648

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AN EVALUATION OF THE OAB-V8 USING ITEM RESPONSE THEORY

Hypothesis / aims of study
The OAB-V8 is a commonly used patient-reported outcome (PRO) instrument used to screen for and assess the severity of symptoms associated with overactive bladder (OAB). The purpose of this study was to evaluate the quality of the OAB-V8 instrument using item response theory.

Study design, materials and methods
This study conducted a secondary analysis of OAB-V8 data that was prospectively collected from patients with lower urinary tract symptoms. A Graded Response Model was used to test the OAB-V8's polytomous response options and the instrument's ability to measure the underlying construct of OAB. Item characteristic curves were used to model each item's discrimination and difficulty. Differential item functioning was used to test the need for the OAB-V8 to score males and females differently.

Results
Response data from 1,128 patients were included in this study. The Graded Response Model demonstrated that the construct of OAB was unidimensional. The OAB-V8's items demonstrated strong discrimination between levels of symptom severity. In addition, items exhibited a variety of difficulty levels, measuring a wide range of symptom bother. Differential item functioning by gender was only detected for one item, and it did not affect overall scores on the OAB-V8.

Interpretation of results
Overall, the OAB-V8 performed very well and can be considered a strong patient-reported outcome instrument. Still, some improvements to the instrument could be made. First, the two items relating to nocturia could be reduced to one. Second, the response categories for level of symptom severity could be reduced to simplify the instrument. Finally, the current scoring guidelines of adding two points to men's scores may not be justified.

Concluding message
Item response theory demonstrates that, in general, the OAB-V8 is a good instrument for clinical and evaluative purposes. Further investigation with respect to how it can be improved is warranted.