

# Factors associated with Lower Urinary Tract Symptoms (LUTS) among Malaysian Men 40 years and above: Findings from National Health and Morbidity Survey (NHMS) 2019

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## INTRODUCTION



1. The complaint of Lower Urinary Tract Symptom (LUTS) is a common problem in older men worldwide<sup>1</sup>.
2. Studies worldwide show one in five men aged 40 and above suffer from clinical significant LUTS (International Prostate Symptom Score (IPSS) score  $\geq 8$ )<sup>2</sup>.
3. The presence of LUTS in men often results in poor quality of life especially on the urination<sup>3</sup>.
4. Increasing of age, various of lifestyles practice and medical condition had also been associated with the development of LUTS<sup>2</sup>.
5. Therefore, this study analyses the factors associated with developing LUTS among Malaysian men 40 years and above in 2019, from NHMS 2019.

## MATERIALS AND METHODS

### Data Collection

- This study was part of National Health and Morbidity Survey (NHMS) 2019: Non-Communicable Diseases, a cross sectional survey that implement a national complex survey study design for 13 states and 3 federal territories in Malaysia.
- 475 enumeration blocks (EBs) which derived to 5,676 living quarters (LQs) were selected.
- All men aged 40 years and above residing for at least two weeks in the LQs prior to data collection were eligible to participate in this survey.
- All the respondents were provided with a bilingual consent form (Malay and English) which stated the purpose of the survey and methods used.

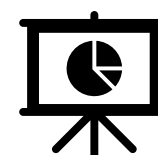
### Survey Instrument

- Structured questionnaire comprises of sociodemographic and risky lifestyles were used to collect data and was based on previous NHMS 2015<sup>4</sup>.
- Clinical assessment such as fasting blood glucose, cholesterol level, blood pressure intake and anthropometry were done by trained nurses.
- LUTS was assessed using validated self-administered Malay and English versions of the International Prostate Symptom Score (IPSS)<sup>5</sup>.
- Respondents who score  $\geq 8$  were graded as moderate to severe LUTS which considered clinical significant of having LUTS<sup>2,5</sup>.

### Statistical Analysis

- Statistical analysis was done using IBM SPSS for Windows, Version 21.0.
- Complex sample analysis was done to illustrate the prevalence by population among the men.
- Regression analysis was done to study the association of the selected factors such as age, sociodemographic, lifestyles and clinical condition towards the clinical significant of LUTS.

## RESULTS



- Prevalence of LUTS among Malaysian men was 16.3% (95%CI 14.1-18.8) with high prevalence were recorded among inactive males, 19.9% (95%CI:15.5-25.2), and aged 60 years and above, 23.9% (95%CI 19.8-28.6) (**Table 1**).
- Inactive males were significantly associated with LUTS with AOR 1.57 (95%CI: 1.23, 2.00).
- Male aged 50 to 59 years old were significantly associated with LUTS with AOR 1.49 (95% CI: 1.09,2.03) while male aged 60 years and above with AOR 2.25 (95% CI: 1.69,3.01) (**Table 2**).

Table 1: Prevalence of LUTS by demographic

Demographic	Sample (n)	Prevalence (%)
<b>LUTS</b>	<b>396</b>	<b>16.3 (14.1,18.8)</b>
Strata		
Urban	242	16.2 (13.6,18.8)
Rural	154	16.8 (13.6, 20.6)
Age (years)		
40-49	81	10.9 (8.1, 14.5)
50-59	117	16.3 (13.0, 20.2)
$\geq 60$	198	23.9 (19.8, 28.6)
Ethnicity		
Malay	250	16.1 (13.8, 18.8)
Chinese	63	14.5 (9.9, 20.7)
Indian	21	15.6 (8.9, 26.0)
Borneo	46	21.5 (14.9, 30.0)
Others	16	18.5 (8.8, 34.7)
Risk Factors		
Smoking	180	15.3 (12.5, 18.7)
Alcohol User	40	14.4 (9.4, 21.4)
BMI $\geq 25.00$	192	15.7 (13.2, 18.6)
Abdominal Obese	194	16.1 (13.5, 19.0)
Physical Inactive	126	19.9 (15.5, 25.2)
Had $\geq 2$ Comorbid	183	18.6 (15.6, 21.9)

Table 2: Factors associated with LUTS

Demographic	b	Adjusted OR* (95% CI)
Age (years)		
40-49	Reff.	Reff.
50-59	0.398	1.49 (1.09, 2.03)
$\geq 60$	0.813	2.25 (1.69, 3.01)
Risk Factors		
Physical Inactive	0.448	1.57 (1.23, 2.00)

\*Adjusted with other variables and sociodemographic

\*\*Only the significant factors were listed ( $p < 0.05$ )

## DISCUSSION / CONCLUSION

- Increasing age and physical inactive among male are associated with LUTS and been reported from other study<sup>2</sup>.
- As LUTS adversely affect the individual's quality of life, increased public awareness and availability of treatment options are needed to address this problem facing the growing number of elderly men in the population.
- Recommended to have a more in-depth investigation such as clinical profiling of subjects to be included in the next survey.

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