

## Pattern of Lower Urinary Tract Symptoms in Males Aged Forty Years and Above: Results from Screening of Apparently Healthy University Workers

<sup>1</sup>Ima-Abasi E. Bassey, <sup>2</sup>Edoise M. Isiwele, <sup>3</sup>Sunday E.Eyam, <sup>2</sup>David E. Ushie, <sup>4</sup>Nchiewe E. Ani, <sup>4</sup>Anthonia A. Ikpeme, <sup>4</sup>Affiong I. Ngaji,

<sup>1</sup>Department of Pathology, University of Calabar Teaching Hospital, Nigeria

<sup>2</sup>Department of Surgery, University of Calabar Teaching Hospital, Nigeria

<sup>3</sup>Department of Chemical Pathology, University of Calabar Teaching Hospital, Nigeria

<sup>4</sup>Department of Radiology, University of Calabar Teaching Hospital, Nigeria.

\*Corresponding Author: <sup>2</sup>Edoise M. Isiwele,

**ABSTRACT:** Lower urinary tract symptoms (LUTS) in men are common in urological practice and are common reasons for presentation at clinics and emergency rooms for evaluation and treatment worldwide. The pattern of LUTS in Calabar, South southern Nigeria is not well documented. This study was carried out to determine the prevalence and assess the pattern of LUTS in apparently healthy men aged 40 years and above using the IPSS questionnaire. Sixty one men were recruited into the study. The mean age was 52.02 years with age range of 40 – 66 years. Over eighty three percent of the men (83.6%) had mild symptoms, 11.5% had moderate and 4.9% had severe symptoms. Nocturia was the most common symptom and symptom severity was found to increase with age ( $p > 0.001$ ). Thus, the prevalence of mild to moderate lower urinary tract symptoms was found to be high in this cohort of patients with severity increasing with age. Efforts at increasing awareness about the condition and its management should be intensified.

**Keywords:** Apparently healthy, IPSS, Lower urinary tract symptoms, Screening

### I. INTRODUCTION

Lower urinary tract symptoms (LUTS) are a significant cause of morbidities and occur in 15% to 60% of men older than 40 years of age with the prevalence rising markedly with increasing age.[1,2] The prevalence of moderate-to-severe lower urinary tract symptoms was found to be 25.4% in a population of men greater than 40 years of age in a study carried out by Ezeanyika et al[3] in South Eastern Nigeria. Olaopa et al[4] in South Western Nigeria reported 66%, 20% and 6% of the respondents in their study to have mild, moderate and severe symptoms respectively. Little information on the frequency of LUTS is available in South-Southern Nigeria and more so in our locality, Calabar.

The most commonly used measures of LUTS in clinical practice are the American Urological Association Symptom Index (AUASI) and the International Prostate Symptom Score (IPSS). The IPSS adds a question on the global impact of LUTS on quality of life to AUASI and has been internationally validated. The AUASI and IPSS are reliable quantitative instruments for determining the severity of urinary symptoms in men.[1] The IPSS scoring system is used in grading seven lower urinary tract symptoms which are frequency, urgency, nocturia, weak stream, intermittency, straining and incomplete bladder emptying. A score ranging from zero (no symptom) to five (symptom always present) is assigned. The total IPSS score therefore ranges between 0 and 35. Using the total IPSS score, participants are classified as having mild (IPSS=0-7), moderate (IPSS= 8-19) or severe symptoms (IPSS= 20-35).[4,5]

This preliminary study was carried out to document the frequency and pattern of LUTS among male staff of the University of Calabar using the IPSS questionnaire.

### II. SUBJECTS AND METHODS

Participants were recruited into the study at an outreach at the University of Calabar to screen for prostatic cancer. All male respondents aged 40 years and above were recruited into the study. Patients already diagnosed with prostatic diseases and on some form of treatment for such diseases were excluded from the study. Sociodemographic data were obtained from the respondents and LUTS assessed using the IPSS questionnaire. Statistical analysis was carried out using the Statistical package for social sciences (SPSS), version 16.

### III. RESULTS

Sixty one (61) men were recruited into this study with the mean age being 52.02 years and age range of 40 – 66 years. Thirty nine (about 64%) of the total number were 50 years and above (Table 1). Forty nine (80.3%) men were married and 38 (62.3%) had tertiary education (Table 1).

Nocturia was the most prevalent symptom, occurring in 39.3% of the subjects. Straining and frequency at micturition on the other hand were least prevalent, both occurring each in 16.4% of subjects (Table 2). Of the 61 subjects, 51 (83.6%) had mild symptoms while 7 (11.5%) reported moderate and 3 (4.9%) had severe symptoms (Fig.1). The prevalence of severe LUTS was found to increase with advancing age of the subjects. No subject in the 40-49 age group had severe LUTS, 7.4% of the 50-59 age group and 8.3% of those above 60 years had severe symptoms (Table 3). This association between the age group of the subjects and severity of symptoms was however not statistically significant ( $p$ -value = 0.657).

