Prevalence of Lower Urinary Tract Symptoms(LUTS) among general population of Central Sri Lanka.

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Abstract- The International Prostate Symptom Score (IPSS) and uroflowmetry are routine investigations used by urologists in the assessment of LUTS. The aim of this study is to assess the prevalence of LUTS among general population of Central Sri Lanka. A descriptive cross sectional study consisted of patients who attended the Out Patient Department (OPD), Teaching hospital Peradeniya Sri Lanka, who did not complain of urinary symptoms. In our study population most common lower urinary tract symptoms were urgency and nocturia. Least common symptom was straining. The average value of total IPSS was 2.12. Hence, the general population of Sri Lanka is having mild LUTS.

Index items- Lower Urinary Tract Symptoms (LUTS), International Prostate Symptom Score (IPSS), uroflowmetry,

I.INTRODUCTION

Lower urinary tract symptoms (LUTS) are a quiet common medical problem, with the increase in elderly population, it affects the quality of life of elderly people considerably. [(1)]

The symptoms can be categorized into two types such as storage or irritative symptoms and voiding or obstructivesymptoms. Storage or irritative symptoms such as increased frequency of urination, urgency of urination, painful urination and excessive passage of urine after retiring to bed in the night. (nocturia). Voiding or obstructive symptoms such as poor stream (not improved by straining), hesitancy (worsened if bladder is very full), terminal dribbling, incomplete voiding, overflow incontinence (occurs in chronic retention) and episodes of near retention.[(2)]

The causes such as benign prostatic hyperplasia(BPH) with bladder outflow tract obstruction(BOO), detrusor muscle weakness and/or instability, Urinary tract infection (UTI), chronic prostatitis, urethral stricture, urinary stones, Malignancy: prostate or bladder, neurological disease(e.g. multiple sclerosis, spinal cord injury, cauda equina syndrome) and IgG4-related prostatitis.[(3)]

The International Prostate Symptom Score (IPSS) and uroflowmetry are routine investigations used by urologists in the assessment of LUTS. IPSS is an internationally used questionnaire to assess severity of LUTS. [(4)] The scale for each symptom ranges from zero (symptom never present) to five (symptom always present). The seven symptoms are incomplete emptying, frequency, intermittency, urgency, weak stream, hesitancy and nocturia. [(5)]

Uroflowmetry has become a universal investigation that affords urologists a simple and noninvasive way of measuring and recording the urinary flow rate throughout micturition.[(6)]

According to the literature the association of LUTS and its significant impact of quality of life shows that higher the physical activities and higher the education level the prevalence of LUTS is lower.[(6)]The Long-term physical activity such as an occupation of an individual has a major influence on risk factors of lower urinary tract symptoms.[(7)]As an example; a cross-sectional representative sample of 30,377 men 45 to 79 years old in Central Sweden who completed a self-administered life-style questionnaire, including International Prostate Symptom Score questions, physical activity currently and recalled at age 30 years (work/occupation, walking, inactivity and exercise) and demographic data. A total of 6,905 men (23%) who scored 8 or more points on International Prostate Symptom Score questions were considered to have moderate or severe lower urinary tract symptoms. The results suggest that physical activity in young and late adulthood may be associated with a lower risk of moderate and severe lower urinary tract symptoms.[(8)] Hence there should be a relationship between the occupation and LUTS.

II. PATIENTS AND METHOD

A descriptive cross sectional study consisted of patients who attended the Out Patient Department (OPD), Teaching hospital Peradeniya Sri Lanka, who did not complain of urinary symptoms. The sample size was 280. Both male and female patients were studied under the age group of 25 to 65(mean age 61.55±13.56) during a three month period (20.02.2016 to 20.05.2016) by using systematic random sampling method.The patients who have done same occupations for more than two years were enrolled in this study.These patients were clinically evaluated with IPSS questionnaire by trained doctors.

The severity of LUTS was assessed by IPSS. Patients' demographic details, IPSS data were entered and evaluated using the statistical package for social sciences (SPSS) with one way ANOVA.

III. RESULTS

The study population included 280 patients between 25to 65 years. Mean age was 49.35±14.43 years. There were 117 male patients and 163female patients.

In our study population most common lower urinary tract symptoms were urgency and nocturiawhich were present in 14.35% and 14.14% of the study population. Least common symptom was straining which was seen in 0.2%. Other symptoms were poor stream1.28 %, increased frequency 5.0%, and incomplete voiding 5.85% and intermittency 2.21%.

The average value of total IPSS was 2.12. Hence, the general population of Sri Lanka is having mild LUTS. The highest value of IPSS was 17 and lowest was 0.

