Commentary

Functional mobility and risk for falls of community dwelling elderly Filipinos in Marikina city

Mallillin TR; Delas Llagas CD; Garcia CA; Liquete NG; Que-Sanchez PRC; and Villamor AB

ABSTRACT

Objective: Balance and stability are important factors in maintaining a healthy lifestyle. The purpose of this study is to determine balance and gait scores, areas of deficiencies, and risk for falls of community-dwelling elderly Filipinos. **Methodology:** A cross-sectional observational study of 208 subjects, 60 years old and above, residing in Marikina City was done. The Tinetti Balance and Gait Test was used. Measures of central tendency were determined for balance, gait, and combined scores. Comparisons of mean scores as to gender and age group were done using unpaired t-test and the Mann-Whitney U Test. **Results:** No significant difference was seen between male and female elderly subjects. A significant difference was seen between young-old and old-old individuals for balance and combined scores. Mean score for combined balance and gait for the 60-74 years old was 22.49 ± 6.07 while for ≥ 75 years old it was 19.62 ± 7.69. Scores revealed that in age group 1, 54% are at low risk, 20% at moderate risk and 26% at high risk for falls, while in age group 2, 48% are at low risk, 3% at moderate risk and 49% at high risk for falls. **Conclusion:** Functional mobility and risk for falls of community-dwelling elderly Filipinos living in Marikina City were determined. Areas of deficiencies in balance assessment included nudged, standing balance, arising, turning $360°$ and sitting down. During gait, trunk, path, step symmetry, and walking stance were deficient for most of the subjects. Clinically, these aspects must be addressed according to the needs and deficiencies that the individual presents with and should be emphasized during treatment.

Key words: balance, gait, elderly, falls, Tinetti Balance and Gait Test (non-MeSH)

COMMENTARY

This cross-sectional observational study provides detailed information about functional balance and gait performance in a selected community dwelling older population. The study provides normative data for 60-80 year-olds for the Tinetti Balance and Gait test. As other studies have found, balance and gait abilities decline in the older age group and no significant differences between men and women's performance of chosen tests were found[1-3]. The usefulness of this information to health professionals and the generalizability of the results may be limited due the fact that the selection criteria for participants in the study excluded participants who were unable to walk independently, who had a history of one or more falls in last year, who were undertaking any regular exercise, or who were undergoing any form of physical therapy. It might have been helpful if the study expounded on the rationale why all these exclusion criteria were adhered to.

The Tinetti Balance and Gait Test had been validated in a residential care population previously[4]. Thus, the authors chose to conduct inter-rater and intra-rater reliability studies as part of their methodology. While excellent results were reported from these studies, with ICCs =1.00, it would be worth noting that only five participants were involved in these studies. Furthermore, it is questionable if ICC analysis is appropriate for ordinal data generated from the Tinetti Balance and Gait Test[5].

An interesting finding from this study was that 26% of the young old group were at high risk of falls (scored $\leq$ 18 on the Tinetti Balance and Gait test) and 49% of the old-old group were at high risk of falls. Given that people who had a history of falling in the last 12 months were excluded these figures seem worthy of attention. This relatively inactive group of older people may need individually-designed fall-prevention activities. As recommended by the authors, it would also be important to validate risk classification to the local setting to see if indeed the cut off score of 18 for the Tinetti Balance and Gait test is truly predictive of falls risk.

Shylie Mackintosh, PhD
School of Health Sciences
City East Campus
University of South Australia

REFERENCES

1. Cohen H, Heaton LG, Congdon SL, Jenkins HA. Changes in sensory organization test scores with age. *Age Ageing*. 1996;25:39-44
2. Baloh RW, Jacobson KM, Enrietto JA, Corona S, Honrubia V. Balance disorders in older persons: Quantification with posturography. *Otolaryngol Head Neck Surg*. 1998;119:89-92
3. Nitz JC, Choy NL, Isles RC. Medial-lateral postural stability in community-dwelling women over 40 years of age. *Clinical Rehabilitation*. 2003;17:765-767
4. Cipriany-Dacko LM, Innerst D, Johannsen J, Rude V. Interrater reliability of the Tinetti balance scores in novice and experienced physical therapy clinicians. *Archives of Physical Medicine & Rehabilitation*. 1997;78:1160-1164
5. Portney LG, Watkins MP. *Foundations of clinical research: Applications to practice*. Norwalk, Connecticut: Appleton & Lange; 1993.

Commentary
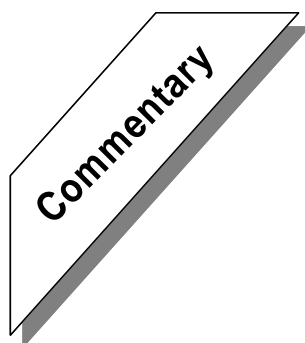
A comparative analysis of the cognitive functioning of community dwelling and institution based well elderly in Manila

Guerrerro JR; Aguirre JM; Carpio AD; Dalupang RG; Nicolas LA

ABSTRACT

Objectives: The Mini Mental State Examination (MMSE) is the most widely used instrument for quantitative assessment of cognitive function. This study tested the face validity, internal consistency, test-retest reliability and sensitivity of a Filipino translation of the MMSE (F-MMSE). Sensitivity was tested in terms of the instrument's capacity to detect differences in cognitive function related to living environments, gender, age, civil status, and educational attainment of the respondents. **Methodology:** To test for face validity, the MMSE and F-MMSE were sent to three experts, who commented on the F-MMSE translation and whether it reflected the content and construct of the MMSE. To test for internal consistency, 48 subjects (21 community dwelling and 27 institution-based elderly in the City of Manila) were selected through convenience sampling. The F-MMSE was administered once to all 48 respondents. For test-retest reliability, F-MMSE was re-administered five days later to 20 of the 48 subjects (conveniently sampled). Internal consistency of the F-MMSE was established on all 48 initial responses using Cochran Q analysis of Variance, and test-retest reliability was established on the 20 repeated scores using Pearson correlations. The sensitivity of the F-MMSE in detecting differences in cognitive function in institution and community-dwelling groups, age, gender, civil status, and educational attainment was calculated using the Wilcoxon Rank Sum W Test and chi-square tests for independence. **Results:** The experts decided that the F-MMSE had face validity, in that the translation adequately reflected the original instrument. The F-MMSE was strongly internally consistent (Cochran Q 0.9), and was reliable on test-retest (Pearson r=0.96). The F-MMSE was sensitive in that it detected significant differences in scores (community-dwelling adults cognitive status was higher than institution-based participants (25.3, SD=4.6) and (21.9, SD= 4.6), respectively *(p<0.05)*). The F-MMSE did not distinguish between gender and civil status. However, it was sensitive to age and educational attainment of the respondents. **Conclusion:** The F-MMSE had acceptable face validity, internal consistency, and test-retest reliability. The F-MMSE is sensitive in detecting cognitive functioning differences related to environment, age, and educational status. The F-MMSE is therefore appropriate for studies in the Philippines on older adults' cognition.
Key words: elderly, cognitive function, Mini Mental State Examination (non-MeSH)