

## REVIEW

# Falls risk screening tools intended to reduce fall risk among independent community-dwelling older adults: A systematic review

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## Abstract

**Aims:** The aim of this study is to evaluate an evidence-based fall risk screening tool to predict the risk of falls suitable for independent community-dwelling older adults guided by the World Health Organization's International Classification of Functioning, Disability and Health (WHO-ICF) components, and to examine the reliability and validity of the fall risk screening tool to predict fall risks, and to examine the feasibility of tools among independent community-dwelling older adults.

**Methods:** A systematic literature search guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was performed using the EBSCOHost<sup>®</sup> platform, ScienceDirect, Scopus and Google Scholar between July and August 2021. Studies from January 2010 to January 2021 were eligible for review. Nine articles were eligible and included in this systematic review. The risk of bias assessment used the National Institutes of Health quality assessment tool for observational cohort and cross-sectional studies. The WHO-ICF helped to guide the categorization of fall risk factors.

**Results:** Seven screening tools adequately predicted fall risk among community-dwelling older adults. Six screening tools covered most of the components of the WHO-ICF, and three screening tools omitted the environmental factors. The modified 18-item Stay Independent Brochure demonstrated most of the predictive values in predicting fall risk. All tools are brief and easy to use in community or outpatient settings.

**Conclusion:** The review explores the literature evaluating fall risk screening tools for nurses and other healthcare providers to assess fall risk among independent community-dwelling older adults. A fall risk screening tool consisting of risk factors alone might be able to predict fall risk. However, further refinements and validations of the tools before use are recommended.

All authors equally contributed to the review and in agreement with the content of the manuscript.

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**KEYWORDS**

community-dwelling older adults, fall, fall risk, fall risk assessment tools, fall risk screening tools, nursing

**Summary statement**

What is already known about this topic?

- Many fall risk screening tools are available for nurses and other healthcare providers to assess fall risk among independent community-dwelling older adults.
- Some fall risk screening tools underestimate older adults' risk of falling.

What this paper adds?

- Seven of nine fall risk screening tools adequately predict fall risk among independent community-dwelling older adults.
- The World Health Organization's International Classification of Functioning, Disability and Health (WHO-ICF) components (body functions and structures, activities and participation, personal factors and environmental factors) are helpful in guiding the categorization and identification of fall risk factors among independent community-dwelling older adults.
- The modified 18-item Stay Independent Brochure could be a good alternative fall risk screening tool.

The implications of this paper:

- Healthcare professionals are encouraged to read, refine and validate available fall risk screening tools before use to avoid underestimating older adults' risk of falling.
- Furthermore, continuous staff development activities, training and performance review are necessary to enhance and support nurses and other healthcare providers' practice of fall risk screening.

## 1 | INTRODUCTION

Falls are usually associated with older adults, and they occur globally, representing a significant health concern among older adults aged 60 years and older. Numerous studies have shown that falls generate undesirable health consequences such as damaging injuries, depression, loss of confidence, postfall syndrome, hospitalization and increased nursing home admissions (Gale et al., 2018; WHO, 2021a). Stemming from the increase of healthcare expenditure, concerns are also raised for the consequent cost of hospitalization for treatment of fall-related injuries (WHO, 2021a). The extensive financial costs due to fall-related injuries are becoming oppressing to individuals and family members. Hence, fall-related consequences warrant attention in primary practice prevention (White, 2020). The implementation of a fall risk tool can help reduce falls and promote older people's quality of health (White, 2020).

Although fall risk screening and fall risk assessment are often related and the terms are often used interchangeably, they are in fact distinctive. A fall risk screening tool (FRST) aims to serve as an initial screening of fall risk factors, providing a simple and time-convenient

tool for healthcare providers, family members and older individuals (Eckstrom et al., 2017; MedlinePlus, 2020). In contrast, a fall risk assessment offers a comprehensive tool, including functional mobility assessments (FMA) which may act as an initial assessment of older individuals at increased risk for falls (Fielding et al., 2013; MedlinePlus, 2020). The International Classification of Functioning, Disability, and Health (World Health Organization's International Classification of Functioning, Disability and Health [WHO-ICF]) components help to categorize and identify fall risk factors among independent community-dwelling older adults (de Clercq et al., 2020; WHO, 2021b). The WHO-ICF components consist of (i) body functions and structures referring to body functions, impairments or disabilities; (ii) activities and participation involving social participation, lifestyle activities and mobility; (iii) personal factors including the demographic characteristics of individuals (age, gender, previous falls, fear of falling) and (iv) environmental factors consisting of footwear, home hazards, personal consumption of medications and other environmental factors (WHO, 2021b).

The main focus of this review is on the importance of FRSTs, many of which are commonly used. Older adults in communities are