

Research Paper

A Self-Report Home Environment Screening Tool for Determining Fall Risk in Iranian Older People



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ABSTRACT

Objectives Older people are at risk of falling and its complications more than other age groups. Evaluation of environmental hazards requires time and money. So it seems necessary to design a self-report questionnaire for initial screening. This study aims to develop a self-report tool for falling risk assessment in Iranian older people.

Methods & Materials After approval of the Ethics Committee of Iran University of Medical Sciences, an expert group prepared and wrote the study items using simple words and fluent structure. The reliability of the questionnaire was evaluated through test-retest method and its validity through content validity method. The elders were residents in their homes and had the appropriate level of consciousness to understand and respond to Persian sentences correctly. Information was collected through questionnaires and observations. Statistical evaluation was performed by SPSS version 16, and the retest test reliability of the questionnaire was determined by intra-class correlation coefficient.

Results In terms of content validity, Content Validity Ratio (CVR) formula was used, and the agreement between the experts was significant, so the questionnaire has good content validity. Test-retest reliability was calculated by Standard Error of Mean (SEM), and relative and absolute repeatability coefficients showed excellent reliability of this questionnaire. The validity of the questionnaire was calculated based on the Spearman correlation coefficient of 0.95 and P-value less than 0.001. The questionnaire contained 15 main questions and 75 sub-questions about the dangers of the home environment.

Conclusion The results of this study showed high validity and reliability of this questionnaire, so it can be used as a practical tool for identifying the risks of falling at home.

Key words:

Fall, Aged, Home accidents, Screening

Extended Abstract

1. Introduction

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alling is one of the leading causes of death, injury, and functional limitations among older people [1, 2]. The consequences of

falls include physical injuries, fear of falling, and partial or complete inactivity that can dramatically affect the lives of older people y [3, 4]. Evaluating home risks is a key component of managing the risks of falling among older people living in the community and requires appropriate tools to assist therapists in falls risk screening. Home risks are identified through home safety checklists, many of which

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are valid and reliable. Among the available tools, we used the Home Falls and Accidents Screening Tool (HOME FAST) to detect the elderly people who are at the high risk of falling or experienced a fall at home [5, 6]. Self-report and self-assessment are in line with the client-centered approach to interventions [7, 8]. This study aimed to prepare a self-report version of the HOME FAST for the elderly Iranian population.

2. Materials and Methods

After obtaining ethical clearance from the Research Ethics Committee of Iran University of Medical Sciences, the HOME FAST self-report design process was begun. The study was a non-experimental study performed in different areas of Tehran. In this regard, first, the Persian version of this tool was examined with the help of 5 occupational therapists and psychometrics experts. Twenty-five items were broken down into several questions and each question was subdivided into several intelligible questions. Then, to evaluate its content validity, a panel of 10 occupational therapists in geriatrics (6 women and 4 men with at least older people years of experience) from Iran University of Medical Sciences and Tabriz University of Medical Sciences examined the questions. Five older adults were randomly pre-tested to assess the face validity of the tool, and they were asked to examine the questionnaire in terms of comprehensibility and clarity for examining how seniors interpret each item and provide clear and orderly instruction. To evaluate the concurrent validity and degree of agreement between the therapist and the elderly, the scores of the Self Report (SR) version provided by the elderly were compared with the scores obtained from the Health Professional (HP) version, using the Spearman test. The obtained data were analyzed in SPSS V. 16.

3. Results

In this study, the participants consisted of 64 people aged over 60 years (35 men and 29 women). Thirty (46.9%) participants had a history of falling in the past year; 13 lived alone, 49 with family, and 2 with caregivers. During 4 sessions with experts (each taking 3 hours), 25 items were provided; 15 main questions and 75 sub-questions were answered by "Yes" or "No". Assessing the content validity of the tool, the agreement among 10 experts should be above 62%, and it was calculated according to the content validity ratio formula [30]. The results showed that out of the 80 items in the questionnaire, their agreement in 73 items was above 0.6. Since the questionnaire is designed for older people and requires minimal subjective judgment and a simple understanding of concepts and sentences, it is advised to include all items in the questionnaire. The

consensus among the experts was significant, and their opinions were homogeneous; so, it is worth mentioning that the designed questionnaire is valid in terms of content. The results of the Spearman test showed that the correlation between SR and HP versions was $r=0.95$ and $P<0.001$. According to the statistical data and the results presented in Table 3, absolute repeatability) SEM =0.25 (indicates good test-retest reliability of the designed tool, since it is less than 10% of the total score. Moreover, the relative repeatability (ICC =0.99) indicates its good test-retest reliability, since the values are greater than 0.8.

4. Conclusion

The designed Home FAST-SR tool had good validity and reliability and could be used in epidemiological studies or to examine all nursing homes because of the lack of therapeutic force. By using this tool, if multiple hazards are identified, more detailed studies can be recommended.

Ethical Considerations

Compliance with ethical guidelines

This study obtained its ethical clearance from the Research Ethics Committee of Iran University of Medical Sciences (Code: IR.IUMS.REC.93.1055403).

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Authors' contributions

All authors had contribution in preparing this paper.

Conflicts of interest

The authors declare no conflict of interest.

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