

# Clinimetrics

*the international prostate symptom score*

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## Appraisal

## Clinimetrics: The International Prostate Symptom Score

### Summary

Lower urinary tract symptoms (LUTS) are common urological complaints<sup>1</sup> and include storage, voiding and post-voiding symptoms.<sup>2</sup> Worldwide, LUTS affect 36% of men and 17% of women aged  $\geq 40$  years.<sup>1</sup> People with LUTS often experience reduced mental and physical health.<sup>3</sup>

The International Prostate Symptom Score (IPSS), developed in 1992,<sup>4</sup> is a freely available eight-item self-administered questionnaire that measures the severity of LUTS in the past month. Despite its name, there is no specific question for male LUTS, which legitimises its use for women.<sup>5</sup> The first six items are scored on a 6-point Likert scale, ranging from '0 = not at all' to '5 = almost always', to measure severity of incomplete bladder emptying, frequency, intermittency, urgency, weak stream and straining. The seventh item on nocturia (ie, frequency of waking during sleep to urinate) ranges from '0 = none' to '5 = 5 times or more'. Summation of these items provides a total score, where 0 to 7 is generally classified as mild, 8 to 19 as moderate and 20 to 35 as severely symptomatic.<sup>4</sup> A storage subscore (IPSS-S) is derived by summation of items 2, 4 and 7, whereas items 1, 3, 5 and 6 provide a voiding subscore (IPSS-V). Not included in the total score is the eighth item on quality of life affected by LUTS, scored on a 7-point Likert scale.

It takes approximately 3 to 4 minutes to complete the IPSS.<sup>6</sup> Nonetheless, the IPSS can be difficult for patients with low levels of literacy, where assistance to complete the questionnaire is possibly needed.<sup>7</sup> Administration by a physician did not yield different IPSS total scores compared with self-administration.<sup>8</sup> A Visual Prostate

Symptom Score explains the items through pictograms, discarding its use for women.<sup>9</sup>

The IPSS has a reasonable to good internal consistency (Cronbach's  $\alpha = 0.60$  to 0.98) and good test-retest reliability (ICC = 0.59 to 0.99) for the assessment of LUTS in men and women.<sup>5,10</sup>

Moderate to strong correlations with other questionnaires like the Visual Prostate Symptom Score or International Consultation on Incontinence Questionnaires have been found, indicating the construct validity of the IPSS.<sup>11</sup> Validity of translations have been tested in 27 languages.<sup>10</sup> The IPSS-S and IPSS-V subscores have been confirmed by factor analysis.<sup>5</sup>

The criterion validity is insufficient to identify bladder outlet obstruction or benign prostatic hyperplasia in male populations, given the poor correlations between the IPSS and prostate size, obstruction grade numbers or uroflowmetry findings.<sup>12</sup> Nonetheless, the IPSS reasonably predicts the outcome of transurethral prostatectomy<sup>13</sup> or a positive prostate needle biopsy in men with prostate cancer in low to intermediate range prostate-specific antigen levels.<sup>14</sup> A voiding-to-storage (IPSS-V/S) ratio reasonably predicts failure to storage or voiding in urodynamic studies in men.<sup>15</sup> Someone with LUTS may be at higher risk of depression,<sup>16</sup> which can be reasonably predicted based on the quality of life score.<sup>17</sup> A minimally important difference of 5.2 points among men with LUTS was found in primary care after intervention compared with an anchor score.<sup>18</sup> Also, a mean difference of 4.54 points was found in a male population with improved health status after treatment.<sup>19</sup>

### Commentary

Healthcare professionals could use the IPSS, which is an easy and freely available self-administered questionnaire to evaluate the severity and changes of symptoms in people with LUTS. It has sufficient internal consistency and test-retest reliability and translations cover assessment of LUTS in 60% of the global male population.<sup>10</sup> Therefore, the IPSS is important within the clinical reasoning in patients with LUTS, together with other outcomes such as in-depth history taking, uroflowmetry or ultrasound techniques.

The IPSS has some weaknesses, as its applicability in female populations and indices of responsiveness are understudied. The criterion validity is insufficient to diagnose or predict specific target conditions. Consequently, the IPSS is unsuitable for diagnosing bladder outlet obstruction or benign prostatic hyperplasia in men, conditions for which it is frequently used and initially developed for.

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