

AN OVERACTIVE BLADDER SYMPTOM AND QUALITY-OF-LIFE SHORT FORM: DEVELOPMENT OF THE OVERACTIVE BLADDER QUESTIONNAIRE (OAB-Q) SHORT FORM (SF)

Hypothesis / aims of study

The Overactive Bladder Questionnaire (OAB-q) is a multidimensional instrument that was developed to assess patient perception of symptom bother and impact on health-related quality of life (HRQL) among patients with both continent and incontinent OAB [1]. It has been psychometrically validated among diverse samples of over 2500 patients and has consistently been found to have internal consistency reliability, construct validity, and responsiveness to treatment-related change [2]. The aim of this study was to develop a shorter version of the OAB-q to reduce respondent burden while retaining its reliability, validity, and responsiveness to change.

Study design, materials and methods

The OAB-q consists of an 8-item Symptom Bother scale and 25 HRQL items that form four subscales (coping, concern, sleep, social interaction). Retrospective analyses were performed on two independent OAB patient samples: a cross-sectional (CS) population survey (n=919) and a 12-week clinical trial (n=865). Items from the Symptom Bother and HRQL scales were analyzed separately due to their inherent conceptual differences and for clinical meaningfulness. Item response theory (IRT) was used as an iterative process to mathematically describe the relationship between a patient's underlying level of the trait being measured on the same continuum (ie, OAB). Once potential items were identified in the CS survey, the IRT analysis was replicated using the baseline data from the clinical trial. The following psychometric analyses were then performed on the OAB-q short-form (OAB-q SF). Exploratory factor analysis was performed on the HRQL items to identify potential subscales. Internal consistency was assessed using Cronbach's alpha. T-tests, analysis of variance, and effect sizes were used to assess construct validity and responsiveness.

Results

After a series of iterative analyses, the Symptom Bother items were reduced to 6 and the HRQL items were reduced to 13 items. For the Symptom Bother items, patients' degrees of symptom bother were precisely measured with the majority of scale scores (89.1%) within a precision range. For the HRQL items, patients' HRQL were precisely measured with the majority of their scale scores (94.7%) within a precision range. When performing factor analysis on the 13 HRQL items, three subscales were formed: coping (5 items), sleep (3 items), and emotional/social (5 items). All Cronbach's alphas and effect sizes for the OAB-q SF and original OAB-q were similar and are shown in the table.

Table. Comparison of Original OAB-q and OAB-q SF

Subscale	Cronbach's α OAB-q SF	Cronbach's α OAB-q	Effect Size OAB-q SF	Effect Size OAB-q
Symptom Bother	0.82	0.86	-1.14	-1.23
Coping	0.90	0.94	0.81	0.84
Sleep	0.92	0.94	0.86	0.85
Concern	NA	0.93	NA	0.95
Social Interaction	NA	0.89	NA	0.44
Emotional/Social	0.86	NA	0.81	NA

NA=not applicable; OAB=overactive bladder; OAB-q=Overactive Bladder Questionnaire; SF=Short Form.

Correlations of the new subscales with Medical Outcomes Study Short-Form 36 subscales ($r = 0.26$ to 0.43 ; all p values < 0.0001) and the Center for Epidemiological Studies–Depression Scale ($r = 0.28$ to 0.37 , $p < 0.0001$) were moderate and highly significant. The OAB-q SF

subscales clearly discriminated among normal, continent, and incontinent OAB patients with significant differences ($p < 0.01$) among the three patient groups for all subscales.

Interpretation of results

It appears that the OAB-q SF captures the full range of OAB Symptom Bother and HRQL impact while retaining internal consistency reliability, validity, and responsiveness. While the use of the OAB-q SF has limitations in terms of fewer subscales, the OAB-q SF should be considered as a way to reduce respondent burden.

Concluding message

The OAB-q SF is internally consistent, valid, and responsive to treatment-related change. This OAB-q SF will be less time-consuming for patients to complete and may be a feasible and useful instrument for clinical trials, and clinical practice where time and resource limitations are a consideration. The OAB-q SF will be incorporated into the International Consultation on Incontinence Questionnaire (ICIQ)-OAB to assess the impact of this condition on patients' lives.

References

1. Psychometric validation of an overactive bladder symptom and health-related quality of life questionnaire: the OAB-q. *Qual Life Res.* Sep 2002;11(6):563-574.
2. Responsiveness of the Overactive Bladder Questionnaire (OAB-Q) to Changes in Micturition Diary Variables. Oral poster presentation at the American Urogynecologic Society; October, 2002a; San Francisco, CA.

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