

## THE IMPACT OF LOWER URINARY TRACT SYMPTOMS ON HEALTHCARE

### Hypothesis / aims of study

Lower urinary tract symptoms (LUTS), which encompass storage, voiding, and postmicturition symptoms, are highly prevalent and recognized globally. Our aim was to investigate the health care-seeking prevalence and the associated subsequent risks of the outpatient visits and hospitalizations, acute cardiovascular events (stroke and acute coronary syndrome), dementia, and mental illness (anxiety and depression) among National Health Insurance enrollees in Taiwan.

### Study design, materials and methods

Data were obtained from a random population sample of about one million as a representative cohort, the National Health Insurance Research Database (NHIRD), dated from 2000 to 2009. Participants had at least three outpatient service claims with a coding of LUTS during the recruitment period 2001–2004. Both the LUTS group and non-LUTS control group were monitored for subsequent outpatient visits and hospitalizations, excluding LUTS-related healthcare services, for 2 years following the index date. In the subsequent risks of acute cardiovascular events, dementia, anxiety and depression, individuals were followed up to 2009 or till the events.

### Results

The healthcare-seeking prevalence for LUTS increased from 23.11‰ in 2000, to 38.37‰ in 2009. LUTS patients seeking medical help increased annually from 2000 to 2009 in Taiwan in this cohort study. LUTS is becoming a substantial healthcare burden as the number of aged people who want to maintain a good quality of life increases. The outpatient visit and hospitalization rates and adjusted incidence rate ratios (IRRs) (95% confidence interval (CI) were significantly higher among LUTS group, as compared with the control group, 1.31 (1.29-1.32), and 1.48 (1.40-1.58), respectively. The subsequent risk of hospitalization for acute cardiovascular events composite outcome was significantly higher among LUTS group, 1.34 (1.13-1.59), (mainly stroke, but not acute coronary syndrome). It is also associated with higher risks of dementia 1.43 (1.26-1.61); and increased risks for the healthcare seeking behaviors for anxiety and depression, 2.05 (1.92-2.19), and 2.19 (1.97-2.43), respectively.

### Interpretation of results

There are several explanations for the higher risk of outpatient visits and hospitalization and subsequent major events and mental illness. First, the incidence of comorbidities is higher among individuals with LUTS. LUTS share a number of risk factors with cardiovascular diseases. LUTS may be a syndrome of systemic disorders, rather than simply symptoms of a disease of the urinary bladder or urethra. Second, LUTS may be a precursor condition, predisposing the development of certain medical and surgical conditions. Third, poorer quality of life among people with LUTS can lower the threshold of outpatient visits and hospitalization requests, also the risks of anxiety and depression. Fourth, LUTS are also associated with disorders of autonomic nervous system, in which autonomic neuropathy is involved in the decline of cognitive function.

### Concluding message

A significantly higher number of outpatient visits and hospitalizations were observed for individuals with LUTS, and the risks of subsequent acute cardiovascular events (stroke and acute myocardial infarction), dementia, anxiety and depression, compared to the control group, and the effects differed with the advancement of age. This study broadens understanding of LUTS by viewing their impact on healthcare services with multiple and overlapping systems, rather than considering them exclusively as symptoms of traditional diseases of the bladder and urethra.

### References

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### Disclosures

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