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Translation, cross-cultural adaptation and psychometric properties of Gujarati version of pelvic floor health knowledge quiz

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ABSTRACT

Objective: Weak pelvic diaphragm can cause pelvic organ prolapse, urinary incontinence (UI), sexual dysfunction. Pelvic floor health knowledge quiz (PFHKQ) is a self-reported scale developed in Turkish, used to assess level of knowledge about pelvic floor health. Aim of study was to translate and cross-culturally adapt PFHKQ into Gujarati and assess its psychometric properties.

Materials and Methods: The methodological study conducted involving forward and backward translation according to World Health Organization recommended guidelines. Permission for translation was obtained from the original author. Expert panel included five experts in the field of physiotherapy. Pilot study was performed on 30 Gujarati speaking females aged between 18 to 64 years living in community. A pre-final version was presented to expert panel and their reviews on Likert scale of 0 to 5, where 0 indicated strongly disagree and 5 indicated strongly agree, were noted. Validity of Gujarati version was assessed using item content validity index (I-CVI) and scale content validity index (S-CVI). Test-retest reliability was calculated by the intraclass coefficient (ICC).

Results: Gujarati version of the PFHKQ showed good I-CVI ranging from 0.72 to 1 and S-CVI of 0.873. Good reliability having a single measure ICC of 0.983 (95% confidence interval 0.96 to 0.99) and Cronbach's alpha of 0.876.

Conclusion: Gujarati version of PFHKQ is reliable and valid self-report tool to assess knowledge about pelvic floor health in men and women. Using this tool, health care professionals can understand patient's level of knowledge which helps to provide appropriate education and treatment in all age groups.

Keywords: Pelvic floor health knowledge quiz; Gujarati translation; PFHKQ

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INTRODUCTION

The pelvic floor consists of muscles, ligaments, and fascia which are important for the stability and tone of the pelvic girdle, continence, urination, and sexuality.[1] A weak pelvic floor muscle tension may cause disorders and pathologies, including prolapse, urinary incontinence (UI), constipation and sexual dysfunctions. It is estimated that pelvic floor disorders (PFDs) will increase by 35% over the next two decades, to an average of around 1.6 million per year till 2030.[2] In women, the prevalence of UI is linked to age, as it tends to increase with age and physiological changes associated with ageing in women which adds to its higher impact. Other known causes include obesity, smoking, physical inactivity, extended periods of inactivity, poor perceived health, and chronic illnesses such as diabetes, hypertension, and chronic obstructive pulmonary disease.[3]

In India, pelvic floor problems cause embarrassment to most women and are still a taboo, making it a neglected area of women's health and an important public health issue.[4] The literature on prevalence of PFDs in postpartum females in Indian population is limited, wherein studies assessing all domains of pelvic health are inadequate. Furthermore, no studies, in the Indian population, have focused on assessing the awareness of role of physiotherapy for the treatment of PFDs.[4] Most females hesitate to report symptoms either due to embarrassment, lack of awareness about treatment options, or misconception on normal aging process. Women usually seek help when the symptoms worsen to an extent where it makes surgical intervention essential.[4] Many questionnaires have been developed to evaluate the symptoms and the quality of life related to pelvic floor dysfunctions. These tools assess the symptoms of incontinence and prolapse only and not the knowledge about it. The pelvic floor dysfunction has a wide range, but the tools that assess individuals' knowledge level related to these dysfunctions are limited. It is very important to assess the level of knowledge about pelvic floor heath in community dwelling population for early identification of the problems.[4]

The pelvic floor health knowledge quiz (PFHKQ) is a self-report questionnaire originally developed in Turkish to evaluate the level of knowledge about pelvic floor health in men and women. The subscales were pelvic floor function/dysfunction, risk factors, diagnosis, and treatment of pelvic floor dysfunctions.[5] Twenty-nine questions with positive and negative answers for these subscales were prepared. The distribution of content in the subscales of this test: Function/dysfunction has eight items, risk factors have thirteen items, and diagnosis and treatment eight items. All items can be answered in yes, no, I do not know.[5]

Presently in Gujarat, there are tools to assess PFDs available to evaluate various impacts as well but no tool that assess the individual's knowledge about pelvic floor health. So, this study aims to translate and culturally adapt the PFHKQ into Gujarati to better understand knowledge of pelvic floor health among Gujarati speaking community dwelling populations.

MATERIALS AND METHODS

A methodological study was conducted following the Guidelines given by World Health Organization (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. Written informed consent was taken from participants. The Institutional Review Board (IRB) SBB IRB approved the study (protocal number: PTC/IEC15/2024-25, date: 30.08.2024). Forward translation in Gujarati from English was done by two bilingual independent translator who were native speakers of Gujarati language and fluent with English language. There were not familiar with the concepts being translated. The first translator had the background of healthcare, and the other translator had a background of literature and education. An independent bilingual translator then translated the draft back into English. The pre final version was presented to the expert committee of five physiotherapists and their reviews on Likert scale of 0 to 5, where 0 indicated strongly disagree and 5 indicated strongly agree were noted. The process of translation and cultural adaptation had minor linguistic changes. The draft was made with modifications according to expert panel's suggestions which was more suitable to Gujarati culture. Validity was found based on reviews of the expert panel. Based on their review, the words were changed to simpler Gujarati terms, making it easier for the Gujarati speaking population to understand. No questions were removed, added or changed completely.

