



## OVERACTIVE BLADDER SYMPTOM SCORE (OABSS) – TRANSLATION AND LINGUISTIC VALIDATION IN GUJARATI

### Physiotherapy

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### ABSTRACT

**Background:** OABSS (overactive bladder symptom score) is widely used tool for diagnosis and prognosis in Overactive Bladder (OAB patients). It has been translated in many languages however it has not been translated in Gujarati language. So, this study was done with objective to translate OABSS tool in Gujarati language and validate the same. **Methods:** The Gujarati translation and its linguistic validation were done through the steps which were followed while linguistically validating Korean version of OABSS after taking permission from the original author. Many Gujarati speaking people, visiting to OPD number 16 at SSG Hospital, Vadodara, was selected to validate this Gujarati version of OABSS translation after taking consent. **Results:** After the process of forward and backward translation, OABSS Gujarati Version was considered to be linguistically valid and accepted as final OABSS Gujarati version. It was pilot tested in 90 patients. No one found the questionnaires difficult to understand. Among them, the prevalence of OAB was 61.1% and in males it was 25.55% and in females it was 35.54%. **Conclusion:** The Gujarati translation of the Overactive Bladder Symptom Score (OABSS) is linguistically validated and consistent with the original version. This version can be used to further assess OAB patients who speak and understand Gujarati

### KEYWORDS

Overactive Bladder Symptom Score, Validation, Gujarati, Physiotherapy

### INTRODUCTION

The definition of OAB updated in 2010 by the International Continence Society is: A condition with characteristic symptoms of "urinary urgency, usually accompanied by frequency and nocturia, with or without urgency incontinence, in the absence of urinary tract infection or other obvious pathology.(1) UDI-6 (Urinary distress inventory), IIQ-7 (Incontinence impact questionnaire), ICIQ-OAB, OABSS (overactive bladder symptom score)etc. are many questionnaires that invented to diagnose this condition.(2)

OABSS is invented and validated by Yukio Homma et al. at Japan in Japanese It is a very simple and easy-to-applicable questionnaire with good diagnosing and prognostic capacity. After its very much popularity, it has been translated and validated in English by Yukio Homma et al. again.(3-4)

Because OAB is diagnosed on the basis of subjective symptoms, rather than objective criteria, the patient's perspective is important in the assessment and management of patients with OAB. Therefore, questionnaires that measure the severity of symptoms and their impact on health-related quality of life (HRQOL) play important roles in this disease entity. To date, several questionnaires for the measurement of patient-reported outcomes of OAB are available (5,6). However, each questionnaire has specific weaknesses for application to real practice; namely, some measure the burden of OAB symptoms on daily life rather than the symptoms themselves, some require recording in a micturition diary, and some are not simple to perform in daily practice.

The overactive bladder symptom score (OABSS), a new assessment tool for OAB symptoms, was developed and validated in Japanese populations in 2006 by Homma et al. (7). The OABSS comprises only 4 questions regarding daytime frequency, nocturia, urgency, and urgency incontinence and evaluates relevant symptoms from the patient's viewpoint. At present, the OABSS has just been used in clinical practice, although the majority of patients were Japanese (8-11). Performance of the OABSS is simple and quick, and a good agreement between OABSS items and the corresponding diary variables was found in a clinical trial with anticholinergics (12). Therefore, this questionnaire appears to be attractive and beneficial for use in daily practice where a quick and brief estimation of OAB symptoms and its changes following treatments is required. It is comprised of only 4 questions regarding OAB symptoms, highly sensitive to treatment-related changes of OAB symptoms (9,10), and demonstrated a fairly good agreement with corresponding diary variables (12). So, the objective of this study was to develop a Gujarati version of the OABSS tool so that it can be used widely in Gujarat, a state in Western India.

### MATERIALS AND METHODS

The English version of the OABSS contains four questions covering the frequency, nocturia, urgency and urgency incontinence. (Table 1) Each question is given some score depending upon its frequency.