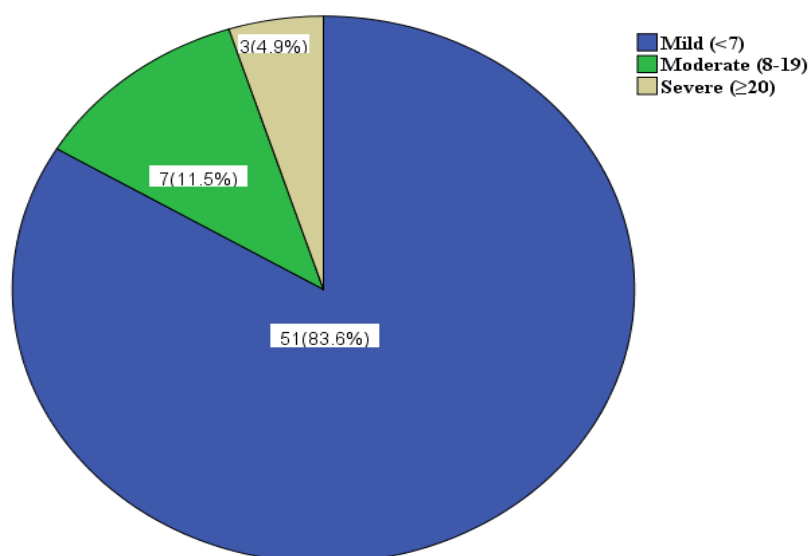
**Table 1: Socio-demographics of subjects**

| Variable                  | Frequency (n=61) | Percentage |
|---------------------------|------------------|------------|
| <b>Age group (years)</b>  |                  |            |
| 40-49                     | 22               | 36.1       |
| 50-59                     | 27               | 44.2       |
| ≥60                       | 12               | 19.7       |
| <b>Mean±SD</b>            | 52.03±7.5 years  |            |
| <b>Marital status</b>     |                  |            |
| Single                    | 12               | 19.7       |
| Married                   | 49               | 80.3       |
| <b>Level of education</b> |                  |            |
| Primary                   | 8                | 13.1       |
| Secondary                 | 15               | 24.6       |
| Tertiary                  | 38               | 62.3       |

Age range= 40-66 years

**Table 2: Prevalence of LUTS among subjects**

| LUTS                     | Frequency (n=61) | Percentage |
|--------------------------|------------------|------------|
| Nocturia                 | 24               | 39.3       |
| Urgency                  | 16               | 26.2       |
| Intermittency            | 16               | 26.2       |
| Weak urinary stream      | 15               | 24.6       |
| Bladder emptying         | 14               | 23.0       |
| Straining at micturition | 10               | 16.4       |
| Frequency                | 10               | 16.4       |



**Figure 1: IPSS Scores of Subjects**

**Table 3: Association between severity and age group**

|                          | Mild     | Moderate | Severe |
|--------------------------|----------|----------|--------|
| <b>Age group (years)</b> |          |          |        |
| <b>40-49</b>             | 20(90.2) | 2(9.1)   | 0(0.0) |
| <b>50-59</b>             | 21(77.8) | 4(14.8)  | 2(7.4) |
| <b>≥60</b>               | 10(83.3) | 1(8.3)   | 1(8.3) |

p=0.657

#### IV. DISCUSSION

Lower urinary tract symptoms can be associated with both urological and non-urological conditions. The urological conditions include benign prostate hyperplasia, prostate cancer, bladder cancer, urethral strictures and urinary tract infections.[6] They are usually the reason why many patients would present at a clinic for evaluation and treatment. The prevalence of moderate-to-severe symptoms was found in this study to be 16.4%. This is significant considering that it was an “apparently healthy” population. Olaopa et al[4] in Ibadan, Southwestern Nigeria recorded an even higher prevalence (25.9%) in a similar study carried out in a cohort of men greater than 40 years of age. The reason for the lower prevalence found in our study is uncertain but may be related to the small study population. Previous studies carried out in patients with benign prostate hyperplasia by Ezeanyika[3] and Ejike[7] had prevalence of 25.4% and 35.3% respectively in Nsukka and Umudike, both in South eastern Nigeria. These comparable values seen in “apparently healthy” men and those already diagnosed with BPH seen in clinics indicates that a significant number of males with moderate to severe symptoms still consider themselves “well” enough not to seek for care. This underscores the fact that more awareness about these symptoms and their underlying conditions should be created so that more men can seek for care appropriately to avoid the morbidities as well as mortality that could be associated with these conditions.

A higher proportion of the subjects in this study (83.3%) were mildly symptomatic with the severity of symptoms in the population found to increase with age. This is similar to the pattern observed in the Ibadan study.[4] These findings further portray the fact that a significant number of males in the general population have mild lower urinary tract symptoms and do not seek for medical attention because their quality of life is minimally affected. The age related increase in severity of LUTS recorded in our study is in keeping with previous studies and is presumed to be due to increase in prostatic diseases with increasing age.[8]

The most prevalent symptom in this study was nocturia (39.3%) which is similar to findings in many previous studies[3,8,9] and it was also considered the most troublesome by patients in these studies. The causes could be because of poor sleep patterns due to comorbidities, causing them to be awake at night and consequently to urinate more or due to nocturnal polyuria. Other causes may include excessive fluid intake and drug induced nocturnal polyuria induced by diuretics (e.g. in anti-hypertensive drugs), alcohol or caffeine.[10]

#### V. CONCLUSION

The prevalence of mild to moderate lower urinary tract symptoms in males in our environment is high with majority not seeking for medical attention. The severity of the symptoms is age related with nocturia found to be the single most prevalent symptom. The need for more education on the causes of, in addition to the need to seek for medical care for LUTS is therefore very pertinent.

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**\*Corresponding Author:**<sup>2</sup>Edoise M. Isiwele

<sup>2</sup>Department of Surgery, University of Calabar Teaching Hospital, Nigeria