



The Reliability and Validity of the Turkish Version of the Survey of Activities and Fear of Falling in the Elderly

Burcu Ersoz Huseyinsinoglu, PT, PhD¹; Zeynep Tufekcioglu, MD²;
Tansu Birinci, PT, PhD(c)³; Filiz Demirdag, MD⁴

ABSTRACT

Background and Purpose: The Survey of Activities and Fear of Falling in the Elderly (SAFE) was originally developed in English to determine the level of fear of falling and its interactions with activities of daily living. The purpose of this study was to translate and cross-culturally adapt the SAFE instrument into Turkish and investigate its psychometric properties.

Participants: One hundred eleven older adults (72 females) with a mean age of 69 years (SD = 7.22; range, 60-87) were included.

Methods: For cross-cultural adaptation, 2 bilingual translators used the back-translation procedure. Within a 5- to 7-day period after the first assessment, the participants completed the Turkish version of the SAFE (SAFE-T) to evaluate test-retest reliability. Cronbach's α was used to assess internal consistency. The correlation with the Turkish version of the Falls Efficacy Scale-International (FES-T) was determined to check the validity.

Results: The SAFE-T had excellent internal consistency ($\alpha = 0.96$) and test-retest reliability (intraclass correlation coefficient [ICC_{2,1}] = 0.96 for activity level, ICC_{2,1} = 0.95 for fear of falling, and ICC_{2,1} = 0.86 for activity restriction subscales).

The SAFE-T activity level and SAFE-T activity restriction subscales were moderately correlated with the FES-I ($\rho = -0.51$, $P < .001$; $\rho = 0.55$, $P < .001$, respectively). A strong positive correlation was found between the SAFE-T fear of falling subscale and the FES-I ($\rho = 0.75$, $P < .001$), indicating good concurrent validity.

Conclusions: The results show that the SAFE-T is semantically and linguistically adequate to assess the fear of falling in adults older than 60 years. Excellent internal validity and test-retest reliability of the SAFE-T were defined to evaluate the fear of falling among Turkish speaking older adults.

Key Words: accidental falls, activity restriction, fear of falling, participation restriction, psychometrics

(*J Geriatr Phys Ther* 2020;0:1-6.)

INTRODUCTION

Falls are one of the leading causes of injury-related morbidity and mortality among older adults.¹ Commonly feared consequences of falling are identified as loss of functional independence, activity avoidance, damage to identity, and the fear of falling (FOF).² The FOF is defined as a cautious and persistent concern with falling, loss of balance, and loss of confidence during one or more activities of daily living (ADL) that ultimately results in a restriction of activities.³ It has been estimated that the prevalence of FOF in the general older population is 20.8% to 85% and it is more common among fallers.⁴ Although the experience of falling may cause the FOF, it has been suggested that the FOF also increases the risk of falling.⁵ Moreover, the FOF has been associated with female sex,⁵ decreased cognitive status,² depression,^{6,7} advanced age,⁸ impaired functional capacity,² and chronic diseases.⁹ Consequently, assessing older adults in terms of the FOF and risk factors seems to contribute to reducing mortality and morbidity related to falling among older adults.

In the literature, many studies used different measurement outcomes for evaluation of the FOF.⁴ Asking a single dichotomous question such as "How afraid of falling are you?" is one of the most frequently used methods to evaluate the FOF. However, although it is informative, the severity of FOF and the presence of FOF in different activities cannot be assessed with this approach. The Fall Efficacy Scale-International (FES-I) and Activities-Specific

¹Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Istanbul University-Cerrahpasa, Turkey.

²Department of Neurology, Faculty of Medicine, Istanbul Aydın University, Turkey.

³Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Istanbul Medeniyet University, Turkey.

⁴Department of Geriatric Medicine, Istanbul Medeniyet University Göztepe Training and Research Hospital, Turkey.

This study has been registered in the ClinicalTrials.gov with registration number NCT04139109.

The authors declare no conflicts of interest.

Supplemental digital contents are available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's Web site (www.igptonline.com).

Address correspondence to: Tansu Birinci, PT, PhD(c), Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences, Istanbul Medeniyet University, Istanbul, Turkey (tansubirinci@hotmail.com; tansu.birinci@medeniyet.edu.tr).

Copyright © 2020 Academy of Geriatric Physical Therapy, APTA.

