Translation and Cross-Cultural Adaptation of the Activities-Specific Balance Confidence (ABC) Scale for use in Maharashtra

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Abstract

Introduction: This study aimed to translate and culturally adapt the Activities-Specific Balance Confidence (ABC-M) Scale for use in Maharashtra, India and to assess its usability on elderly. The ABC Scale is a 16-item questionnaire. Each item is rated from 0% (no confidence) to 100% (complete confidence). Elderly respondents are asked to rate their confidence that they will lose their balance or become unsteady in the course of daily activities.

Method: The methodological procedure of translation and cultural adaptation by WHO was followed: Forward translation, expert panel back-translation, pre-testing and cognitive interviewing, and final version

Results: The process of translation and cultural adaptation was considered adequate. The procedure resulted in simple grammatical modifications for the items and 20 subjects were examined for the pre-test.

Conclusions: The study resulted in successful translation and adaptation of the ABC scale in Marathi (ABC-M).

Keywords: ABC-M, Activities-specific balance confidence, Marathi ABC.

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INTRODUCTION

All over the world, the life expectancy has increased tremendously, leading to a sharp rise in a number of the elderly citizens. It has been predicted that geriatric population in India will share projected climb from 8 percent in 2010 to 19 percent in 2050, according to the United Nations Population Division (UN 2013).[1] By mid-century, India's older population is expected to encompass 323 million people, a number greater than the total U.S. population in 2012.[2]

In the US, 30% of individuals aged 65 years and older fall at least once a year.[3] In Japan, the prevalence of falls was 13.7%, and in China, it was 26.4%.[4,5] In India, the prevalence of falls among older adults aged 60 years and older was 14% to 53%. These studies vary regarding sample size, geographical region, fall history criteria, and methods. Falls are highly under reported, and the actual prevalence is likely to be higher. In India, fall prevalence increases with age and is the highest in women and institutionalized older adults.[6]

The majority of the elderly population resides in developing countries. According to the 2011 Census, 9.9 million persons in Maharashtra are enumerated to be above 60 years of age. Of them, 4.7 million are men, and the remaining 5.2 million are women, with the majority residing in rural areas.[7] This brings us to a concern that the elderly population could develop the fear of fall.

The Activities-Specific Balance Confidence Scale is a self questionnaire to assess fear of fall

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and confidence to carry out daily living activity in the elderly population. The scale was originally devised in English by Powell and Myers in 1995 for the population of Canada.[8] It is a 16 item questionnaire related to daily living activities. The older adult has to score himself for each of the questionnaires from no confidence (0) to complete confidence (100) in percentage. The overall score is calculated by adding individual item scores and then dividing by the total number of items. It is recommended that a self-reported measure is translated and adapted to the appropriate culture before it is used with subjects whose first language is not English.[9] Apart from the English version, this scale has been translated and adapted into French-Canadian, Chinese, German, Turkish, British English, and Brazilian Portuguese.[8,10-15].

Marathi is the fourth most commonly spoken language in India, spoken by more than 71,936,894 people all over the India.[16]Currently, no measure is available for assessing balance confidence in older adults whose primary language is Marathi. When the self administered scales are not available in the native language of the patient, the therapist may be forced to self translate or interpret the scale to the patient, which may affect the essential construct of the measurement. A Marathi version of the ABC scale would provide Maharashtrian community opportunity to communicate more effectively with their therapist. The availability of a self-administered scale in their native language will make clinical management and research more effective.

METHODS

This is a methodological study. For the procedure of translation and cultural adaptation, the steps provided by WHO were considered, forward translation, expert panel back-translation, pre-testing and cognitive interviewing, and final version were followed.[17] These methodological steps for cultural adaptation of measuring instruments were followed so that there was equivalence between the modified version and the original version, ensuring the quality of this process.

The ABC consists of 16 questions with various ambulatory activities e.g. walking around the house, reaching for objects, stairs, walking in a crowded mall, step onto or off an escalator, and walk on icy sidewalks.

It is an 11 point Likert measuring scale, ranging from 0-100% for each of 16 items. The score of 0 equals to no confidence, the score of 100 equals to complete confidence. Sum of individual item scores and then divide the total by 16 to yield the ABC Scale score (range 0-100%).

To obtain the scores of this questionnaire, the instructions provided by the instrument's authors were followed, for each of the following, the participant was asked to indicate their level of confidence in doing the activity without losing their balance or becoming unsteady from choosing one of the percentage points on the scale from 0% to 100%. If they do not currently do the activity in question, try and imagine how confident they would be if they had to do the activity. If participant normally uses a walking aid to do the activity or hold onto someone, rate the confidence as if they were using these supports.[8]

Before this study, authorization and approval were obtained from one of the ABC authors, Anita Myers and also the ethical approval of the Research Ethics Committee of the College was received.

