

Overactive bladder symptom score – translation and linguistic validation in Bengali

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Abstract

Aims: Overactive bladder symptom score (OABSS) in English consists of four questionnaires. We proposed to make Bengali version and linguistic validation. **Settings:** Online survey. **Materials and Methods:** The translation and linguistic validation was done in the following manner: forward Bengali translation, backward English translation, preparation of online version, online survey, cognitive debriefing and preparation of final version. Backward translation was done by a person proficient in Bengali and English who had never seen the English version. **Results:** Forward Bengali translation from the English version of OABSS was made. Next backward translation was done. Question number 1 and 2 backward translation was in congruent at the first attempt. But question number 3 and 4 backward translation needed multiple time correction to come to congruence. After agreement of corrected version an online version was created. In the online version along with particulars of the participants, exclusion criteria, OAB diagnostic criteria, category of OAB depending on OABSS score were added. Then this online version was sent for online survey to Bengali-speaking persons (https://forms.gle/qEo8GuXSgxyULoaX9). Fifty-nine persons (43 male, 16 female) participated. Participants were from all-over India, covering many types of occupation. Overall prevalence of OAB was 15.5% and among male 6.9% and female 8.6%. No participants had any difficulty in understanding the questionnaires in congruence; only two persons were unable to understand the category of OAB as per OABSS. **Conclusion:** OABSS Bengali version is well understood in congruence and linguistically validated. Further studies would assess the reproducibility and accuracy of the questionnaire in Bengali populations.

Keywords: Bengali, linguistic, OABSS, translation, validity

Introduction

Overactive bladder is a disease of lower urinary tract manifested by frequency, urgency, nocturia with or without urgency incontinence. It is a bothersome condition to the ailing women. Many questionnaires has been invented to diagnose this condition namely UDI-6 (Urinary distress inventory),^[1] IIQ-7 (Incontinence impact questionnaire),^[1] ICIQ-OAB,^[2] OABSS (overactive bladder symptom score)^[3] etc. OABSS is

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a very simple and easy-to-applicable questionnaire with good diagnosing and prognostic capacity. It is invented and validated by Yukio Homma *et al.*^[4] at Japan in Japanese. After its very much popularity, it has been translated and validated in English by Yukio Homma *et al.* again.^[3,5] So we are trying to translate it in Bengali for application for our Bengali overactive bladder suffering persons.

The prevalence of OAB is 29.9% in men^[6] and 53.1% in women^[7] in Asia. The ailing person tried to adjust with the ailment instead of coming to doctor^[8] - one reason may be due to non-availability of urogynecologist/urologist everywhere. If the Family physicians are aware of it, then initial management can be started by them and complicated cases may be referred to the specialist.

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Materials and Methods

OABSS questionnaire in English

The English version of the OABSS contains four questions covering the frequency, nocturia, urgency and urgency incontinence. Each question is given some score depending upon its frequency. First frequency is the normal standard for each category. In the first question on frequency of urination, having 3 types of frequency, 2 score is assigned (0,1,2). In the second question on nocturia, having 4 types of frequency, 3 score is assigned (0,1,2,3). In the third question on urgency of urination, having 6 types of frequency, 5 score is assigned (0,1,2,3,4,5). Fourth question on urgency urinary incontinence have the same arrangement like third question, that is, 0,1,2,3,4,5. So, total score is 15. 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 ≤ 5 , moderate 6-11, severe ≥ 12 .^[9]

Methodology

Institutional Ethics Committee approval is obtained. The Bengali translation and its linguistic validation were done through the steps which were followed while linguistically validating Korean version of OABSS.^[10]

Permission from the inventor

OABSS was invented by Yukio Homma and associates - originally Japanese, followed by English version. An email was sent to homma-uro@umin.ac.jp asking permission for Bengali translation.

Forward translation

First author (MP) has done the Bengali translation from the OABSS English version^[3] maintaining the meaning of the English version (Version 1).

Backward translation

Second author (SB) is fluent in English and Bengali and has never seen the original English version before. She had done the backward translation to English. As there were some discrepancies existed between Bengali translation and English back translation so it was corrected multiple times for the incongruent words and sentence. Ultimately a well-accepted Bengali version could be made (Version 2).

Online version preparation

Initially an editable PDF version was made by MP and was distributed to few of his friends but none could fill it up properly due to technical difficulty. Then it was decided to contact AR to make the online version where people can response by clicking. AR, being proficient in computer technology, had made the present online version (Version 3) which is very much user-friendly and easy to respond.