While applying this questionnaire to diagnose someone suffering from OAB minimum total score should be 3 and score for question number 3 should be minimum 2. While classifying the disease severity depending on the OABSS total score it is defined as mild  $\leq 5$ , moderate 6-11, severe  $\geq 12$ .(13)

**Table 1. Original English Version of OABSS**

Question	Frequency	Score
Q1. How many times did you typically urinate from waking in the morning until sleeping at night ?	$\leq 7$	0
	8-14	1
	$\geq 15$	2
Q2. How many times did you typically wake up to urinate, from falling asleep at night until waking in the morning?	0	0
	1	1
	2	2
	$\geq 3$	3
Q3. How often did you have a sudden desire to urinate, which was difficult to control?	Not at all	0
	Less than once a week	1
	Once a week or more	2
	About once a day	3
	2-4 times a day	4
Q4. How often did you accidentally urinate because you couldn't control the sudden desire to urinate	5 times a day or more	5
	Not at all	0
	Less than once a week	1
	Once a week or more	2
	About once a day	3
2-4 times a day	4	
5 times a day or more	5	

The Gujarati translation and its linguistic validation were done through the steps which were followed while linguistically validating Korean version of OABSS. (14) So we are trying to translate for our Gujarati speaking and Gujarati understanding overactive bladder suffering persons in Gujarati for application. OABSS- originally Japanese, was invented by Yukio Homma and associates, followed by English version. Permission was taken for Gujarati translation by an email to homma-uro@umin.ac.jp.

From the OABSS English version(3), First done the Gujarati translation maintaining the meaning of the English version (Version 1). Person who is fluent in English and Gujarati and has never seen the original English version before. the backward translation to English was done by her. It was corrected multiple times for the lacking congruity of words and sentence, for the discrepancies between Gujarati translation and English back translation so finally a well-accepted Gujarati version could be made (Version 2). Many Gujarati speaking common people, visiting to OPD number 16 at SSG Hospital, Vadodara, was selected for the offline version 3 to validate this Gujarati version of OABSS translation.

The responses were evaluated for whether the language was

appropriate/inappropriate for understanding, what were the difficulties faced by the participant while filling up the questionnaire and whether the responses were within desirable limit. Any changes needed to make the questionnaire appropriate was included and final Gujarati version was formed. (Table 2)

**Table 2. Translated Version of OABSS in Gujarati Language**

નામ : ઉમર :  
OAB સિન્ડ્રોમ (OABSS) માટે એક નવી વક્ષણ પ્રશ્નાવલિ વિકસાવવામાં આવી હતી અને માન્ય કરવામાં આવી હતી.  
ઓવરએક્ટિવ બ્લેડર સિન્ડ્રોમ સ્કોર (OABSS)  
કૃપા કરીને છેલ્લા અઠવાડિયા દરમિયાન તમારો પેશાબની સ્થિતિ માટે શ્રેષ્ઠ વાગુ પડે તેવા સ્કોરને વર્તુળ કરો.

	સ્કોર	ફીક્વન્સી
તમે સામાન્ય રીતે સવારે જાગ્યા પછી રાત્રે સૂવા સુધી કેટલી વાર પેશાબ કરો છો?	0	૭ અથવા ઓછા
	૧	૮-૧૪
	૨	૧૫ અથવા વધુ
રાત્રે સૂવાથી લઈને સવારે જાગ્યા સુધી પેશાબ કરવો તમે સામાન્ય રીતે કેટલી વાર જાગો છો?	0	0
	૧	૧
	૨	૨
	૩	૩ અથવા વધુ
તમને કેટલી વાર અચાનક પેશાબ કરવાની ઇચ્છા થાય છે, જેને ટાળવું મુશ્કેલ છે?	0	જરાય નહિ
	૧	અઠવાડિયામાં એક કરતા ઓછા સમયમાં
	૨	અઠવાડિયામાં એકવાર કે તેથી વધુ
	૩	દિવસમાં લગભગ એક વાર
	૪	દિવસમાં ૨-૪ વખત
	૫	દિવસમાં ૫ વખત અથવા વધુ
કારણ કે તમે પેશાબ કરવાની અચાનક ઇચ્છાને ટાળી શકતા નથી તેથી તમે કેટલી વાર પેશાબ લિક કરો છો?	0	જરાય નહિ
	૧	અઠવાડિયામાં એક કરતા ઓછા સમયમાં
	૨	અઠવાડિયામાં એકવાર કે તેથી વધુ
	૩	દિવસમાં લગભગ એક વાર
	૪	દિવસમાં ૨-૪ વખત
	૫	દિવસમાં ૫ વખત અથવા વધુ