DOI: 10.1519/JPT.0000000000000260

Balance and Confidence (ABC) scales have been developed to measure fall-related efficacy.^{10,11} The FES-I assesses the degree of perceived self-efficacy at avoiding a fall during 10 different basic ADL,¹⁰ and the ABC scale includes a broader range of activity difficulty, focusing on whether individuals believe they can perform ADL confidentially.¹¹ Although these scales measure self-efficacy, they do not provide information about activity levels and the reasons for activity restriction. The Survey of Activities and Fear of Falling in the Elderly (SAFE) questionnaire seems to be able to overcome these limitations.¹² The SAFE has good internal inconsistency and interrater reliability compared with the FES-I and ABC scales.⁴ This questionnaire assesses activity restriction and FOF during the performance of 11 activities and may differentiate the reasons of activity restriction regardless of their relation with the FOF.¹² An in-depth examination of the FOF by means of the SAFE reveals valuable information about the extent and nature of the activity limitation and participation restriction and helps physical therapists to select the most appropriate types of interventions for treatment plans. The SAFE provides the opportunity to evaluate older adults from the perspective of the International Classification of Functioning, Disability and Health (ICF), which is accepted as a global language related to functioning.¹³ Falls are one of the most common problems identified in the older population around the world,¹⁴ and outcome measurements that are cross-culturally adapted and validated are needed to conduct international multicenter studies on this subject. Also, these tools may have potential benefit for international comparisons of falls and FOF. Due to the lack of any validated, reliable scales in Turkish that assess activity levels and activity restriction related to the FOF, this study aimed to cross-culturally adapt the SAFE instrument into Turkish and investigate its psychometric properties.

METHODS

Procedure

One-hundred eleven older adults who were admitted to the Department of Geriatrics at Istanbul Medeniyet University Goztepe Training and Research Hospital or who volunteered to participate in this study via an online form were evaluated between January 2018 and July 2018. Ethical approval, according to the Helsinki Declaration, was obtained from the Noninvasive Research Ethics Board of Biruni University (Decision No: 2018/12-8). Verbal and written explanations were provided to patients about the study, and all patients provided written informed consent. This study was registered with ClinicalTrials.gov (registration number: NCT04139109).

The eligibility criteria were as follows: (1) older than 60 years; (2) ability to read and write in Turkish; (3) a score of 24 more on the Mini-Mental State Examination, (4) more than 3 according to the Functional Ambulation Category (FAC); and (5) no pathology in visual ability and hearing. The exclusion criteria were as follows: (1)

neurologist-diagnosed dementia or Alzheimer's disease; (2) ambulatory only with a wheelchair; and (3) amputated lower extremity. Information on age, weight, height, body mass index, sex, dominant extremity, chronic illnesses, frequency of falls in the last 6 months, presence of leg pain at rest and during activity, and use of assistive devices in ambulation was obtained from all participants. According to the FAC, level 4 indicates the ability to walk independently on level ground but help is required on stairs, slopes, or uneven surfaces (ambulatory-independent level surfaces only), and level 5 indicates the ability to walk independently anywhere.¹⁵

Translation and Cross-cultural Adaptation

Permission for the Turkish cross-cultural translation was obtained from Dr Margie Lachman, who was the corresponding author of the article that included the original version of the SAFE.¹² The cross-cultural adaptation of the SAFE was performed in 5 phases, according to Beaton et al's recommendations.¹⁶ In phase 1, the English version of the SAFE was translated into Turkish by 2 different translators whose first language was Turkish. One of the translations was performed by a physical therapist to ensure equality from a clinical viewpoint. The second translation was made by another person who had no medical or clinical background to reveal any ambiguous concepts in the original survey. In phase 2, the 2 translators and other researchers synthesized the original scale and translations, and the translators' reports analyzed the inconsistencies. In the third phase, after the Turkish translation into English was completed, 2 native English speakers with a good command of Turkish translated the finalized Turkish translation into English, separately. In the fourth phase, a committee consisting of the 4 translators consolidated all versions of the questionnaire, and for field-testing, the prefinal version of the SAFE-T was developed. During the translation process, in the 10th item, the translators noticed that the term "several blocks" could not be used to explain distance in Turkish. The 10th item was adapted to, "Do you walk more than 500 meters outside?" because the distance between 2 bus stops is generally 500 m in Turkey. In the final phase, the prefinal version was administered to 30 older adults. The scale was finalized by making modifications about questions that were difficult to understand and evaluate by the participants. In the third and fourth items, as the participants did not understand the questions accurately, they were modified to "Take a tub bath alone" and "Get out of bed alone," respectively (see the Supplemental Digital Content, Appendix 1, available at: <http://links.lww.com/JGPT/A42>).

