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Abstract

The International Prostate Symptom Score (IPSS) is a worldwide frequently used questionnaire to measure severity of Lower Urinary Tract Symptoms (LUTS). It is translated in multiple languages. Aim is to demonstrate the reliability, validity and responsiveness of all translated versions of the IPSS.

A narrative literature review has been carried out. Studies describing psychometric qualities on the IPSS are included. Methodological quality is graded using Cosmin criteria list.

Only the English version demonstrates sufficient psychometric quality. Data on reliability and responsiveness is lacking in all language versions. Construct validity is poor.

Introduction

The IPSS identifies and quantifies in both men and women, severity of incomplete bladder emptying, frequency of urination, intermittency, urgency, weak urine stream, straining, nocturia and Quality of Life over the past month, on a 6-point Likert scale.

It is a free available 8-item self-report questionnaire and takes 5 minutes to fill in.

The IPSS is recommended in many national and international guidelines on urinary incontinence (e.g. the European guideline of European Association of Urology).

It is translated in many languages. Although Internal consistency is reported to be high depending in language

Report on reliability, validity and responsiveness seem to be lacking. Aim is to report on reliability, validity and responsiveness in all languages.

Are psychometric qualities sufficient to warrant use in primary care?

Methods and Materials

A narrative review is carried out in 3 databases including a search string recommended by the COSMIN to study reliability, validity and responsiveness. As part of the larger study inclusion criteria were all measurement tools to measure Bladder Outlet Obstruction (BOO) and Benign Prostate Obstruction (BPO), resulting in 5 studies on IPSS in BOO and 4 studies in BPO

Quality of published studies by means of the COSMIN screening list are taken into account

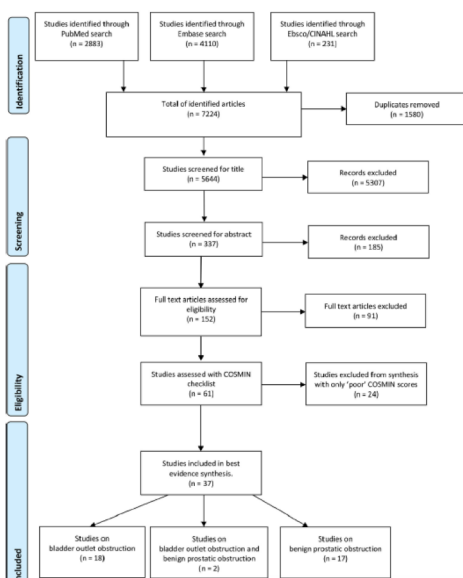


Figure 1. PRISMA flow chart of the inclusion of studies (Larger study on measurement tools for BOO and BOP, including IPSS)

Results

In total n=9, out of 5466 studies reporting on IPSS as measurement tool, n=5 to measure BOO (n=788) and n=4 to measure BPO n=1916

The Cosmin score was fair on hypotheses testing and fair to good on criterion validity



- Short questionnaire
- Free available, self to administer
- The test-retest reliability is high (intraclass correlation coefficient (ICC) = 0,80-0,95).
- The ICC for question 8, the Quality of Life question was even higher (0,91-0,99).



- Not easy to fill in for low educated
- Reasonable to good internal consistency (Cronbach's alpha= 0,70-0,83).
- Question 8, is meager to test Quality of Life.



- Measures on reliability of the instrument are not reported besides test/retest
- Consistent evidence on responsiveness is lacking
- Criterion and construct validity properties are not sufficient to measure BOO and BPO in men
- With respect to BOO: poor correlations are demonstrated between IPSS scores and maximum flow rate, postvoid residue and obstruction grade numbers (r=-0.07 to 0.06), uroflowmetry, detrusor pressure (r=0.15 to 0.18).
- With respect to BPO, all correlations were poor with prostate size, transitional zone volume and index (r=-0.17 to r=0.15). Different IPSS item-score cut-off values to indicate obstruction, demonstrate poor to moderate sensitivity (25% to 74%) and moderate to good specificity (55% to 86%) compared to uroflowmetry.

Only the English version demonstrates sufficient studies on psychometric quality, other language versions are not sufficiently underpinned

Included on BOO

Chan et al 2012
Matzkin et al 1996
Steele et al 2000
Venrooij et al 1996
Venrooij et al 2004

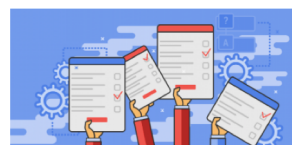
Included on BPO

Carballido et al 2011
Kwon et al 2016
Nathan et al 1996
Venrooij et al 1996

Discussion

This study is part of a larger study on measurement tools to assess BOO or BPO in men. The study is not focusing on psychometric qualities in women. It is the first narrative review on psychometric quality of the IPSS in all language versions.

Often in literature only internal consistency is reported when a language version is published. Before recommending the use of IPSS in different language versions, as in international guidelines, more studies on psychometric qualities are needed.



Conclusions

The IPSS should not be recommended to identify BOO and BPO due to poor construct and criterion validity with measures quantifying outlet obstruction

The IPSS should not be used to measure changes over time

Only the English language version is sufficiently underpinned with methodological studies. Other language versions need further studies before use.



References

Vredeveld T, van Bente E, Beekmans REPM, Koops MP, Ket JCF, Mollema J, Ramaekers SPJ, Pool JIM, Coppieters MW, Pool-Goudzwaard AL. "Reliability and validity of assessment methods available in primary care for bladder outlet obstruction and benign prostatic obstruction in men with lower urinary tract symptoms: a systematic review BMJ open 2022;12:e056234