



**ASSOCIATION BETWEEN LOWER URINARY TRACT SYMPTOMS (LUTS) AND
ALCOHOL CONSUMPTION AMONG A SRI LANKAN POPULATION**

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ABSTRACT

Introduction: Lower urinary tract symptoms (LUTS) have become the main presentation of urology outpatients and a predominant urological condition among different age groups of men. As a very common exposure, alcohol consumption has been investigated in several studies to identify whether it played a role in the occurrence of LUTS related diseases. **Materials and Methods:** This was a descriptive study conducted among patients with LUTS, at urology clinic, Teaching hospital, Peradeniya. Interview based questionnaire was performed with 309 patients to assess their demographic details and LUTS symptoms according to the IPSS. **Results:** In our study population, majority (52.3%) had moderate IPSS, followed by 35.4% with severe IPSS and only 12.3% having mild IPSS. Mean age of our study population was 61.69 years. When alcohol consumption is considered, our study population consisted of 10.2% patients who consume alcohol currently, 70.2% patients who are ex-alcoholic and 19.6% being non-alcoholic. In the analyses of LUTS based on alcohol drinking status, current alcohol drinkers showed lower average IPSS scores than nondrinkers. Considering the cohort of patients who consume alcohol currently, urgency and nocturia were the mostly reported symptoms regarding LUTS. **Conclusions:** New studies should be done over a large sample in different cultural and different geographical areas to get a more comprehensive understanding.

KEYWORDS: LUTS, Alcohol consumption, Sri Lanka.

INTRODUCTION

Lower urinary tract symptoms (LUTS) have become the main presentation of urology outpatients and a predominant urological condition among different age groups of men.^[1] It is associated with a considerable reduction in quality of life and interference with daily activities. LUTS include voiding or obstructive symptoms such as hesitancy, intermittency, straining, feeling of incomplete bladder emptying, and storage or irritative symptoms such as frequency, urgency, dysuria and nocturia. The severity of LUTS is best measured using quantitative symptom indices and the most widely accepted instrument for quantifying symptom severity is the American Urological Association (AUA) symptom index.^[2] LUTS can be caused by multiple conditions affecting the bladder including higher centers, nervous system, endocrine system, , drugs, mental status, detrusor over activity and the lower urinary tract, including, sphincter weakness, sensory bladder disorders, and the urethra such as strictures and benign prostatic hyperplasia (BPH).^[3]

Epidemiological evidence reveals that lifestyle patterns may be important to LUTS etiology.^[4] Constructing changes in these modifiable lifestyle factors are important because there could be a potential treatment to control non-urological origin of LUTS. Among different lifestyle factors, cigarette smoking and alcohol drinking have shown inconsistent results regarding their effects on LUTS.^[5] As a very common exposure, alcohol consumption has been investigated in several studies to identify whether it played a role in the occurrence of LUTS related diseases such as prostatitis, benign prostatic hyperplasia (BPH) and prostate cancer (PCa). Some of those studies showed that alcohol was a risk factor for prostatitis and a protective factor for BPH.^[6]

The objective of the present study was to investigate the relationship of LUTS with alcohol intake using a validated questionnaire. This study will facilitate in identifying opportunities in improving the outcomes of patient care in urology, including improvements in patient education, health policy making and treatment. Considering the importance of the effects of alcohol consumption on general health, more objective studies

are needed using large population sample to validate their relationships with LUTS.

MATERIALS AND METHODS

Methodology

This was a descriptive study conducted among patients with LUTS, at urology clinic, Teaching hospital, Peradeniya. Interview based questionnaire was performed with 309 patients to assess their demographic details and LUTS symptoms according to the IPSS.

Statistical analysis

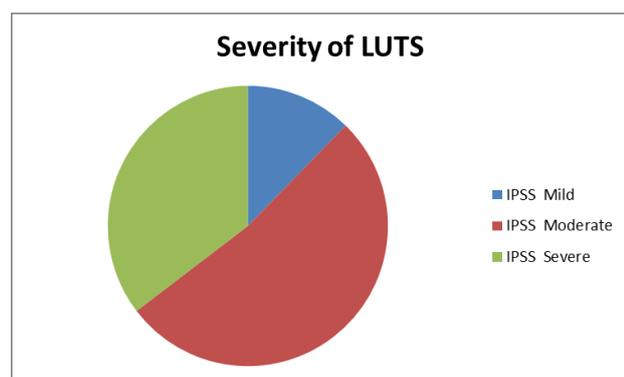
Correlation was performed to discover whether there is a relationship between variables. Statistical significance at $p < 0.05$ was accepted for all analysis. Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 20.