Outcome Measurements

The Survey of Activities and Fear of Falling in the Elderly

The SAFE is a reliable ($\alpha = 0.95$) and valid ($r = 0.91$) questionnaire for evaluating activity level, FOF, and activity restriction. The SAFE assesses 11 community-based and

home-based activities.¹² For each activity, the participants are asked to respond to 6 items, as follows:

- SAFE-A: Do you currently do the activity? (yes or no)
- SAFE-B: If you do the activity, how worried are you that you might fall? (0 = not at all worried, 1 = a little worried, 2 = somewhat worried, and 3 = very worried)
- SAFE-C: If you do not do the activity, do you not do it because you are worried you might fall? (0 = not at all worried, 1 = a little worried, 2 = somewhat worried, and 3 = very worried)
- SAFE-D: If you do not do the activity due to worry, are there other reasons that you do not do it? (if yes, please specify the reason)
- SAFE-E: If you are not worried, what are the reasons that you do not do the activity? (please specify the reason)
- SAFE-F: Compared with 5 years ago, would you say that you do the activity 1 = more than you used to, 2 = about the same, or 3 = less than you used to?

The SAFE is scored as follows:

- SAFE-A: The activity level is scored as the number of activities being performed. The maximum score is 11, and higher scores indicate a higher activity level.
- SAFE-B: The FOF score is computed as the average worry scores across the 11 activities (or across as many of the activities that are performed, ie, if yes to A). Each activity is scored in the range 0 to 3 by recoding the answer. The recoding is described as 0 = 4 (not at all worried), 1 = 3 (a little worried), 2 = 1 (somewhat worried), and 3 = 1 (very worried). In total, higher scores indicate a greater FOF.
- SAFE-F: Activity restriction is scored by counting the number of activities responded to as “less than you used to.”^{7,17}
- SAFE-C, SAFE-D, and SAFE-E consist of questions for specifying the reasons for participation restriction; therefore, they are not suitable to score.¹²

Falls Efficacy Scale-International

The Falls Efficacy Scale-International (FES-I) is a 16-item self-administered questionnaire that was designed to assess the FOF in community-dwelling older people. It provides information on the level of concern about falls during ADL. Each item is rated on a 4-point scale, where 1 = not at all concerned, 2 = somewhat concerned, 3 = fairly concerned, and 4 = very concerned. The total score ranges from 16 (no concern about falling) to 64 (extreme concern about falling).¹⁰ The Turkish version of the FES-I (FES-T), which was previously reported as a reliable ($\alpha = 0.94$) and valid ($r = -0.83$) instrument, was used in the present study.¹⁸ Minimal detectable changes at 95% confidence intervals (MDC_{95}) for the FES-I of 17.7 points were detected in older adults with hip fractures.¹⁹

Initially, all participants completed the SAFE-T and the FES-T. Within a 5- to 7-day period after the first assessment, the participants completed the SAFE-T questionnaire to evaluate the test-retest reliability.

Statistical Analyses

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) 20.0 (SPSS Inc, Chicago, Illinois). Descriptive statistics including frequency, the percentage for nominal variables, and mean and standard deviation for continuous variables were calculated. The Kolmogorov-Smirnov test was used to test the normality of data distribution before the statistical analysis. The internal consistency of the SAFE-T was analyzed through Cronbach's α and item-total correlations. In this study, data from the patients included in the first assessment of the SAFE-T FOF subscale were used to assess internal consistency. An α value ranging from 0.70 to 0.95 was considered to be adequate.²⁰ The intraclass correlation coefficient (ICC) was calculated using a 2-way, mixed-model under consistency. The agreement was interpreted as poor for ICC values less than 0.40, fair for values between 0.40 and 0.59, good for values between 0.60 and 0.74, and excellent for values above 0.75.²¹ Spearman's rank correlation coefficient was used to analyze concurrent validity between the FOF-T and the FES-T. Strength of correlations was interpreted as follows: 0.00 to 0.30, negligible correlation; 0.30 to 0.50, weak correlation; 0.50 to 0.70, moderate correlation; 0.70 to 0.90, strong correlation; and 0.90 to 1.00, very strong correlation.²² The agreement was assessed using the standard error of measurement (SEM) and the MDC_{95} . The SEM is calculated as the standard deviation of the scores times the square root ($1 - ICC$). MDC_{95} was calculated as the SEM multiplied by 1.96 multiplied by the square root of 2.²³ The level of significance considered was .05.

