

CROSS-SECTIONAL, INTERNET-BASED SURVEY TO ESTIMATE PREVALENCE OF LUTS IN CHINA, TAIWAN AND SOUTH KOREA (LUTS ASIA)

Hypothesis / aims of study

Few population-based data are available for evaluating the prevalence of lower urinary tract symptoms (LUTS) in Asia. This study was performed to determine the prevalence of LUTS in the population aged ≥ 40 years in China, Taiwan and South Korea, using symptom definitions approved by the International Continence Society (ICS) in 2002.

The study is registered at ClinicalTrials.gov: NCT02618421

Study design, materials and methods

This study was conducted between 2 June and 20 July 2015 as an internet-based self-administration survey among individuals aged ≥ 40 years with internet access and the ability to read the local language. All participants provided informed consent. Consumer survey panels with random sampling were used in China, Taiwan and South Korea. The panels were actively managed to ensure representation of the target population, with respect to age, sex and socioeconomic factors. In addition to questions relating to ICS symptom definitions, the survey included the international prostate symptom score (IPSS).

The primary objective was to determine the prevalence of LUTS using the ICS 2002 symptom definition. Secondary objectives included assessment of the symptom-specific bother of LUTS and exploration of the differences in LUTS prevalence across countries.

Results

Overall there were 8,284 participants, 4,136 from China, 2,068 from Taiwan and 2,080 from South Korea. Among the overall population, 51% were women; 18% were aged 40–44 years or 45–49 years, 16% were 50–54 years, 14% were 55–59 years, and 34% were ≥ 60 years.

Prevalence of LUTS (defined as presence of at least one of voiding, storage [nocturia cut-off, two or more episodes] or post-micturition symptoms) was 59% in China and Taiwan, and 68% in South Korea. All three symptom groups were present in 24% of participants in China, 18% in Taiwan and 21% in South Korea. Prevalence of storage symptoms only (i.e. absence of voiding and post-micturition symptoms) was higher in women than in men across all three countries (20–31%, compared with 11–16%, respectively).

LUTS prevalence showed a tendency to increase with age. Across men and women from all three countries, the prevalence was 50% among those aged 40–44 years, 55% in the 45–49 years group, 60% in the 50–54 years group, 64% in the 55–59 years group and 70% in those aged ≥ 60 years.

