



Is it possible to distinguish between OAB and MUI only with OABSS questionnaire? #592

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Abstract

OAB and MUI are significant problems worldwide. Their broad definition makes them difficult to diagnose. OABSS is used in the objective diagnosis of OAB.

The survey was designed to validate the efficacy of the 7 question-OABSS for the Polish population by establishing the validity, test-retest reliability and internal consistency of a professionally translated questionnaire. This was done to secure a valid instrument for urinary incontinence (UI) diagnosis and to correlate it with UDS, the Urogenital Distress Inventory (UDI-6) and the Incontinence Impact Questionnaire (IIQ-7).

Introduction

Overactive bladder (OAB) is defined as "urgency, with or without urge incontinence, usually with frequency and nocturia" whereas **mixed urinary incontinence (MUI)** is the involuntary loss of urine during exertion, sneezing, or coughing, as well as leakage associated with urgency. Questionnaires like OABSS can be used in objective diagnosis of those conditions. **The Blaivas OABSS** is self-administered questionnaire consisting of 7 questions on a 5-point Likert scale. The questions relate to all symptoms of OAB, including one each for urinary frequency and nocturia, 3 for urgency, 1 for urge incontinence and 1 generic question concerning bladder control.

Methods and Materials

The translation into Polish followed standardized procedures. Women aged between 18-75 years were included into the study. All patients were recruited from women attending the Outpatient Clinic.

821 patients completed the Polish version of the OABSS on two separate visits: Week 0 and Week 2 and additionally UDI-6, IIQ-7 during visit- Week 2. No patient received treatment during that time.

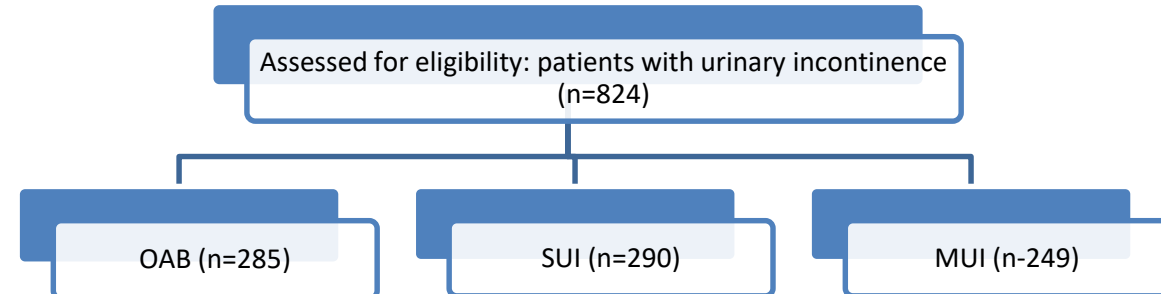


Figure 1. Flowchart of the participants in the study.

The internal consistency of the OABSS questionnaire was estimated by way of Cronbach's alpha coefficient (α). Herein, a value greater than 0.7 indicates high reliability.

Reliability was tested by applying the Intraclass Correlation (ICC)- an index or repeatability, by utilizing statistical software R. Herein, ICC at ≥ 0.7 was considered acceptable.

Statistical analysis was performed using STATISTICA version 13.1 software (StatSoft, Poland) as well as open source R software. *P* values less than 0.05 were considered significant. Significance of differences of means between studied groups was assessed using one-way ANOVA and the Tukey post hoc test.

Table 1. Demographic characteristic of the patients from study groups. (continuous variables are presented as the mean \pm SD, categorical variables are presented as numbers and %)

Parameter	Study group (n=821)		
	SUI(n=290)	OAB(n=283)	MUI(n=248)
Age (years) (mean \pm SD)	54.4 \pm 10.8	55.5 \pm 12.6	53.6 \pm 12.4
BMI (kg/m ²) (mean \pm SD)	26.9 \pm 3.9	26.7 \pm 5.9	26.5 \pm 5.5
Parity (mean \pm SD)	2.3 \pm 0.9	1.8 \pm 1.1	2.0 \pm 1.1
Postmenopausal , n (%)	181(62.4)	194 (68.5)	163(65.7)
Parous, n (%)	279 (96.2)	273(96.4)	227(91.5)

Table 2. Urogenital Distress Inventory-6 (UDI-6), Incontinence Impact Questionnaire-7 (IIQ-7) and Overactive Bladder Symptom Scores (OABSS) Questionnaire scores among patients from study groups..