RESULTS

The translators had no difficulties in finding the most suitable Turkish words during the translation process. The preliminary testing showed no difficulty in the patients' understanding of all questions. The patients required approximately 15 minutes to complete the SAFE-T. A total of 111 older adults with a mean age of 69.94 (7.22) years were included in this study. The demographic and clinical characteristics of the participants and the descriptive statistics for the scores at baseline are provided in Table 1. The majority had no history of falling during the past 6 months (83.8%), no need for walking aids (92.8%), and were functionally independent (92.8%) (Table 1). Thirty-two of the 111 participants reported that they had leg pain at rest, whereas 48 participants had leg pain when walking.

The internal consistency of the first assessment of the SAFE-T FOF subscale was strong, with an α of 0.96. Item-total correlations ranged from 0.51 to 0.91, and an α value with the deletion of single items was very close to the overall α value (ranging from 0.95 to 0.96), indicating that the scale was homogeneous (Table 2). The means and

Table 1. Demographic and General Assessment Data of the Patients

Characteristics (n = 111)	Mean (SD) or n (%)
Age, y	69.94 (7.22)
BMI, kg/m ²	27.96 (4.65)
Sex	
Female	72 (64.9%)
Male	39 (35.1%)
Education, y	8.23 (4.86)
Number of comorbidities	2.12 (1.93)
Fall history	
Yes	18 (16.2%)
No	93 (83.8%)
Use of walking aids	
Without aids	103 (92.8%)
Cane	8 (7.2%)
Functional Ambulation Category	
Independent	103 (92.8%)
Independent, level surfaces only	8 (7.2%)
Mini-Mental State Examination	26.68 (1.94)
FES-I	23.78 (7.85)
Abbreviations: BMI, body mass index; FES-I, Falls Efficacy Scale-International; SD, Standard deviation.	

standard deviations of the SAFE-T subscales of the first and second assessments are given in Table 3. The ICC_{2,1} was 0.96 (95% confidence interval [CI]: 0.94-0.97), 0.95 (95% CI: 0.93-0.97), and 0.86 (95% CI: 0.81-0.90) for the SAFE-T activity level, FOF, and activity restriction subscales, respectively.

The SAFE-T activity level and SAFE-T activity restriction subscales were moderately correlated with FES-I scores ($\rho = -0.51, P < .001$; $\rho = 0.55, P < .001$, respectively). A

strong positive correlation was found between the SAFE-T FOF subscale and FES-I scores ($\rho = 0.75, P < .001$), indicating good concurrent validity. The SEM and MDC₉₅ were determined as 0.33 and 0.90 for the SAFE-T activity level subscale, 0.11 and 0.30 for the SAFE-T FOF subscale, and 1.19 and 3.26 for the SAFE-T activity restriction subscale.

DISCUSSION

The present study aimed to evaluate the validity and reliability of a Turkish language version of the SAFE. Acceptable levels of reliability ($\alpha = 0.96$) and validity ($\rho = 0.75, P < .001$) were established for the SAFE-T. The internal validity of the SAFE-T was excellent, similar to results obtained from other studies that used the SAFE, such as the original SAFE ($\alpha = 0.91$),¹² and the SAFE adapted to Portuguese ($\alpha = 0.86$),²⁴ Farsi ($\alpha = 0.97$),²⁵ and English ($\alpha = 0.84$).²⁶ The ICC_{2,1} was 0.96, 0.95, and 0.86 for the SAFE-T activity level, FOF, and activity restriction subscales, respectively. In the current study, the MDC₉₅ values were determined as 0.90 for the SAFE-T activity level subscale, 0.30 for the SAFE-T FOF subscale, and 3.26 for the SAFE-T activity restriction subscale. Physical therapists should be aware that any change of less than these values of MDC₉₅ on repeated administrations of the SAFE-T might reflect measurement errors rather than an actual change in the patient’s FOF. The MDC₉₅ value for the SAFE-T could not be compared with the other studies in the literature because they did not calculate the MDC₉₅ value for their sample.²⁴⁻²⁶