Definitions used in calculation of IPSS severity:^[12]

- Mild: 1 to 7
- Moderate: 8 to 19
- Severity: 20 to 35

RESULTS AND DISCUSSION

Our study population consisted of 309 patients with LUTS, majority (52.3%) with moderate IPSS, followed by 35.4% with severe IPSS and only 12.3% having mild IPSS. Mean age of our study population was 61.69 years.



According to the Dietary guidelines for Americans having up to 1 drink per day for women and

up to 2 drinks per day for men is considered as moderate alcohol consumption.^[7] When alcohol consumption is considered, our study population consisted of 10.2% patients who consume alcohol currently, 70.2% patients who are ex-alcoholic and 19.6% being non-alcoholic. Among the current alcohol consumers most of them belonged to the group of moderate alcohol consumers. In the analyses of LUTS based on alcohol drinking status, current alcohol drinkers showed lower average IPSS scores than nondrinkers.

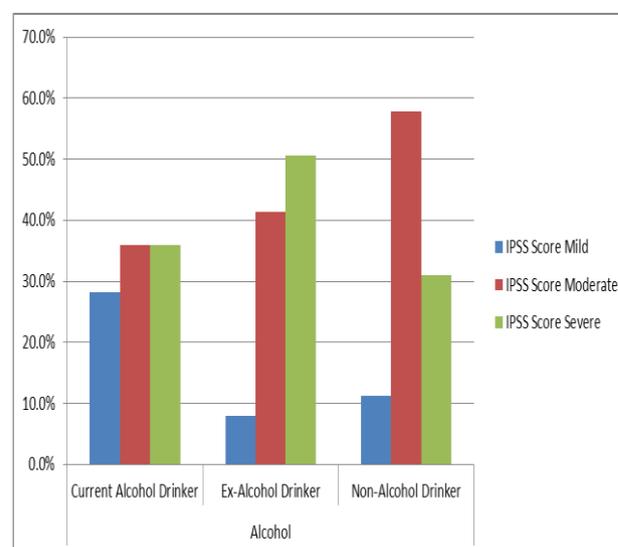


Figure 1- Relationship of the stage of LUTS with alcohol consumption.

These results were compatible with a community health survey done among South Korean men in 2019, which was done to access the lifestyle factors affecting LUTS.^[8]

Considering the cohort of patients who consume alcohol currently urgency and nocturia were the mostly reported symptoms regarding LUTS.

Table 1- Percentage of LUTS in alcohol consumers and ex-alcohol consumers.

Symptoms	Alcoholic	Ex-alcoholic	Non-Alcoholic
Incomplete evacuation	66.7	76.0	68.3
Frequency	82.1	77.3	82.5
Intermittency	69.2	74.7	73.1
Urgency	89.7	80.0	87.7
Weak stream	79.5	78.7	82.8
Straining	56.4	49.3	49.3
Nocturia	89.7	92.0	85.8

There was no sufficient evidence found in the literature to establish the prevalence of subtypes of LUTS among patients who consume alcohol. Therefore further studies are needed to establish the relationship between subtypes

of LUTS and alcohol consumption.

A large cross sectional survey done among Chinese men reveals that, moderate drinking frequency may be

protective against LUTS and drinking years did not relate to worsening or improving LUTS.^[9] A Korean community health survey done in 2020 shows alcohol having positive effect on LUTS except nocturia.^[10] Similar results were obtained in a survey done among American men which showed, moderate alcohol consumption is protective against LUTS.^[11] Identifying the trends in the alcohol consumption patterns and LUTS will generate an understanding and awareness regarding this very common lifestyle pattern and its relationship with LUTS and this will aid the healthcare practitioners and future researchers.

CONCLUSION

Our study population consisted of 309 patients with LUTS, majority (52.3) with moderate IPSS, followed by 35.4% with severe IPSS and only 12.3% having mild IPSS. Mean age of our study population was 61.69 years. When alcohol consumption is considered, our study population consisted of 10.2% patients who consume alcohol currently, 70.2% patients who are ex-alcoholic and 19.6% being non-alcoholic. In the analyses of LUTS based on alcohol drinking status, current alcohol drinkers showed lower average IPSS scores than nondrinkers. Considering the cohort of patients who consume alcohol currently urgency and nocturia were the mostly reported symptoms regarding LUTS.

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