Online survey

The online version 3 was then sent to many Bengali-speaking common people. It was sent through an email or WhatsApp link. By clicking the link anyone can access the questionnaire along with instructions to fill. It also included few demographical particulars of the respondent, exclusion criteria, OAB diagnostic criteria and OAB category depending on scoring.

Exclusion criteria -

- 1) Urinary tract infection
- 2) Stress urinary incontinence
- 3) Painful bladder syndrome
- 4) Spinal cord injury
- 5) Diabetes mellitus
- 6) Carcinoma bladder
- 7) Urinary stone
- 8) Detrusor underactivity
- 9) Pregnancy and lactation
- 10) Other serious illness e.g. myocardial infarction, CVA (cerebro-vascular accident) etc.

OAB diagnostic criteria^[9] -

Total score should be minimum 3 and score for question no 3 should be minimum 2.

Classification of OAB depending on OABSS^[9] – [Table 1]

Cognitive debriefing

The responses were evaluated for

- 1. Whether the language was appropriate for understanding
- 2. What were the difficulties faced by the participant while filling up the questionnaire
- 3. Whether the responses were within desirable limit
- 4. Any changes needed to make the questionnaire appropriate would be included and final Bengali version would be formed.

Results

Yukio Homma had kindly given the permission to translate the OABSS in Bengali and also had sent all the relevant articles through email.

Forward translation

Question number 1 and 2 could be easily translated from English to Bengali. But question no 3 and 4 need to be written twice before MP was happy with the translation.

Table 1: Classification of OAB depending on OABSS ^[9]		
Category of OAB OABSS sco		
No OAB	<3	
Mild	3-5	
Moderate	6-11	
Severe	12-15	

Backward translation

The back translation to English for question number 1 and 2 were straightforward with good congruence. But there were lots of problem regarding question number 3 and 4. Multiple times SB had to do back translation. Question number 3 needed to be written thrice before arriving to appropriate back translation. Question number 4 needed to be written 4 times to reach to its appropriate English back translation. During this step SB had never seen the original English OABSS version. Comparison with English version was done by MP only.

Online version preparation

Creation of online version was a challenge. When editable PDF did not work, AR made the real time online version. In the first online version, two things were missing: (1) those who can't participate in this survey (exclusion criteria) and (2) OAB diagnostic criteria depending on score. These things were not mentioned in the English version of the OABSS questionnaire supplied to the participants but mentioned in the text of the article. We felt that providing this information in the questionnaire itself would be helpful to the participant. AR included these. After incorporation of these two things when we looked at the questionnaire, again we felt that, providing the classification of OAB i.e. mild, moderate and severe, basing on the OABSS score, would be more beneficial to the ailing person. Hence AR was told to include this also. After two times correction, the final online version came out. (Version 3) [https://forms.gle/ qEo8GuXSgxyULoaX9].

Online survey

Version 3 was sent to many Bengali-speaking persons who were known to MP, SB and AR. Initially, about 40% people responded. Many did not respond as they were not suffering from urinary problem so they thought why they should participate. Knowing this fact we counselled them that this is a linguistic validation survey. After counselling another about 25% responded, making about 65% response out of all invitation sent for participation.

Cognitive debriefing

Total respondent was 59 out of which male 43, female 16 and most of them belonged to 41–50 years of age [Table 2].

Profession wise response revealed that almost all categories of professions responded. [Table 3] Location wise though maximum response received from West Bengal, being it is mainly Bengali speaking person populated but responses also received from Tripura, Assam, Arunachal Pradesh, New Delhi, Rajasthan, Karnataka, Maharashtra, Odisha, Andhra Pradesh and Punjab.

One person in spite of being diabetic still filled up the questionnaire though it was mentioned in the exclusion criteria and he communicated that he was participating just to know his urinary status apart from frequency (polyuria). That means exclusion criteria were well understandable.

Table 2: Age & sex wise distribution					
Age wise dist	tribution (n=59)	Sex wise d	Sex wise distribution (<i>n</i> =59)		
Age groupNumber (%)		Sex Number (
<20	1 (1.7)	Male	43 (72.9)		
20-30	3 (5.1)	Female	16 (27.1)		
31-40	14 (23.7)				
41-50	29 (49.1)				
51-60	7 (11.9)				
61-70	3 (5.1)				
>70	2 (3.4)				