Falls can lead to fatalities, but they also cause a reduction in both mobility and social participation. A history of falls makes older adults avoid performing activities, which leads to increased comorbidities and indirectly increases the risk of falling.²⁷ Recent literature indicated that the FOF needs to be taken into consideration by therapists in predicting which individuals might be at risk for falling.^{5,8} Therefore, an outcome measure that assesses the FOF

Table 2. Internal Consistency of the SAFE-T

SAFE-T Fear of Falling Subscale Items	Score Mean (SD)	Item-Total Correlation	Cronbach's α If Item Deleted
1. Go to the store	1.75 (1.65)	0.85	0.95
2. Prepare simple meals	1.35 (1.65)	0.81	0.95
3. Take a tub bath	1.41 (1.54)	0.80	0.95
4. Get out of bed	1.38 (1.48)	0.82	0.95
5. Take a walk for exercise	1.22 (1.40)	0.51	0.96
6. Go out when it is slippery	1.54 (1.58)	0.87	0.95
7. Visit a friend or relative	1.58 (1.61)	0.91	0.95
8. Reach for something over your head	1.74 (1.52)	0.76	0.96
9. Go to a place with crowds	1.50 (1.59)	0.87	0.95
10. Walk several blocks outside	1.62 (1.66)	0.90	0.95
11. Bend down to get something	1.84 (1.56)	0.85	0.95
Abbreviations: SAFE-T, Turkish Version of the Survey of Activities and Fear of Falling in the Elderly; SD, Standard deviation.			

Table 3. Test-Retest Reliability of the SAFE-T

SAFE Subscales	Mean (SD), 95 % CI n = 111	Test-Retest Reliability ICC (95% CI)
SAFE-T activity level		
First assessment	9.70 (1.53), 9.41-9.96	0.96 (0.94-0.97)
Second assessment	9.75 (1.46), 9.47-10.00	
SAFE-T fear of falling		
First assessment	0.41 (0.56), 0.31-0.51	0.95 (0.93-0.97)
Second assessment	0.40 (0.53), 0.30-0.51	
SAFE-T activity restriction		
First assessment	3.49 (3.22), 2.92-4.08	0.86 (0.81-0.90)
Second assessment	3.41 (3.22), 2.82-4.03	

Abbreviations: CI, confidence interval; ICC, intraclass correlation coefficient; SAFE-T, Turkish Version of the Survey of Activities and Fear of Falling in the Elderly; SD, Standard deviation.

from the perspective of participation will be more useful in determining restrictions in ADL.^{5,22} The ABC scale and the FES-I, as well as the SAFE, are the most broadly used assessment tools.²¹ Based on our findings, the SAFE-T FOF score positively and strongly correlated with the Turkish version of the FES-I, which is consistent with the result of the original SAFE.¹¹ However, to our knowledge, the SAFE is the only outcome measure that assesses the FOF in 3 different aspects: activity participation, degree of fear, and activity restriction. In this study, the main reason for choosing the SAFE for cultural adaptation is that even though there have been scales related to the FOF, which have previously been adapted into Turkish, they do not inform about activity participation and restriction.

In order to manage the rehabilitation process correctly, it is important to determine the aim of the individuals in their participation in a rehabilitation program and to decide appropriate interventions for them. The most important step of this process, also called clinical reasoning, is evaluation. A well-established assessment helps the physical therapist to prepare a program for the desired goal. Recent studies have indicated that the desired goals should be determined by functional activities—as questioned in the SAFE—such as getting out of bed or preparing simple meals.^{28,29} The assessment of older adults using the SAFE makes setting functional goals possible and helps reveal restrictions such as impaired vision, anxiety, depression, and poorer health or reduced functional performance.¹⁷ Therefore, it seems worthy to use the SAFE in clinical settings even though it takes more time than other outcome measures that only determine the level of the FOF.

