

ADAPTATION AND EVALUATION OF HOME FALL RISK ASSESSMENT TOOLS FOR THE ELDERLY IN THAILAND

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Abstract. Falls are a leading cause of mobility and mortality among the elderly. The aim of this study was to evaluate psychometric properties of 3 fall risk screening instruments, including the content validity of the Thai-HFHAT, agreement between the HOME FAST and HOME FAST-SR, the inter-reliability of the Thai-HFHAT and HOME FAST-SR, and the test-retest reliability of the 3 instruments in order to inform future studies of falls among Thai elderly. The 3 instruments tested were one instrument modified for the Thai context [Thai Home Falls Hazards Assessment Tool (Thai-HFHAT)], and 2 instruments translated into Thai but not modified for the Thai context [Home Falls and Accidents Screening Tool (HOME FAST) and the Home Falls and Accidents Screening Tool self-reported version (HOME FAST-SR)]. The study consisted of 2 assessments using the 3 study instruments performed 2 weeks apart to assess test-retest reliability. Study subjects were selected by multiple stages convenience sampling to obtain subjects residing in Sichon District, Nakorn Si Thammarat, Thailand. A total of 30 subjects were then selected by quota sampling for the study; 10 from each 3 Thai house types: a one-story elevated house, a one-story non-elevated house and a two or more story house. Inclusion criteria for study subjects were Thai citizens aged ≥ 60 years who could communicate well in the Thai language. Exclusion criteria for study subjects were dementia and the inability to perform daily activities. Caregivers for the study subjects and a village health volunteer (VHV) were included when evaluating inter-rater reliability of the Thai-HFHAT and HOME FAST-SR. A physical therapist was also included to evaluate the HOME FAST agreement and test-retest reliability. Content validity of the Thai-HFHAT was assessed by 3 specialists using the item content validity index (I-CVI) for the content validity of each item and the content validity index for scale (S-CVI) for the whole instrument. Agreement between the HOME FAST and HOME FAST-SR was assessed using the kappa statistic. Of the 30 study subjects, 60% were female. The mean [\pm standard deviation (SD)] age of study subjects was 76 (± 8) years. Sixty percent of study subjects had a fall with in the previous 12 months, 67% of those occurred in the home. On Thai-HFHAT, out of the total of 69 items, 62 had excellent content validity (I-CVI = 1.00) and 7 had acceptable content validity (I-CVI = 0.67). The overall S-CVI was good (S-CVI = 0.90). Agreement between the HOME FAST and HOME FAST-SR showed that 13 items had moderate agreement ($\kappa = 0.69$), 4

had strong agreement ($\kappa = 0.85$), 2 had nearly perfect agreement ($\kappa = 0.91$), 2 had weak agreement ($\kappa = 0.50$) and 4 items could not be determined. The ICC values for the HOME FAST-SR and Thai-HFHAT inter-rater reliability were 0.64 (95% CI: 0.45-0.79) and 0.87 (95% CI: 0.78-0.93), respectively. The overall ICC values for the HOME FAST, HOME FAST-SR, and Thai-HFHAT test-retest reliability were 0.76 (95% CI: 0.55-0.89), 0.71 (95% CI: 0.47-0.85) and 0.78 (95% CI: 0.58-0.89), respectively. In conclusion, the Thai-HFHAT appears suitable for assessing risk of falls among Thai elderly. Further study, using a prospective design, is needed to determine whether this instrument can predict falls among Thai elderly and determine its clinical usefulness.

Keywords: elderly, falls, home fall risk assessment tool, Thailand

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