)	5 (4-10)	8 (5-10)	0.01
No. of night time urination	2 (1-2.7)	2 (1-3)	3 (2-4)	0.01

Table 1: Distribution of type of incontinence of urine in relation to socio-demographic characteristics

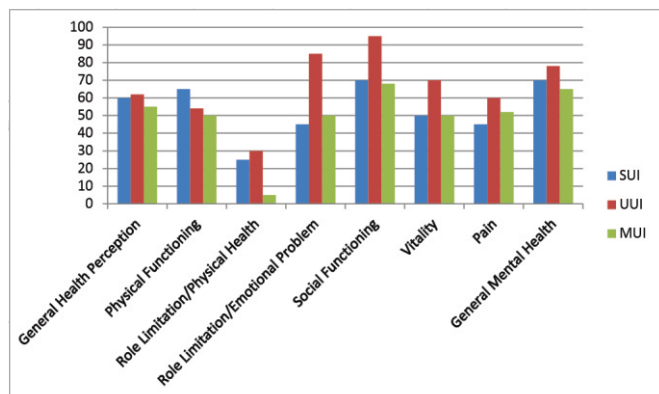


Figure 1: Median scores of the SF-36, among different types of urinary incontinence

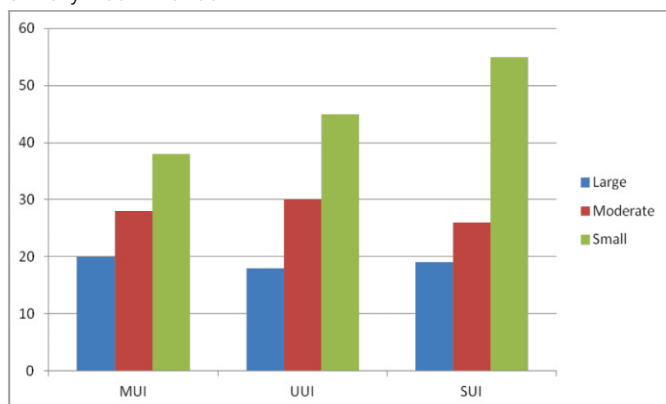


Figure 2: Amount of urinary losses among different types of UI using the ICIQ-SF

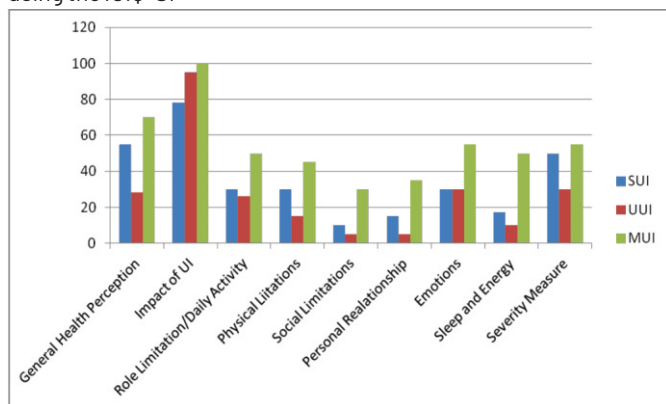


Figure 3: Median of scores of KHQ domains in different types of urinary incontinence

DISCUSSION

The gynecological-obstetric and socio demographic characteristics of all the participants are same as found in other studies of similar kind [11,12]. The women suffering with Mixed urinary incontinence are older than other types of urinary incontinence [13]. In a large survey conducted in Norway, among 27923 women, it was found that SUI was more common among young patients [14]. The relationship between factor due to an obstetric history and causation of stress urinary incontinence is quite clear [15]. As

mentioned in another study, 656 women suffering from incontinence of urine the association of obstetric history was less with UUI and MUI [16]. Some common diseases present in middle aged women have been related to Urge incontinence. A study based on larger population showed that Diabetes Mellitus is a risk factor and the patients suffering from urinary incontinence with Diabetes Mellitus have a reduced chance of urinary incontinence remission [16]. Some studies of urinary incontinence mentioned Systemic Arterial Hypertension and Diabetes Mellitus as important risk factor [7,12]. Considering the type of incontinence of urine, the mixed urinary incontinence was the most prevalent type as mentioned in some studies [12,15,17,18]. However, results from other studies showed that Stress urinary incontinence was more prevalent [13,19,20]. This difference in results may be due to characteristic differences of the patients included in study and the tools used for the diagnosis of incontinence of urine (Urodynamic study or Urinary complaints). However, in special units where the patients themselves approach for their symptoms, it seems that Mixed urinary incontinence is more prevalent [11,12,17]. There is scarce data in literature to assess the quality of life of patients by using different validated questionnaires. That is why the International Continence Society emphasizes on using specific questionnaire for the assessment of quality of life in patients suffering from urinary incontinence. However, both questionnaires used in this study not only allows the evaluation of mental health effects of incontinence of urine but also on general health of the patient [6]. Although it is difficult to compare the data, found in the literature, because they used different methods and questionnaires, but it is still possible to observe the impact of UI on quality of life, especially in social, mental, physical and sexual health [6,19]. In a study which deals with continence, EQ-5D (the EuroQoL-5 dimension) questionnaire was used. A significant association was found between incontinence of urine and different subscales of EQ-5D (Usual activity, Mobility, discomfort/pain and anxiety/depression) [3,22]. When another questionnaire, Beck Anxiety Inventory, was applied then it was observed that Stress urinary incontinence creates more anxiety as compared to patients with Urge incontinence and Mixed incontinence. Both of these had similar level of anxiety [19]. Another study stated, the association between severity of urinary incontinence and its type was found by using KHQ. It was found that patients suffering with MIU had 2.8 times more severe effect on quality of life of patient as compare to SIU [12]. The studies which used IIQ-7, also showed the similar results with more effect on quality of life of patient by mixed urinary incontinence [19]. Evaluation of different types of incontinence of urine by using ICIQ-SF is used in several

studies and it was observed that Mixed urinary incontinence had more effect on quality of life [6,13,21,22]. It is observed in an Arab study that patients with mixed urinary incontinence had more severe disease and had more impact on daily life [23]. In another large study comprising of 1,203 incontinent women, which was carried out in four European countries showed there is no significant change in quality of life of patients by the type of incontinence of urine. Women with higher volume of urine loss per day in several episodes of urinary incontinence had more negative effect on quality of health which was measured by the RQOL [24]. However, some studies had used other variables as quantity of loss, to show the effect of incontinence of urine rather than the different types of urinary incontinence [24,25].

CONCLUSION

It was concluded that Mixed urinary incontinence had the highest frequency. Regarding the assessment of Quality of, all women suffering with incontinence of urine, showed a negative impact on general as well as specific quality of life. However, the patients suffering from MIU showed worse results in all questionnaires used in the study.

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