

# An Overactive Bladder Symptom and Quality-of-Life Short Form: Development of the Overactive Bladder Questionnaire Short Form (OAB-q SF)

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## Background

- Overactive bladder (OAB) is a symptom-based condition defined as urinary urgency with or without incontinence, often with increased urinary frequency and nocturia<sup>1</sup>
- The Overactive Bladder Questionnaire (OAB-q) is a multidimensional instrument designed to assess patient perception of symptom bother and impact on health-related quality of life (HRQL) among patients with OAB<sup>2</sup>
  - The OAB-q consists of an 8-item Symptom Bother Scale and a 25-item HRQL scale covering 4 domains: coping, concern, sleep, and social interaction
- The OAB-q has been validated psychometrically among diverse samples of >2500 patients and demonstrated internal consistency reliability, test-retest reliability, construct validity, and responsiveness to treatment-related change<sup>3</sup>
- Despite the sound psychometric properties of the OAB-q, a shorter version of the instrument would be useful to reduce respondent and clinician burden

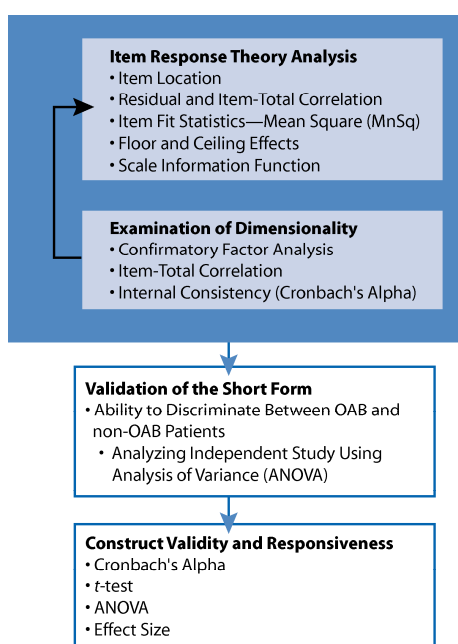
## Objective

- To develop a shorter version of the OAB-q to reduce respondent burden while retaining its reliability, validity, and responsiveness to change in assessing symptom bother and HRQL in patients with OAB

## Methods

- Criteria for item selection from the Symptom Bother and HRQL domains of the OAB-q, examination of dimensionality, and construct validity and responsiveness are outlined in Figure 1.

Figure 1. OAB-q SF Development Schema



## Data Sets

### National Overactive Bladder Evaluation (NOBLE) Study<sup>4</sup>

- NOBLE telephone survey conducted to estimate the prevalence of OAB; participants with OAB were identified using specific case criteria
- In a follow-up study, participants with OAB (n=396) and age- and gender-matched controls (n=523) were invited to participate in a nested case-control (NCC) study to assess the impact of OAB on HRQL
- NCC data were used to validate the OAB-q short form (SF)

## Overactive Bladder Questionnaire Short Form (OAB-q SF)

### 6-Item Symptom Bother Scale Short Form

During the past 4 weeks, how bothered were you by...

- An uncomfortable urge to urinate?
- A sudden urge to urinate with little or no warning?
- Accidental loss of small amounts of urine?
- Nighttime urination?
- Waking up at night because you had to urinate?
- Urine loss associated with a strong desire to urinate?

#### 6-item response options:

- 1 = Not at all
- 2 = A little bit
- 3 = Somewhat
- 4 = Quite a bit
- 5 = A great deal
- 6 = A very great deal

#### 13-item response options:

- 1 = None of the time
- 2 = A little of the time
- 3 = Some of the time
- 4 = A good bit of the time
- 5 = Most of the time
- 6 = All of the time

### 13-Item HRQL Scale Short Form

During the past 4 weeks, how often have your bladder symptoms...

- Caused you to plan "escape routes" to restrooms in public places?
- Made you feel like there is something wrong with you?
- Interfered with your ability to get a good night's rest?
- Caused you to decrease your physical activities (exercising, sports, etc.)?
- Made you avoid activities away from restrooms (walks, running, hiking)?
- Made you frustrated or annoyed about the amount of time you spend in the restroom?
- Awakened you during sleep?
- Made you uncomfortable while traveling with others because of needing to stop for a restroom?
- Affected your relationships with family and friends?
- Caused you embarrassment?
- Interfered with getting the amount of sleep you needed?
- Caused you to have problems with your partner or spouse?
- Caused you to locate the closest restroom as soon as you arrive at a place you have never been?

### Speed of Onset of Therapeutic Assessment (STAT) Trial<sup>5</sup>

- Secondary analysis of 865 patients with OAB-q data in a 12-week, open-label study of tolterodine extended release (4 mg qd) in patients with OAB were performed to evaluate the responsiveness of the OAB-q SF

## Results

### Development of the OAB-q SF

#### Symptom Bother Scale

- The 8-item scale of the OAB-q was reduced to 6 items in the OAB-q SF
- Although there were more extremes in the OAB-q SF compared with the OAB-q, the difference was minimal, suggesting that the OAB-q SF adequately captures the range of OAB symptom bother defined by the patient sample
- The 6 items demonstrated acceptable item-total correlations and good internal consistency and test-retest reliability (Table 1)

Table 1. Reliability of the OAB-q SF and the OAB-q

Subscale	Number of Items		Effect Size		Intra-Class Correlations	
	OAB-q SF	OAB-q	OAB-q SF	OAB-q	OAB-q SF	OAB-q
Symptom Bother	6	8	-1.14	-1.23	0.81	0.83
HRQL	13	25	0.99	0.97	0.92	0.93

#### HRQL Scale

- The 25-item scale of the OAB-q was reduced to 13 items in the OAB-q SF
- All 13 items had MnSq <1.4, indicating that they represent a single construct: OAB HRQL
- The 13 items demonstrated acceptable item-total correlations and excellent internal consistency and test-retest reliability (Table 1)

### Validation of the OAB-q SF

#### Concurrent Validity

- Pearson correlations of the OAB-q SF subscales with the SF-36 and Center for Epidemiologic Studies-Depression Scale (CES-D) were in the moderate range and highly significant
  - SF-36:  $r = 0.27$  to  $0.43$ ; all  $p < 0.0001$
  - CES-D:  $r = 0.31$  to  $0.35$ , all  $p < 0.0001$

#### Discriminant Validity

- OAB-q SF subscales clearly discriminated between normal controls, continent OAB patients, and incontinent OAB patients (Table 2)

Table 2. Discriminant Validity of the OAB-q SF

OAB-q Subscales	Controls (n=508)	OAB Patients	
		Continent (n=222)	Incontinent (n=163)
Symptom Bother (Mean)*	9.8	24.5	48.9
HRQL Scale (Mean)*	95.4	85.0	66.8

\*Means for the 3 groups were significantly different from each other at  $p < 0.0001$  as indicated by ANOVA with Scheffe's post hoc comparisons.

#### Responsiveness

- The responsiveness of the OAB-q SF was similar to that of the OAB-q (Table 1)

## Conclusions

- The OAB-q SF, with a 6-item Symptom Bother Scale and a 13-item HRQL Scale, captures the full range of OAB symptom bother and HRQL impact while retaining internal consistency reliability, validity, and responsiveness
- The OAB-q SF will be less time consuming for patients to complete and may be a valuable assessment tool in randomized controlled trials and in clinical practice, where time and resources are limited
- The OAB-q SF will be incorporated into the International Consultation on Incontinence Questionnaire to assess the impact of this condition on patients' lives

## References

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