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PSYCHOMETRIC PROPERTIES OF GUJARATI VERSION OF FEAR OF FALLING QUESTIONNAIRE – REVISED

[1*]Rhythm Thacker, [2]Megha Sheth

[1]* Postgraduate student, SBB College of Physiotherapy
[2]Lecturer, SBB College of Physiotherapy

*Corresponding Author: dr.rhythmthacker@gmail.com

ABSTRACT

Objectives: The aim of this study was to translate Fear of Falling Questionnaire – Revised (FFQ-R) and find the reliability and validity of the Gujarati version.

Method: A methodological study based on WHO guidelines was conducted in Ahmedabad. Forward and backward translation of the FFQ-R was done. An expert panel of five physiotherapists reviewed the pre final version. A pilot study was carried out on 30 Gujarati speaking individuals from the community who were aged over 60 years. Item content validity index (I-CVI) and scale content validity index (S-CVI) were calculated. Interclass correlation coefficient (ICC) was used to find the reliability.

Results: The Gujarati version of FFQ-R demonstrated adequate psychometric properties with good I-CVI and S-CVI. The translated version showed excellent reliability (ICC = 0.961).

Conclusion: The Gujarati version of the FFQ-R is a valid and reliable instrument for evaluating fear of fall in older adults which enables accurate assessment of fear of falling in Gujarati-speaking individuals, improving the understanding of an individual's perspective

Key words: Fear of Falling Questionnaire, Fear of Fall, FFQ-R – Gujarati version

INTRODUCTION

Fear of falling (FoF) is common problem in the older population. The concepts of FoF refers to low confidence at avoiding falls during essential activities of daily living. Prevalence of FoF in community-dwelling older adults range from 21.0% to 85.0% among those who had falls, and 33.0% to 46.0% among those who had never experienced falls. FoF can affect the person's physical and psychological and social well-being due to restriction or avoidance of activities. In the long term, activity restriction can lead to muscle weakness, and postural instability, which can lead to

falls. Moreover, FoF has been linked to other negative consequences including reduced social interactions, depression and poor quality of life.[1] In a systemic review, that identified 28 relevant studies among the community-dwelling older people, there was a great variation in the reported prevalence of FoF ranging between 20.8% and 85%.[2]

FoF is a response to any risk to balance. The commonly used term 'fear of falling' signifies general concerns about the possibility of experiencing a fall. However, most concerns are not related to the pain of an injury, but how an injury

will affect their ability to continue living a fulfilling life.3 The proportion of older people in India's population is rising and it is expected to reach 20% of the total population by 2050. In India, FOF is a challenge affecting over one-third of the older population and their quality of life, physical well-being and social functioning. 4 As fear progresses, the person restricts activities which contributes to a cycle of inactivity and functional limitation, increased fear of falls, and ultimately leading to fall.5 Findings from previous studies suggest that psychological factors may explain some of the discrepancies between perceived and physiological fall risk, and may play a role in the aetiology of FoF.6 Accurate assessment of fear of falling in older adults is essential to identify those who may be at a greater risk of falling, along with physical, psychological and social dimensions.

The Fear of Falling Questionnaire (FFQ) is based on the cognitive model of emotion of fear. It assesses potential outcome of harm from a fall, seriousness of harm from a fall, and coping strategies to prevent harm. The FFQ differentiates between those who have a fear of falling and those who did not, indicating adequate criterion validity.7 The Fear of Falling – Revised (FFQ-R) is a 15-item self-report questionnaire for measuring fear of falling. It includes questions that inquire about the dimension of fear specifically, making it a useful scale for measuring the construct of fear related to falling. Each item is rated on a Likert scale from 1 (strongly disagree) to 4 (strongly agree). The total possible score ranges from 15–60, with higher scores indicating greater fear of falling.7 Fall incidents are a concern for the aging population, therefore such assessment tools are needed in different languages so that people with different linguistic backgrounds can be assessed. The aim of the study was to translate the FFQ-R to Gujarati to better the clinical assessment on fear of falling and so that Gujarati speaking population can be included in research. In addition to the translation, the aim was to present a tool to Gujarati speaking population, that is culturally adapted so that their responses can be adequately understood and checked. As a result, the fear of falling in Gujarati-speaking communities will be properly understood and measured. This will contribute to a more inclusive approach in addressing fall-related issues for individuals in Gujarati-speaking communities.

MATERIALS AND METHODS

A methodological study was conducted following the guidelines for the translation study given by WHO. This study involved two steps: translation and cross-cultural adaptation of the Gujarati version and testing its validity and reliability. Permission for translation was obtained from the authors of the original questionnaire by email. This study was approved by the Institutional Review Board (IRB). Forward translation in Gujarati from English was done by two bilingual independent translators who were native speakers of Gujarati language and fluent with English language. The first translator had the background of healthcare, and the other translator had a background of literature and education. The pre final version was presented to the expert committee of five physiotherapists. The process of translation and cultural adaptation had minor linguistic changes. The draft was made considering modifications according to expert panel's suggestions which was more suitable to Gujarati culture.

A pre-final version was presented to expert panel and their reviews were noted on Likert scale. Validity was found based on reviews of the expert panel. Based on their input, the language was changed to simpler Gujarati terms, making it easier for the Gujarati speaking population to understand.

