Multifactorial and functional mobility assessment tools for fall risk among older adults in community, home-support, long-term and acute care settings

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CRD summary
This review evaluated the validity and reliability of fall-risk assessment tools in the elderly. The authors concluded that reliable fall-risk assessment tools are available, with sufficient evidence to support the use of some tools in the community, supportive housing, acute and long-term care settings. However, there was no one tool that could be recommended for use across all settings. These conclusions should be interpreted with caution since they are based on a few studies with few participants.

Authors’ objectives
To assess the value and the reliability of fall-risk assessment tools in the elderly population within the community, home support, acute and long-term care settings.

Searching
MEDLINE, EBSCOhost Academic Search Premier, Psychology and Behavioural Sciences Collection, Nursing and Allied Health Collection, Health Business Elite, Biomedical Reference Collection, DARE and the Cochrane Controlled Trials Register were searched from January 1980 to July 2004; the search terms were reported. Only published studies in the English language were considered for inclusion. The references of relevant articles and reviews were checked for additional studies.

Study selection
Study designs of evaluations included in the review
Only prospective studies were considered for inclusion.

Specific interventions included in the review
Studies evaluating fall-risk assessment tools were eligible for inclusion. A total of 38 different tools were evaluated: 11 multifactorial assessment tools and 27 functional mobility assessment tools.

Participants included in the review
Adults aged 65 years or older from the community, supportive housing, acute and long-term care settings were eligible for inclusion. Further characteristics of the included patients were not specified.

Outcomes assessed in the review
Eligible studies had to evaluate the incidence of single or recurrent falls, fall-related injury, or gait and balance as a primary outcome.

How were decisions on the relevance of primary studies made?
Two reviewers independently selected studies for inclusion, with any disagreements resolved through discussion with a third reviewer.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.
Methods of synthesis
How were the studies combined?
The studies were described narratively and the data were tabulated.

How were differences between studies investigated?
Differences in study interventions and outcomes were discussed in the text and presented in more detail in the tables.

Results of the review
Thirty-four studies were included in the review.

Fourteen studies evaluated 23 tools in the community setting. The sensitivity of the tool ranged from 14 to 94% and the specificity from 38 to 100%. Eleven of the 14 studies reported on the time taken to complete the test; this ranged from 10 seconds to 20 minutes.

Four studies examined 4 tools in the supportive housing setting. The sensitivity of the tool ranged from 72 to 80% and the specificity from 43 to 57%. Three studies reported on the time taken to complete the test; this ranged from 10 to 60 minutes.

Twelve studies examined 8 different tools in the acute care setting. The sensitivity of the tool ranged from 66 to 93% and the specificity from 25 to 88%. There was 74 to 99% agreement between the raters (8 studies). Eight studies reported on the time taken to complete the test; this ranged from 1 to 15 minutes.

Six studies examined 10 different tools in the long-term care setting. The sensitivity of the tool ranged from 43 to 91% and the specificity from 39 to 82%. There was 56 to 98% agreement between the raters (4 studies). Seven studies reported on the time taken to complete the test; this ranged from 10 seconds to 15 minutes.

Authors’ conclusions
Reliable tools to evaluate the risk of falling among the elderly are available, but few have been tested in more than one setting.

CRD commentary
This review addressed a well-defined question in terms of the interventions and outcomes while it used a broad definition of study design and study participants. Several relevant databases were searched and efforts were made to find further published studies. It is not clear whether specific attempts were made to locate unpublished studies. Only studies in English were considered for inclusion, which might have resulted in language bias. Publication bias was not assessed. It was not stated if the data extraction was performed in duplicate, therefore reviewer error and bias might have been introduced. No quality assessment of the included studies was reported; the potential impact of methodological flaws in the primary studies upon the reliability of the review findings cannot, therefore, be assessed. The inclusion of many relatively small case series represents a major limitation of the evidence available for this review. The authors’ conclusions appear reasonable but should be interpreted with caution in view of the potential methodological and reporting weaknesses of the review.

Implications of the review for practice and research
Practice: The authors stated that no tool can be currently recommended to establish the risk of falling among the elderly.

Research: The authors stated that additional studies are needed to establish the role of multifactorial tools or functional mobility assessment tools.

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Bibliographic details

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17293604

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Other publications of related interest

This additional published commentary may also be of interest. Beghe C. Review: evidence from single studies shows that a few fall risk assessment tools can predict falls in elderly people. Evid Based Med 2007;12:186.

Indexing Status
Subject indexing assigned by NLM

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.