OABSS (સ્કોર્સનો સરવાળો) =

## RESULTS

In Forward translation, Question number 1 and 2 could be easily translated from English to Gujarati. But question no 3 and 4 need to be written frequently. In Backward translation, For question number 1 and 2, the back translation to English is straight forward with good congruence. There were lots of problem regarding question number 3 and 4, It required Multiple times back translation. Question number 3 and 4 needed to be written thrice before arriving to appropriate back translation.

After this process it was considered to be linguistically valid and accepted as final OABSS Gujarati version and was pilot tested in 90 patients. In general population the prevalence of OAB was 61.1% and in males it was 25.55% and in females it was 35.54%. (Table 3)

**Table 3 Demographic Profile and OABSS Grading for Validation of Gujarati OABSS Tool Among OAB Patients (n=90)**

Variables	Number	Percent
Age group		
20-30	5	5.55
31-40	25	27.77
41-50	26	28.88
51-60	23	25.55

61-70	10	11.11
>70	1	1.11
Gender		
Male	28(31.11)	31.11
Female	62 (68.88)	68.88
OABSS category		
Normal (<3)	34	37.77
Mild (3-5)	19	21.11
Moderate (6-11)	31	34.44
Severe (12-15)	05	5.55

## DISCUSSION

The English version of OABSS was translated into Gujarati and linguistically verified. Out of the four questions, questions one and two are readily translated, however questions three and four required several tries to obtain a correct translation with congruent meaning. The results of the offline survey showed that participants could understand the questionnaires with ease. A combination of OAB patients and healthy individuals make up our participants. In order for others who were unfamiliar with these concerns to comprehend them, we also want to know how the Gujarati translation affected the non-patient community. The version would become more linguistically valid as a result. The general public will then find it easier to self-diagnose urinary OAB problems early on and seek medical assistance.

In 2011, a Korean variant of the Japanese OABSS was conducted. All of the patients who participated in the interviews felt that the questionnaires were relevant to their symptoms and had meaning. (14) The Hong Kong Chinese version of the OABSS was created by testing 51 OAB patients, the OABSS-HKC version's total scores were reliable and moderately valid.(15)

In Chinese version, the OABSS's validity as a diagnostic and follow-up tool was evaluated, and it was determined to be accurate and reliable.(16)

During the development of the OABSS in Thai, Arabic and Spanish version, they were determined to be reliable, valid, and related to abnormal voiding symptoms. (17-19)

A total of 117 OAB patients were evaluated using the Turkish version of the OABSS. During validity investigation, it was discovered that the OABSS total score highly correlated with the ICIQ-SF, OAB-v8, and bladder diary.(20)

There are some limitations in the study. The next phase of the validation study is necessary because, although the Gujarati version 3 of the OABSS is linguistically valid and acceptable, it was not compared with other measures of OAB, such as the 3-day frequency/volume bladder diary, follow-up after medications, and Patient Perception of Bladder Condition (PPBC).

To conclude, Gujarati version 3, which has been linguistically validated, may be a useful tool for diagnosing and treating Gujarati patients with peak OAB.