The Gujarati version was given to 30 people aged > 60 years residing within the community as a self-report test. The procedure was explained to the participants and written informed consent was taken. The questions were clear and comprehensible as the participants did not have any problems understanding the instructions and the questions. To determine the reliability of the test, the test-retest method was used. The participants were asked to take the self-report test two times with a period of two days between the two tests. An independent bilingual translator then translated the draft back into English. The final draft was sent to the original author.

STATISTICAL ANALYSIS

The tool's validity was then confirmed through the calculation of the Item Content Validity Index (I-CVI) and Scale Content Validity Index (S-CVI). For the purpose of assessing the reliability, the Intraclass Correlation Coefficient (ICC) and Cronbach's Alpha was calculated.

RESULTS

The Gujarati version of Fear of Falling questionnaire Revised (FFQ-R) was tested for content validity and reliability. Content validity was assessed by experts who evaluated each item. The item-level content validity index (I-CVI) for individual questions ranged from 0.72 to 0.92. The overall scale content validity index (S-CVI) was of 0.834. For reliability, a test-retest method was used. The quiz was administered to 30 participants twice, with a two-day gap between the first and second administrations. The intraclass correlation coefficient (ICC) for a single measure was 0.961 (95% confidence interval 0.918 to 0.981). Additionally, Cronbach's alpha for the scale was 0.980.

Table 1 and 2 show demographics of expert panel and participants in form of mean and standard deviation. Table 3 shows the psychometric properties of the FFQ-R Gujarati version.

Table 1: Demographics of experts in the panel

Variables	Mean ±SD
Age (year)	35.2 ±5.2 years
Experience (year)	11.12 ±5 years
Gender (Male : Female)	1 :4

Abbreviations: SD - Standard Deviation

Table 2: Demographics of participants

Variables	Mean ±SD
Age (years)	64.6 ± 4.11
Gender (Male: Female)	2:3

Abbreviations: SD - Standard Deviation

Table 3: Psychometric properties FFQ-R Gujarati

Variables	Values
I-CVI	0.72 to 0.92
S-CVI	0.834
ICC	0.961
Cronbach's alpha	0.980

Abbreviations: ICC – Interclass Correlation Coefficient; I-CVI – Item Content Validity Index; S-CVI – Scale Content Validity Index.

DISCUSSION

The FFQ-R Gujarati version was found to have adequate psychometric properties. The statistical evaluation showed good item content validity and scale content validity. I-CVI scores ranged from 0.72 to 0.92. Further, the S-CVI of 0.834 provides an overall justification for the relevance and comprehensiveness of the questionnaire. Excellent reliability, with an intraclass correlation coefficient (ICC) of 0.961 and a Cronbach's alpha of 0.980, demonstrates that the tool has a high consistency and internal consistency for stable and reliable responses over time and between participants.

The original version of FFQ-R showed good internal consistency ranging from 0.72 to 0.83, good test retest reliability and item total correlations ranging from 0.0 to 0.67 (Bower E et al).[7] Dautel A. et al, in their study of examining the psychometric properties of the German version of the FFQ-R showed good psychometric properties, with an internal consistency of 0.78 similar to English version in comparable population of older adults with hip and pelvic fractures.[8] Özden F. et al. found that the Turkish version of the Fear of FFQ-R demonstrated excellent psychometric properties, with a Cronbach's alpha of 0.971 and an intraclass correlation coefficient (ICC) of 0.962, indicating high internal consistency and test-retest reliability in nursing home residents with mild cognitive impairment, similar to the Gujarati version.[9] Both studies highlight the FFQ-R's effectiveness across different cultural populations.

In the present study, some changes were based on recommendations of the expert panel focusing on sentence structure primarily to ensure clarity and cultural appropriateness. In question no 14: "I know many people in situations similar to mine who have

fallen" – "Mne jaan che ke mara jevi sthiti ma ghana loko che je padya che" was changed to "hu mara jevi sthiti ma ghana loko ne odkhu chu je padya che." In question no 15: "The older people get; more likely they are to fall" – "Jem loko vrudh thaay che tem padvani sambhavna vadhe che" was changed to "jem loko vrudh thay che tem temni padvani sambhavna vadhe che" as it is more appropriate and easier to understand for Gujarati speaking population. The changes made in the sentence structure did not change the meaning of the sentences.

As a self-report tool, it allows healthcare professionals to evaluate a patient's fear related to fall enabling more specific evaluation and ensuring better results evaluating fall related fear in Gujarati population. This tool can also be used for screening purpose in public awareness programmes about fall prevention strategies. This translation study included community dwelling older adults but it can also be used to assess fear of falling in Gujarati speaking population with different condition.

CONCLUSION

The Gujarati version of FFQ-R is a reliable and valid self-report tool for assessing fear of falling in Gujarati speaking older individuals. The translation and cultural adaptation process ensured that the questions maintained its original meaning while being linguistically relevant to target population.

Statements and Declarations

Consent to Participate: Written informed consent was obtained from all participants.

Authors' Contributions:

Rhythm Thacker: Contributed to the conception and design of the study, did data analysis and interpretation, and drafted the manuscript and gave final approval of the version to be published. Rhythm agrees to be accountable for all aspects of the work to ensure its accuracy and integrity.

Megha Sheth: Contributed to the conception and design of the study and did critical supervision. She gave final approval of the version to be published and agrees to be accountable for the integrity and accuracy of the work.

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