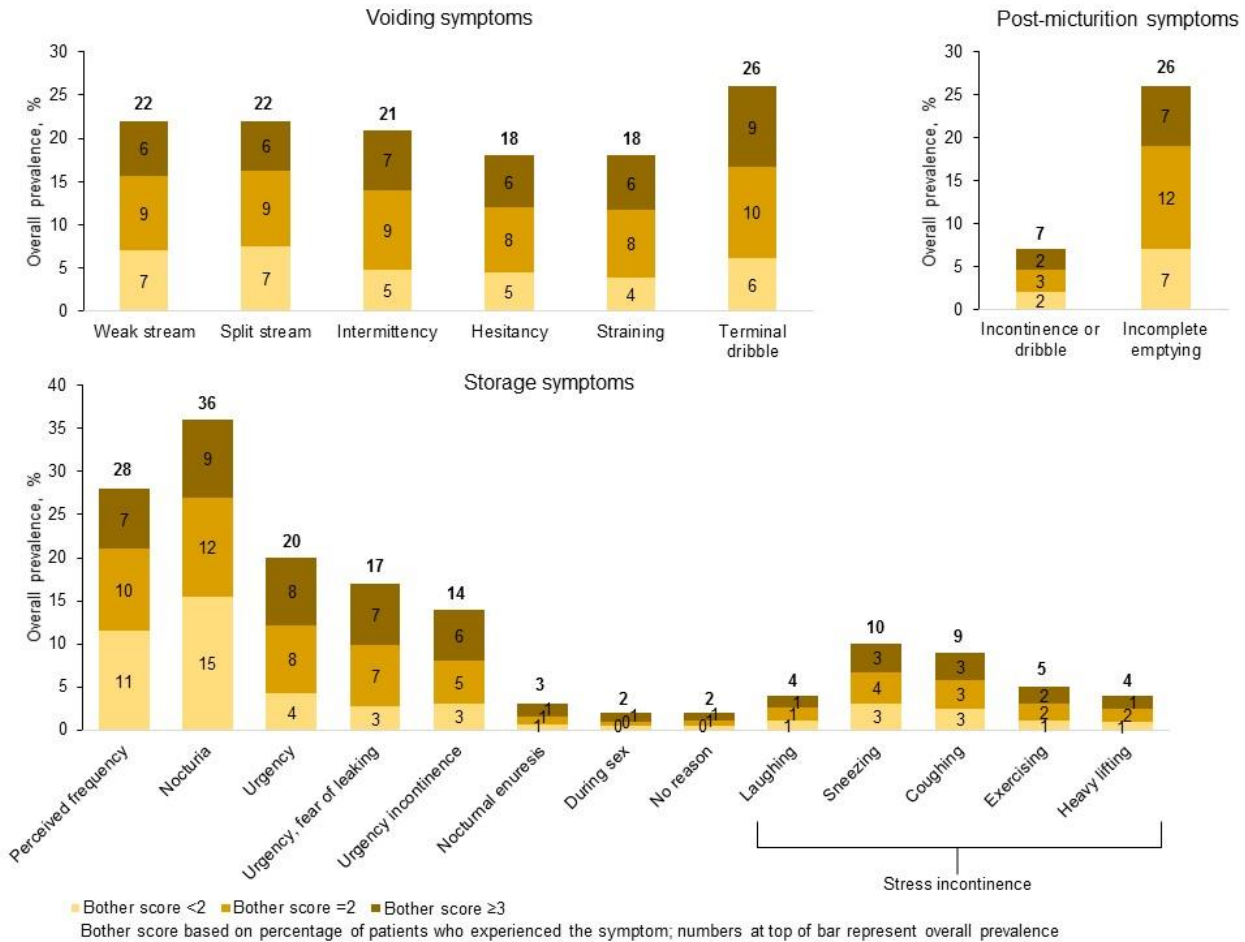
According to the IPSS questionnaire, approximately seven out of eight participants (87%) had at least mild symptoms (**Table**). China had a higher proportion of respondents with severe symptoms than Taiwan, while South Korea had a higher proportion of respondents with moderate symptoms than China or Taiwan.

Table. Overall prevalence of LUTS (men + women combined, n=8,284)

Scale/subscale	Prevalence, n (%)
ICS symptom definition	
LUTS prevalence	5,070 (61%)
IPSS questionnaire	
No symptoms (0)	1,096 (13%)
Mild symptoms (1–7)	4,371 (53%)
Moderate symptoms (8–19)	2,222 (27%)
Severe symptoms (≥ 20)	596 (7%)
At least mild symptoms (≥ 1)	7,188 (87%)

Prevalence and extent of bother caused by specific symptoms are shown in the **Figure**. Symptoms with the highest overall prevalence were nocturia, perceived frequency, incomplete emptying and terminal dribble. The most bothersome symptoms (those with the largest numbers of patients experiencing 'quite a bit or greater' bother) were terminal dribble, nocturia and urgency.

Figure. Symptoms and bother, all countries (n=8,284). Data shown are from questions relating to ICS symptom definitions



The percentage of participants visiting healthcare professionals for urinary symptoms was highest among those with voiding, storage and post-micturition symptoms (45%) and those with voiding and storage symptoms (27%); the lowest rates were seen in participants with voiding symptoms only (3%) and those with no LUTS according to ICS criteria (4%).

Interpretation of results

This study indicates that 61% of the population fulfilled the ICS criteria for LUTS, and that bothersome symptoms are common. Moreover, up to 87% of the population aged ≥40 years in China, Taiwan and South Korea may have at least mild LUTS. Our results suggest that LUTS represent a significant health burden in Asia, demanding improved diagnosis and treatment.

Concluding message

LUTS are present in the majority of the population aged ≥40 years in China, Taiwan and South Korea, constituting a significant diagnosis and treatment need.

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Disclosures

Funding: Astellas Pharma Inc. **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** As this study was based on a survey, it was not considered necessary to submit for approval by an International Review Board. However, principles of the Declaration of Helsinki were followed; the study was performed in compliance with Good Clinical Practice and all participants provided informed consent. **Helsinki:** Yes **Informed Consent:** Yes