## REFERENCES

- Haylen BT, de Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, Monga A, Petri E, Rizk DE, Sand PK, Schaer GN. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Neurourology Urology*. 2010;29:4-20.
- Uebersax JS, Wyman JF, Shumaker SA, McClish DK, Fantl JA. Short forms to assess life quality and symptom distress for urinary incontinence in women: The incontinence impact questionnaire and the urogenital distress inventory. *Continence Program for Women research group. Neurourology Urology*. 1995;14:131-9.
- Homma Y, Fujimura T. Linguistic validation of the English version of the overactive bladder symptom score. *Int J Urol*. 2014;21:229.
- Homma Y, Goto M. Development and linguistic validation of the Japanese version of the overactive bladder questionnaire (OAB-q) [Japanese] *J Neurogenic Bladder Soc*. 2006;17:241-9.
- Matza LS, Thompson CL, Krasnow J, Brewster-Jordan J, Zyczynski T, Coyne KS. Test-retest reliability of four questionnaires for patients with overactive bladder: the overactive bladder questionnaire (OAB-q), patient perception of bladder condition (PPBC), urgency questionnaire (UQ), and the primary OAB symptom questionnaire (POSQ) *Neurourology Urology*. 2005;24:215-225.
- Zinner N, Harnett M, Sabounjian L, Sandage B, Jr, Dmochowski R, Staskin D. The overactive bladder-symptom composite score: a composite symptom score of toilet voids, urgency severity and urge urinary incontinence in patients with overactive bladder. *J Urol*. 2005;173:1639-1643.
- Homma Y, Yoshida M, Seki N, Yokoyama O, Kakizaki H, Gotoh M, et al. Symptom assessment tool for overactive bladder syndrome--overactive bladder symptom score. *Urology*. 2006;68:318-323.
- Tsujimura A, Takao T, Miyagawa Y, Yamamoto K, Fukuhara S, Nakayama J, et al. Urgency is an independent factor for sleep disturbance in men with obstructive sleep apnea. *Urology*. 2010;76:967-970.

9. Tanaka Y, Masumori N, Tsukamoto T. Urodynamic effects of solifenacin in untreated female patients with symptomatic overactive bladder. *Int J Urol*. 2010;17:796–800.
10. Watanabe M, Yamanishi T, Honda M, Sakakibara R, Uchiyama T, Yoshida K. Efficacy of extended-release tolterodine for the treatment of neurogenic detrusor overactivity and/or low-compliance bladder. *Int J Urol*. 2010;17:931–936.
11. Gotoh M, Yokoyama O, Nishizawa O Japanese Propiverine Study Group. Propiverine hydrochloride in Japanese patients with overactive bladder: a randomized, double-blind, placebo-controlled trial. *Int J Urol*. 2011;18:365–373.
12. Homma Y, Kakizaki H, Yamaguchi O, Yamanishi T, Nishizawa O, Yokoyama O, et al. Assessment of overactive bladder symptoms: comparison of 3-day bladder diary and the overactive bladder symptoms score. *Urology*. 2011;77:60–64.
13. Yamaguchi O, Nishizawa O, Takeda M, Yokoyama O, Homma Y, Kakizaki H, et al. Clinical guidelines for overactive bladder. *Int J Urol*. 2009;16:126–42.
14. Jeong SJ, Homma Y, Oh SJ. Korean version of the overactive bladder symptom score questionnaire: Translation and linguistic validation. *Int Neurourol J*. 2011;15:135–42.
15. Yiu MK, Li CM, Hou SM, Wong CW, Tam S, Chu SK. Reliability and validity of the overactive bladder symptom score in Hong Kong Chinese. *Hong Kong Med J*. 2013;19:504–10.
16. Chou ECL, Hung MJ, Yen TW, Chuang YC, Meng E, Huang ST, et al. The translation and validation of Chinese overactive bladder symptom score for assessing overactive bladder syndrome and response to solifenacin treatment. *J Formosan Med Assoc*. 2014;113:506–12.
17. Bunyavejchevin S. Reliability of Thai-version overactive bladder symptom scores (OABSS) questionnaire and the correlations of OABSS with voiding diary, international prostate symptom score (IPSS), and patient perception of bladder condition (PPBC) questionnaires. *J Med Assoc Thai*. 2015;98:1064–74.
18. Elbaset MA, Hashem A, Taha DE, Zahran MH, El-Hefnawy AS. Validation of the Arabic linguistic version of the overactive bladder symptoms score questionnaire. *Arab J Urol*. 2019;17:265–9.
19. Weinberg AC, Brandeis GH, Bruyere J, Tsui JF, Weiss JP, Rutman MP, et al. Reliability and validity of the overactive bladder symptom score in Spanish (OABSS-S) *Neurourol Urodyn*. 2012;31:664–8.
20. Culha MG, Degirmençtepe RB, Ozbir S, Cakir SS, Homma Y. Turkish validation of the overactive bladder symptom score (OABSS) and evaluation of mirabegron treatment response. *Int Urogynecol J*. 2019;30:2121–6. doi: 10.1007/s00192-019-04054-0.