The psychometric properties of the SAFE have been demonstrated among older people and in individuals with Parkinson's disease or stroke. In some of these studies, it was seen that the cross-cultural adaptation process was not implemented. Jonasson et al³⁰ found that the α value of the Swedish SAFE was 0.94, and its ICC level was 0.85 (0.78-0.90) for individuals with Parkinson's disease. These results were similar to our findings according to the psychometric properties. Zarei et al²⁵ studied the Farsi

cross-cultural adaptation of the SAFE, which was found to have adequate construct validity and test-retest reliability in individuals with Parkinson's disease. In addition, Liu and Ng³¹ established the validity and reliability of the Chinese version of the SAFE among community-dwelling stroke survivors. They also revealed that individuals with stroke with good functional mobility had a low-level FOF. In our study, because we only aimed to perform cross-cultural reliability and validity testing, we included older adults who had independent mobility. Accordingly, we did not compare FOF levels across the different mobility levels. In a sense, we found these studies guiding for the future for the validity and reliability studies of the SAFE-T in different patient populations and different mobility levels.

The strength of the current study is the provision of a cross-culturally adapted scale measuring activity level, FOF, and activity restriction in Turkish because there is no reliable and valid scale in this context in the Turkish language. One of the critical topics for determining test-retest reliability is the interval between repeat measurements, which should be relatively long to prevent a recall of the previous answer. In our study, the test was repeated within 5 to 7 days. However, the interval between repeat measurements was not reported in the other studies that previously used the SAFE in the literature.²⁴⁻²⁶ In addition, we reported the MDC₉₅ for the SAFE-T, but to our knowledge, there is no other study for direct comparison in the literature because previous studies did not calculate the MDC₉₅ value for their sample. Despite demonstrating adequate reliability, validity, and internal consistency of the SAFE-T in adults older than 60 years, this study has several limitations. First, the responsiveness to change in the SAFE-T was not reported in the present study. Secondly, data were obtained from relatively healthy community-dwelling older adults living in an urban area; therefore, the findings should be interpreted with caution in frail, older adults with multiple morbidities and those living in rural areas or nursing homes. Lastly, the total score comparison could not be performed between fallers and nonfallers because the appropriate data did not exist. The result of this comparison will give further information

if this scale has differential properties regarding the FOF in these populations.

CONCLUSIONS

The results of the present study show that the Turkish version of the SAFE is semantically and linguistically adequate to assess the FOF in adults older than 60 years. It has demonstrated excellent internal validity and test-retest reliability to evaluate the FOF in cognitively intact older adults. This scale can be an essential instrument including subscales for activity levels, FOF, and activity restrictions in both scientific research and clinical practice.