Table 3: Profession wise distribution of the respondents				
Profession	Number (<i>n</i> =59)	Percentage		
Govt. Employee	11	18.6		
Private Employee	12	20.3		
Business	5	8.5		
Homemaker	10	16.9		
General School Teacher	7	11.9		
General College Teacher	1	1.7		
Medical College Teacher	2	3.4		
Physiotherapy Teacher	1	1.7		
Bank Manager	1	1.7		
Engineer	1	1.7		
Journalist	1	1.7		
College Student	1	1.7		
Allopathic Doctor	2	3.4		
Homeopathic Doctor	1	1.7		
Medical Representative	2	3.4		
Medical Transcriptionist	1	1.7		

All the questionnaires were well understood in congruence with their meaning. This was confirmed calling the respondents over phone to get their feedback. That means the 4 questions along with their response options became linguistically valid. Regarding understanding of classification of OABSS it was found on phone call that only two persons (3.4%) were unable to understand the OABSS classification (mild, moderate, severe) according to the scoring. The prevalence of OAB was 15.5% in general and among male 6.9% and female 8.6%. [Table 4]

As there was no suggestion to change the questionnaire presented for online survey, that is, Version 3, so it was considered to be linguistically valid and accepted as final Bengali OABSS version. (OABSS Bengali version). Original English version is described in Table 5 and Final Bengali version is described at the end of this article.

Discussion

Bengali translation of English version of OABSS was done and linguistically validated. Among the 4 questions, question number 1 and 2 can be easily translated but question number 3 and 4 needed multiple attempts to get proper translation with congruence meaning. Online survey revealed that the questionnaires were easily understood by the participants. Our participants are mixture of OAB patients and normal persons. We want to know the impact

Table 4: OABSS category						
OABSS	Number $(n=58)^{a}$			Percentage		
category	Total	Male	Female	Total	Male	Female
Normal (<3)	49	38	11	84.5	65.5	19
Mild (3-5)	3	3	0	5.2	5.2	0
Moderate (6-11)	6	1	5	10.3	1.7	8.6
Severe (12-15)	0			0		

'One person who's score was moderate category but he was a known patient of diabetes mellitus - hence his scoring is not included

Table 5: Original English version of OABSS^[3]

Overactive bladder symptom score (OABSS) questionnaire^[3] (Please circle the score that best applies to your urinary condition during the past week in response to each question.)

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

of the Bengali translation among the non-patient population also so that who were not familiar with these complaints, can also understand it. This would make the version more linguistically valid. It will then be more helpful for the common people to self-diagnose their urinary OAB problem early and seek medical advice.

Korean version of the Japanese OABSS was carried out in 2011. During cognitive debriefing the version was interviewed among 5 OAB out-patients –4 female and 1 male, aged between 30-70 years, 3 were homemaker and 2 were employed in economic activities. During interviews, all the patients were in opinion that the questionnaires were meaningful and related to their symptoms. Three were in total agreement regarding clarity, cultural adequacy, and comprehension of the translation, one patient finds it somewhat difficult and another patient was unable to understand easily. That's why they have to change few words to make it lucid. Because it was only linguistic validation, no further statistical analysis was done.^[10]

In the making of Hong Kong Chinese version of OABSS it was tested among 51 OAB patients – 30 (59%) were male and 21 (41%) were female. The OABSS-HKC version total scores were reliable and moderately valid regarding quantitative evaluation of OAB in Hong Kong Chinese-speaking persons.^[11]

The Chinese version of OABSS was tested among 60 OAB patients – 31 OAB wet and 29 OAB dry. Forty-eight patients (80%) completed the response. The translation process was divided between (1) development of Chinese version of OABSS, (2) validation and (3) responsiveness. The third process was included as the tool was tested after solifenacin therapy also. So validity of OABSS both as diagnostic and follow-up tool was assessed and it was found reliable and accurate.^[12]

Fifty-six women aged more than 18 years were recruited during OABSS Thai version creation and were found to be reliable, valid, and related to the abnormal voiding symptoms.^[13] Participants, during validation of Arabic version of OABSS, were comprised of healthy individuals (115), OAB patients (112) and bladder outlet obstruction patients (74).^[14]

While doing Spanish translation of OABSS the validity of the translation was assessed by asking the first 25 participants to complete the translated OABSS questionnaire maintaining privacy. Next all of them were interviewed and the clarity of each question was discussed with them so as to come to a common consensus of approved version before subjecting it to bigger study.^[15]

The Turkish version OABSS was assessed among 117 OAB patient comprising 82 OAB-wet and 35 OAB-dry. While doing validity analysis it was found that OABSS total score highly correlated with bladder diary, ICIQ-SF and OAB-v8.^[16]

The Arabic version of the OABSS is found to be highly reliable for the construct variables.^[17]

Limitations

The Bengali version 3 is acceptable and valid linguistically, but it was not compared with other measure of OAB e.g. Patient Perception of Bladder Condition (PPBC), 3-day frequency/volume bladder diary, and follow-up after medications etc. Hence authors had started next phase of validation study of Bengali version 3 of OABSS with OAB patient only.