The first step - forward translation: the translator, a health professional who was familiar with the terminology of the area covered by the instrument, was given the task. The translator was knowledgeable of both English and Marathi, later being her primary mother tongue. The translator was advised that the translation should not be the literal meaning of the scale but should be natural, conceptual and acceptable to the broadest audience. The first Marathi translated version was termed as ABC-M 1.

The second step - expert panel: a bilingual (in English and the target language for the translation) expert panel of 3 members was made with their consent. The panel included the original translator, expert in the field (PhD in physio-therapy), as well as an expert with experience in instrument development and translation. The panel was provided with the original ABC scale and ABC-M 1. The goal of this step was to identify and resolve the inadequate expressions/concepts of the ABC-M 1. The expert panel gave suggestion with minute grammatical mistakes and some expression of language with other alternatives. This resulted in a complete translated version of the question-naire. The second version was termed as ABC-M 2.

The third step - back-translation: the translated Marathi version ABC-M 2 was back translated by an independent translator, whose mother tongue was English and had no knowledge of the questionnaire. In this stage two translators were involved, so as to get the best back translated version. Hence ABC-E 1 and ABC-E 2 were developed. Out of this two, ABC-E 2 was conceptually and culturally equivalent and approved by the expert team. Also, a qualitative

analysis was done by the team which confirmed the use of ABC-M 2 to be preceded by the next step.

The fourth step - pre-testing and cognitive interviewing: the pre-test stage aimed to assess the understanding, clarity of items and time to complete the instrument, along with ensuring the equivalence of the translated version of the ABC-M with the original version. Another important aspect pre tested was the assessment of the ABC-M used in practice with the aim of assessing the time to answer and the ease with which subjects could respond to the instrument.

The last stage - final version: to accomplish it inclusion criteria were considered: a) subjects 60 years of age or older, b) ability to respond to and understand the instrument c) with no other major illnesses. Patients were invited to participate in the study and, after explanations about the aims, expressed their agreement and signed the consent statement.

The subjects were provided with both the scales ABC-M 2 and original ABC scale to rate themselves, and the data was collected.

RESULTS

The translation and back translation steps were satisfactorily performed, without the need for significant changes. The expert committee was composed of 3 members who assessed all bilingual versions of translations and back-translations, consolidating the pre-final version of the ABC-M to be pre-tested (Chart 1). The highlighted questions 3,4,8 and 16 were modified questions with the help of procedure explained above.

The pretest and cognitive interview was done on 20 participants. At every question, the examiner would ask some set of questions like: what did they think the question was asking, whether they could repeat the question in their words, what came to their mind when they first read the question. Also, the examiner would ask if any particular word the patient was unaware of and would be written in better words.

All the participants filled both the scales i.e. English and Marathi scale of ABC. The participants could score similarly in both the scales. The cultural and context equivalence was maintained. The scale was accepted by the pretest group. The ABC – M 2 which was pretested and compared with original version was accepted as the final version of translated Marathi Activities Specific Balance Confidence (ABC-M).

DISCUSSION

The process of translation and cultural adaptation of the ABC to Marathi was completed after following all steps recommended by WHO (World Health Organization).

The results of this study represent a stage prior to the assessment of reliability and validity of the instrument.

Four items were modified, which predominantly involved changes in their wording to more commonly used phrases and to accommodate socio-cultural differences identified between India and Canada, where this scale was developed.

	ABC-M (Marathi)
1	walk around the house?
2	walk up or down stairs?
3	bending and picking up the footwear from the shoe cabinet?
4	reach for a small container at the eye level?
5	stand on your tip toes and reach for something?
6	stand on a chair and reach for something
7	sweep the floor?
8	walk out of the house to the car parking area?
9	get into or out of a car?
10	walk across a parking lot to the mall?
11	walk up and down on an inclined slope?
12	walk in a crowded mall where people rapidly walk past you?
13	you are bumped by people as you walk through the mall?
14	step onto or off an escalator while you are holding onto a railing?
15	step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing?
16	walk on the slippery road due to rains?

Chart 1. Items of ABC-M

The availability of the ABC in Marathi may allow the assessment of the elderly population perception about the fear of fall and confidence in daily living activities. This assessment from the aged group perspective can provide valuable information to plan care, to meet the needs of these individuals, allowing the active participation in their environment.

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