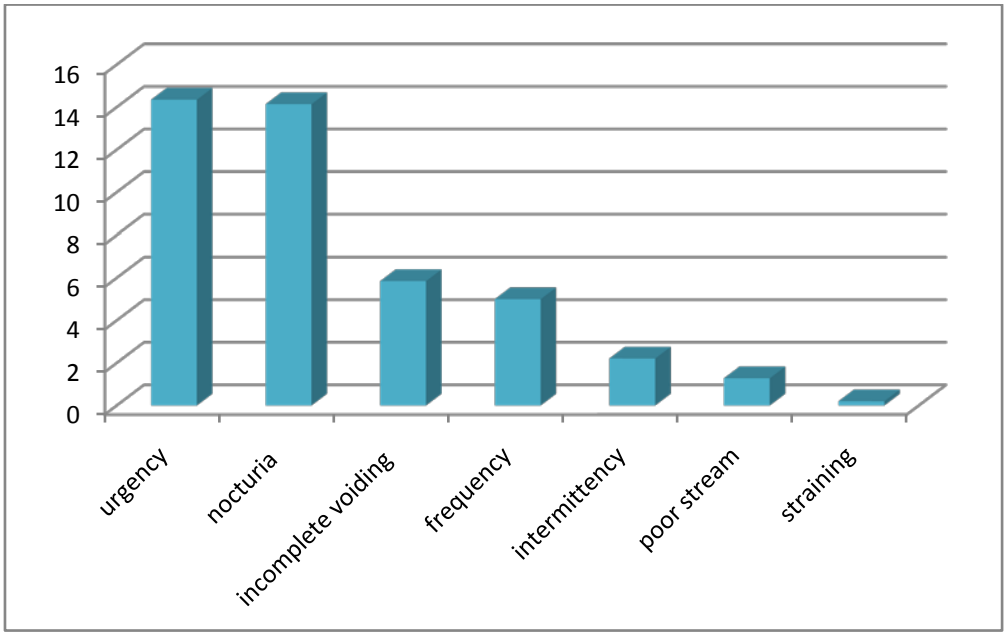

Figure01- Prevalence of LUTS symptoms among the population

Table 01-Severity of LUTS

Age range	Presentation (%)			Severity of LUTS(%)	
	Total	Male	Female	Male	Female
20-30	10.54	51.6	48.38	2.10	2.50
30-40	18.70	49.69	50.91	1.31	4.08

40-50	18.36	31.48	68.52	1.25	4.32
50-60	24.15	38.02	61.98	8.25	9.80
60-70	23.12	47.05	52.95	8.84	9.30

IV. DISCUSSION

Lower urinary tract symptoms (LUTSs) are prevalent worldwide. An estimated 45.2% of the 2008 worldwide population aged ≥20 years are affected by at least one LUTS.[11] Large-scale population-based survey has reported that LUTS prevalence increases with advancing age up to 60% at the age of 60 years.[12]Thus this has become an important medical concern in both adult and elderly population. In the same this condition has acquired a broad medical concern as LUTS has a significant impact of quality of life. Because of these reasons LUTS have been subjected to many studies to assess its various aspects including epidemiology, etiology, clinical evaluation and treatments. Evaluation and treatment of LUTS for the general population have incurred significant costs to the health care system.[13]

Lifestyle-related risk factors include a raised Body Mass Index (BMI) with obesity in females doubling the risk of development of all major subtypes of urinary incontinence (UI) across all age groups.Pelvic floor (PF) health is an important component of an individuals' overall health; symptoms of dysfunction are a costly health burden. PF dysfunction affects people of all ages and both genders with a higher prevalence consistently reported in older people and females. According to the results of our study,prevalence of LUTSwas higher in females than male population. And severity of LUTS showed a steady increase with age in females in contrast to reduction in the severity of LUTS between the ages of 30 to 50 in males.

Other investigated associations for females include menopause and oral oestrogen use during the postmenopausal period, both linked to an increased incidence of UI (7). It can be also concluded from our study which shows higher severity of LUTS among females. Genetic considerations and surgical procedures may affect pelvic tissue integrity and subsequently the development of symptoms of PF dysfunction.

Quantification of the impact of symptoms of PF dysfunction in workforce groups requires a measure of workforce-related outcomes. 'Work productivity' depends on where employees are at work but unable to perform at their usual or expected level (7). In an internet survey of 2,876 male and 2,820 female workers in the United States (US), overactive bladder (OAB) was associated with lower levels of work productivity (8). Urinary urge incontinence (UUI) has been associated with substantial personal and employer economic burden (10). Further, UI increased an individual's risk of work disability in a US follow-up study of 4511 of women aged between 54–l65 years enrolled in the 'Health and Retirement Cohort' (9). These findings indicate the potential impact of PF dysfunction in a workforce. Knowledge of symptom prevalence, associations and impact will assist in informing policy for worker health promotion and determine gaps in knowledge to direct future research. No such review of literature was currently available.(3.)

Nocturia has been proven to have a negative impact on the quality of life and sleep quality in general elderly population. However, there are limited studies on the quantitative effect of nocturia on sleep quality and daytime dysfunction, specifically in patients with lower urinary tract symptoms.One of the study said that, in patients with lower urinary tract symptoms, nocturia number increased with age and was significantly correlated with poor sleep quality. Nocturia plays an important role in patients younger than 65 years in daytime dysfunction.(14)

The International Continence Society defines nocturia as the need to void one or more times during the night, with each of the voids preceded and followed by sleep. Nocturia has the following two main causes: increased nocturnal urine volume and vesical instability.(14) As one of the most common complaints in patients with lower urinary tract symptoms (LUTS), nocturia is reported to negatively affect the quality of life and quality of sleep.(15,16) Since its prevalence and severity increase with age. (17) the negative effect of nocturia on the elderly requires more attention. Jensen et al. reported that 25% of falls experienced by older individuals occur during the night and 25% of these occur when the individual is waking up to void.

In a another study conducted to investigate the prevalence of LUTS in adolescents and effects of psychotropic substance use. They found that Lower urinary tract symptoms are prevalent in the general adolescent population. It is important to obtain an accurate history regarding psychotropic substance use when treating teenagers with lower urinary tract symptoms. In our study, we did not include this aspect in the questionnaire.

V. CONCLUSION

Most common lower urinary tract symptoms were urgency and nocturia .Least common symptom was straining. The general population of Sri Lanka is having mild LUTS. There was a steady increase of LUTS with advancing age in females.

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