REFERENCES

- Rosen T, Mack KA, Noonan RK. Slipping and tripping: fall injuries in adults associated with rugs and carpets. *J Inj Violence Res.* 2013;5(1):61-69.
- Yardley L, Smith H. A prospective study of the relationship between feared consequences of falling and avoidance of activity in community-living older people. *Gerontologist.* 2002;42(1):17-23.
- Tinetti ME, Powell L. Fear of falling and low self-efficacy: a cause of dependence in elderly persons. *J Gerontol.* 1993;48:35-38.
- Scheffer AC, Schuurmans MJ, Van Dijk N, Van Der Hooft T, De Rooij SE. Fear of falling: measurement strategy, prevalence, risk factors and consequences among older persons. *Age Ageing.* 2008;37(1):19-24.
- Gazibara T, Kurtagic I, Kusic Tepavcevic D, et al. Falls, risk factors and fear of falling among persons older than 65 years of age. *Psychogeriatrics.* 2017;17(4):215-223.
- Austin N, Devine A, Dick I, Prince R, Bruce D. Fear of falling in older women: a longitudinal study of incidence, persistence, and predictors. *J Am Geriatr Soc.* 2007;55(10):1598-1603.
- Painter JA, Allison L, Dhingra P, Daughtery J, Cogdill K, Trujillo LG. Fear of falling and its relationship with anxiety, depression, and activity engagement among community-dwelling older adults. *Am J Occup Ther.* 2012;66(2):169-176.
- Zijlstra GR, Van Haastregt JC, Van Rossum E, Van Eijk JTM, Yardley L, Kempen GI. Interventions to reduce fear of falling in community-living older people: a systematic review. *J Am Geriatr Soc.* 2007;55(4):603-615.
- Dierking L, Markides K, Al Snih S, Kristen Peek M. Fear of falling in older Mexican Americans: a longitudinal study of incidence and predictive factors. *J Am Geriatr Soc.* 2016;64(12):2560-2565.
- Tinetti ME, Richman D, Powell L. Falls efficacy as a measure of fear of falling. *J Gerontol.* 1990;45(6):239-243.
- Powell LE, Myers AM. The activities-specific balance confidence (ABC) scale. *J Gerontol A Biol Sci Med Sci.* 1995;50(1):28-34.
- Lachman ME, Howland J, Tennstedt S, Jette A, Assmann S, Peterson EW. Fear of falling and activity restriction: the Survey of Activities and Fear of Falling in the Elderly (SAFE). *J Gerontol B Psychol Sci Soc Sci.* 1998;53(1):43-50.
- World Health Organization. *International Classification of Functioning, Disability and Health: ICF.* Geneva, Switzerland: World Health Organization; 2001.
- Yoshida-Intern S. *A global Report on Falls Prevention Epidemiology of Falls.* Geneva, Switzerland: World Health Organization; 2007.
- Holden MK, Gill KM, Magliozzi MR. Gait assessment for neurologically impaired patients: standards for outcome assessment. *Phys Ther.* 1986;66(10):1530-1539.
- Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine.* 2000;25(24):3186-3191.
- Allison LK, Painter JA, Emory A, Whitehurst P, Raby A. Participation restriction, not fear of falling, predicts actual balance and mobility abilities in rural community-dwelling older adults. *J Geriatr Phys Ther.* 2013;36(1):13-23.
- Ulus Y, Durmus D, Akyol Y, Terzi Y, Bilgici A, Kuru O. Reliability and validity of the Turkish version of the Falls Efficacy Scale International (FES-I) in community-dwelling older persons. *Arch Gerontol Geriatr.* 2012;54(3):429-433.
- Visschedijk JH, Terwee CB, Caljouw MA, Spruit-van Eijk M, van Balen R, Achterberg WP. Reliability and validity of the Falls Efficacy Scale-International after hip fracture in patients aged ≥ 65 years. *Disabil Rehabil.* 2015;37(23):2225-2232.
- Nunnally J, Bernstein I. *Psychometric Theory.* 3rd ed. New York, NY: MacGraw-Hill; 1994.
- Cicchetti DV. The precision of reliability and validity estimates re-visited: distinguishing between clinical and statistical significance of sample size requirements. *J Clin Exp Neuropsychol.* 2001;23(5):695-700.
- Hinkle DE, Wiersma W, Jurs SG. *Applied Statistics for the Behavioral Sciences.* 2nd ed. Boston, MA: Houghton Mifflin Company; 1988.
- de Vet HC, Terwee CB, Bouter LM. Current challenges in clinimetrics. *J Clin Epidemiol.* 2003;56(12):1137-1141.
- Fucahori FS, Lopes AR, Correia JJA, Silva CKd, Trelha CS. Fear of falling and activity restriction in older adults from the urban community of Londrina: a cross-sectional study. *Fisioter Mov.* 2014;27(3):379-387.
- Zarei M, Lajevardi L, Zarei MA, Azad A, Mollazadeh E. Construct validity and test-retest reliability of survey of activities and fear of falling in the elderly among Iranian patients with Parkinson disease. *Middle East J Rehabil Health.* 2016;3(3):e37442.
- Talley KM, Wyman JF, Gross CR. Psychometric properties of the activities-specific balance confidence scale and the survey of activities and fear of falling in older women. *J Am Geriatr Soc.* 2008;56(2):328-333.
- Jefferis BJ, Iliffe S, Kendrick D, et al. How are falls and fear of falling associated with objectively measured physical activity in a cohort of community-dwelling older men? *BMC Geriatr.* 2014;14(1):114.
- Wade DT. *Goal Setting in Rehabilitation: An Overview of What, Why and How.* London, England: SAGE Publications; 2009.
- Kus S, Müller M, Strobl R, Grill E. Patient goals in post-acute geriatric rehabilitation: goal attainment is an indicator for improved functioning. *J Rehabilitation Med.* 2011;43(2):156-161.
- Jonasson SB, Nilsson MH, Lexell J. Psychometric properties of four fear of falling rating scales in people with Parkinson's disease. *BMC Geriatr.* 2014;14(1):66.
- Liu T-W, Ng SS. The reliability and validity of the Survey of Activities and Fear of Falling in the Elderly for assessing fear and activity avoidance among stroke survivors. *PLoS One.* 2019;14(4):e0214796.