Questionnaire	SUI			OAB			MUI		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
UDI-6	290	36,9	19,9	285	46,2	18,2	249	55,6	17,8
IIQ-7	290	50,4	17,9	285	60,1	17,5	249	66,6	17,6
OABSS	290	7.9	6.3	283	17.9	6.2	248	16.9	5.4

Results

Demographic parameters of the patients are given in Table 1

The total score of OABSS range is 0-28. The higher the score, the worse are the symptoms. Mean scores \pm -SD of patients responses are shown in Table 2.

The Cronbach's alpha values for the OABSS questionnaire in the SUI group was 0.89, OAB-0.9 and MUI-0.82, in all study groups, ICC was >0.99 indicating excellent internal consistency and test-retest reliability .

For both UDI-6 and IIQ-7, higher score = higher disability – (completely compromised by urinary symptoms = 100). Table 2 shows mean \pm -SD UDI-6 and IIQ-7 Questionnaire scores among patients from study groups.

There was statistically significant difference ($p<0.0005$) between mean scores among patients from study groups (OAB-SUI and MUI-SUI) measured by OABSS questionnaire. **There was no statistically significant difference between patients from MUI and OAB group ($p<0.11$)**. Analysis did not show statistical significance between visits.

UDI-6 and IIQ-7 results show statistically significant difference among patients from all study groups- OAB, SUI and MUI.

Discussion

The OABSS is an instrument used to assess patients with the OAB syndrome. It measures the episodes of urination, urgency and urgency incontinence. The original language version is considered reliable and is widely used. However, until this research, OABSS has never been translated into Polish. Urgency is one of the symptoms of MUI, therefore, we used the new Polish version of OABSS in an attempt to distinguish between OAB and MUI.

We confirmed the high reliability of the test in the UI study population (regardless of UI types). Furthermore, analysis of the individual groups (OAB, MUI, SUI) also showed very high (>0.7) reliability. As expected, we did find statistically significant differences in answers to OABSS among individual patients. The results indicate that in patients whose score tended to increase, the symptom severity is higher. The highest figure was observed in the OAB group (17.9), while patients from the MUI group scored 16.9 and SUI group patients tallied 7.9 points. In original publications, the OABSS questionnaire was tested in patients with confirmed OAB and SUI. MUI patients were not assessed. Our study show similar answers between patients of the OAB and MUI groups ($p>0.05$), hence, **OABSS cannot distinguish between OAB and MUI**.

In addition to the OABSS, the patients of our study completed the UDI-6 and IIQ-7 questionnaires. The results showed statistically significant differences among patients from all study groups. It was previously stated that UDI-6 and IIQ-7 questionnaires are not the best option for confirm MUI diagnosis. Thus, we think that adding UDI-6 and IIQ-7 to the OABSS will not help doctors in distinguishing between OAB and MUI.

Reproducibility was tested by applying the Intraclass Correlation Coefficient (ICC) according to McGraw and Wong. The test- retest examination was performed 14 days after Week 0. The ICC score of >0.99 revealed in SUI, OAB and MUI patients, excellent agreement between the questionnaire's questions.

Internal validity or the accuracy of conclusions about whether one variable causes another was assessed by through UDS (cystometry and uroflowmetry) examination. We rightfully expected that SUI patients would score better in OABSS than did patients suffering from the other UI types.

Conclusions

UI is a significant problem worldwide, and tools such as OABSS can help both specialists and non-specialists in its diagnosis. OABSS, however, cannot distinguish between OAB and MUI.

References

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