The Gujarati version was given to 30 females aged between 18 to 64 years within the community, as a self-report test. Sample size was decided based on a study, WHO recommendation for translational studies.[6] The procedure was explained to the participants and written informed consent was taken. The questions were clear and comprehensible and the participants did not have any problems understanding the instructions and the questions. To determine test-retest reliability, participants completed the self-report test twice, with a two-day gap between the administrations. The final draft was sent to the original author.

Statistical Analysis

Validity was assessed through the calculation of the item content validity index (I-CVI) and scale content validity index (S-CVI). For assessing the reliability, the intraclass correlation coefficient (ICC) and Cronbach's Alpha were calculated.

RESULTS

The Gujarati version of the PFHKQ was tested for content validity and reliability. The item-level content validity index (I-CVI) for individual questions ranged from 0.72 to 1. The overall S-CVI was 0.873. For reliability, a test-retest method was used. The ICC for a single measure was 0.983 (95% confidence interval 0.96 to 0.99). Additionally, Cronbach's alpha for the scale was 0.876.

Tables 1 and 2 show demographics of expert panel and participants in form of mean and standard deviation

DISCUSSION

The PFHKQ Gujarati version has adequate psychometric properties. The statistical evaluation showed good item content validity and scale content validity. I-CVI scores ranged from 0.72 to 1. The S-CVI of 0.873 provides an overall justification for the relevance and comprehensiveness of the questionnaire consistent with values recommended in literature.[7,8] Excellent reliability, with an ICC of 0.983 and Cronbach's alpha of 0.876, which demonstrates that the questionnaire has a high consistency and internal consistency for stable and reliable responses over time and between participants. The psychometric properties suggests that the Gujarati version of the PFHKQ is an effective instrument both for clinical and research settings, providing much-needed insights into knowledge and understanding of pelvic floor health. This study lays the foundation for broad usage of the questionnaire in the Gujarati-speaking population, with its application towards health education and for improving pelvic health awareness.

The reliability of the subscales showed good consistency for the domain of function/dysfunction (α=0.880), risk factors/etiology (α=0.758) and diagnosis/treatment (α=0.598) which is comparable to the Spanish version of the Australian pelvic floor questionnaire exhibited good psychometric properties, with a Cronbach's alpha of 0.795 for the complete questionnaire, indicating acceptable internal consistency.[9] The reliability for individual domains showed strong consistency for bladder function (α=0.864), bowel function (α=0.796), and prolapse symptoms (α=0.851) (Medrano-Sánchez et al.[9]). The consistency of the diagnosis and treatment subscale was found to be moderate which can be due to broader scope of approaches and treatment outcomes.

Zhu et al.[10] found that the Chinese version of the PFIQ-7 demonstrated strong psychometric properties, with high internal consistency (α=0.801) and test-retest reliability (ICC =0.862) and factor analysis confirmed good construct validity.[11] Ketki V et al.[11] found that the Marathi version of revised UI scale demonstrated good psychometric properties, with internal consistency (r=0.88) and test-retest reliability (r=0.86). Good construct validity with Cronbach's alpha of 0.882.[10]

In the present study, some changes were made i.e., in question 6, sexual health, that is "jaatiya sambandh" was changed to "sharirik sambhand" (physical relation). In question 11, multiple, that is "bahuvida" was changed to "ek karta vadhare" (more than one) and vaginal birth to normal birth. In question 16, older people - "vrudh loko" was changed to "moti umar na loko-people in higher age group." In question 18, "posture disorder" was changed to "sharir ni sthirta na santulan ma padti takleefo" (difficulty in maintaining balance of body) as it is more appropriate and easier to understand for Gujarati speaking population.

Study Limitations

Face validity was not calculated for this study.

CONCLUSION

The Gujarati version of PFHKQ is a reliable and valid self-report tool to assess the knowledge about pelvic floor health among the Gujarati-speaking population across all age groups, in both men and women about pelvic floor issues, enabling them to identify problems early. As a self-report tool, it allows healthcare professionals to efficiently evaluate a patient's understanding, enabling more targeted discussions and better treatment based on the patient's knowledge.

Table 1. Demographics of experts in the panel

Gender (Male: Female)	1:4

Table 2. Demographics of participants

Variables	Mean± SD
Age (years)	36.16+16.40
SD: standard deviation	

ETHICS

Ethics Committee Approval: The Institutional Review Board (IRB) SBB IRB approved the study (protocal number: PTC/IEC15/2024-25, date: 30.08.2024).

Informed Consent: Written informed consent was taken from participants.

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FOOTNOTES

Contributions

Concept: R.P.T., M.S.S., Design: R.P.T., M.S.S., Data Collection or Processing: R.P.T., Analysis or Interpretation: R.P.T., M.S.S., Literature Search: R.P.T., Writing: R.P.T.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

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