Overactive bladder is a bothersome condition. Ability to express your problem in your mother tongue is always an advantage. Linguistically validated Bengali version of the most popular overactive bladder diagnosis questionnaire (OABSS) is going to be a readymade tool to this ailing patient to express their problem as well as an easy tool for the family physician and the specialist to understand the severity of the syndrome. This tool also will be helpful during management follow-up.

Conclusion

Linguistically validated Bengali version 3 could be a valuable armamentarium to diagnose and treat the Bengali speaking OAB patients.

Key points

- 1) OABSS translation to Bengali is in congruence meaning with original version
- 2) Linguistically validated translation
- 3) Translation is in simple language hence easy to understand
- 4) Right tool for the OAB patient to express their problem
- 5) Good tool for the physician to understand the severity of the disorder and follow-up.

Key messages

Overactive bladder symptom score (OABSS) translation to Bengali is in congruence meaning with original version and found linguistically validated. None had any difficulty in understanding the questionnaires. Further assessment can be done by using this version to the Bengali OAB patients.

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Conflicts of interest

There are no conflicts of interest.

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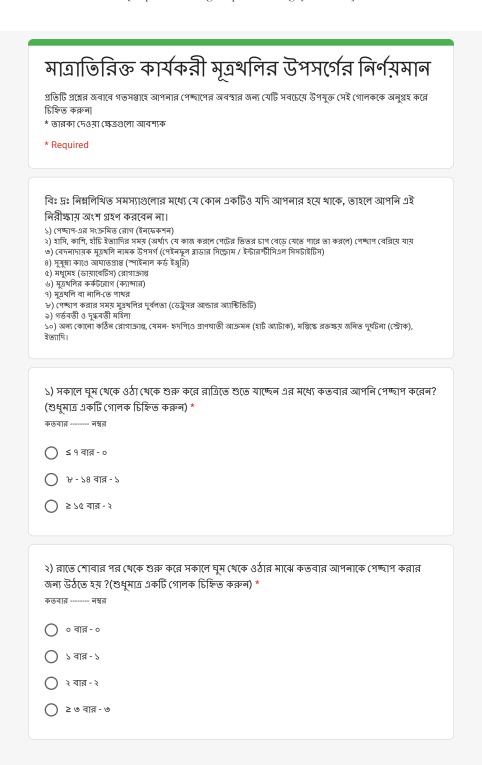
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OABSS Bengali Version

[https://forms.gle/qEo8GuXSgxyULoaX9]



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৩) কতবার আপনার হঠাৎ করে পেচ্ছাপ করার ইচ্ছে হয়, যেটাকে দমানো কঠিন ? (শুধুমাত্র একটি গোলক চিহ্নিত করুন) *
কতবার নম্বর
🔘 কখনোই নয় - ০
🔘 সপ্তাহে একবারেরও কম - ১
🔘 সপ্তাহে একবার বা তার বেশি - ২
🔘 প্রায় দিনে একবার - ৩
🔘 দিনে ২-৪ বার - ৪
🔘 দিনে ৫ বার বা তার বেশি - ৫

৪) কতবার আপনার দুর্ঘটনাক্রমে পেচ্ছাপ হয়ে যায় কারণ আপনি হঠাৎ করে আসা পেচ্ছাপের ইচ্ছেকে দমাতে পারেন নি বলে ? (শুধুমাত্র একটি গোলক চিহ্নিত করুন) * কতবার ------ নম্বর

- 🔘 কখনোই নয় ০
- 🔘 সপ্তাহে একবারেরও কম ১
- 🔘 সপ্তাহে একবার বা তার বেশি ২
- 🔘 প্রায় দিনে একবার ৩
- 🔘 দিনে ২-৪ বার ৪
- 🔘 দিনে ৫ বার বা তার বেশি ৫

রোগ নির্ণায় (ডায়াগনোসিস) এই রোগ নির্ণায় করার জন্যে, চারটি প্রশ্নের উত্তর মিলে সর্বমোট নম্বর ন্যুনতম ৩ (তিন) এবং তৃতীয় প্রশ্নের উত্তরের নম্বর ন্যুনতম ২ (দুই) হতে হবে।

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