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Original research article

The risk of falling among older adults in long-term care: Screening by the Morse Fall Scale

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ABSTRACT

Aim: To identify the incidence of key fall risk factors in groups of older adults in long-term care facilities and to find out which factors can be identified by the Morse Fall Scale (MFS) as significant in relation to high fall risks. Fall risk screening is the basis for efficient intervention planning. MFS is often recommended for fall risk detection even in long-term care settings. No tool for the prediction of fall risks has been tested in Slovakia so far.
Methods: The design of this study is descriptive and correlated. Fall risk factors and fall risk screening (according to MFS) were assessed in 89 older adults in two long-term care facilities. The data were collected from July to October 2016.
Results: The majority of monitored risk factors had a high incidence in the sample. The authors identified that a strong predictor of a fall is mainly the presence of a fall in the patient's clinical history. Statistically significant correlations were found between a history of falling, disorder of the gait and balance, use of ambulatory aids, mental disorder, falling during the study and a high fall risk according to MFS.
Conclusion: This tool provides nurses with the information on the level of fall risk and specific risk factors. It also enables targeted planning of preventive and protective interventions. Despite the clinical efficiency of the tool it is still important to continue testing the prediction value of the tool in different areas of nursing practice in Slovakia.
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Introduction

In older adults, falls are a great health problem in terms of public health. This geriatric syndrome reflects the reduction of functional reserve capacity, which results in vulnerability coupled with accident, impairment, active disease process, adverse pharmacological stimulus or any combination of these. It is estimated that 30% of people over 65, and 50% of people over 80 experience a fall at least once a year [1]. Falls in long-term care facilities (LTC) are three times more common than in the community of seniors, with roughly 50% of older adults in LTC falling every year, and 40% of these falling multiple times. Falls contribute to the admission of an older adult to a hospital or a LTC facility, and the occurrence of falls in this new environment may double [2,3]. The consequences of falls include distress, fear of falling, pain, injury, loss of confidence, loss of independence, functional decline, reduced quality of life, increased health care expenses, and mortality. Fear of falling may even develop in those older adults who have not experienced a fall. This syndrome appears to be more frequently associated with women and with advancing age, and it can affect gait and balance. It reduces their participation in activities and has a cumulative effect on mobility and dependency. Significant injuries occur in 4–15% of falls. Mortal injuries as a result of a fall occur in 23–40% [1,4–6].

There is evidence that shows that many falls are preventable if a complete set of risk factors is known. The aetiology of falls is multifactorial, and literary sources describe tens of different fall risk factors, both internal and external. The identification of individual factors that can be influenced enables the choosing of targeted interventions and incorporating them into the patient care plan. Some of the most important and easily identifiable risk factors in older adults are older age (over 80 years), female gender, physical frailty, a history of falls, chronic diseases (cardiovascular, neurological, musculoskeletal system), polymorbidity, risk medication and/or its side effects, decreased physical and cognitive capacity, muscle weakness, unsteady gait and balance, use of ambulatory aids, impaired vision, hearing, urinary incontinence and environmental risks [2,3,5–12]. Falls are multicausal and risk factors combine in different ways in older adults. They also change depending on the changes in health status. This is why multifactorial assessment is emphasized. In order to identify fall risks and risk factors, it is necessary to introduce a system of standardized fall risk assessment as a part of a preventive programme in a facility [5,8,13,14].

An important strategy in fall prevention and fall monitoring is the identification of individual risk factors that can be influenced and the identification of high fall risk individuals in order to choose and apply those preventive interventions that can significantly reduce the number of falls and minimize costs in those individuals who do not need these interventions [11,15,16]. The methodology of risk assessment places an emphasis on the identification of key risk factors using different methods, such as fall risk screening with a measuring tool, or in-depth clinical and functional examination of a specific risk. Fall risk screening is an efficient method of identifying fall risks. Clinical recommendations and systematic reviews provide evidence of the efficacy of using a measuring tool [3,5,10,17,18]. The tool may be formulated on the basis of a simple list of risk factors or may be multidimensional depending on the characteristics of the setting and the patient group. Choosing an adequate tool requires careful assessment in order to find the most suitable one for a specific facility. A universal tool does not exist, but one of the most frequently tested and most recommended tools for initial fall risk assessment is the Morse Fall Scale – MFS [3,10,14,19,20]. Fall prevention is considered a part of a health care professional's responsibility, and an efficient clinical tool for prevention is the key to solving the problem at hand [21]. The results of this pilot study can be used as the basis of information for fall risk screening in older adults. It can also be implemented into care to improve its quality and safety.

Aim of study

The aim of the study was to identify the incidence of key fall risk factors in a group of older adults in an LTC facility, and to find out which risk factors can be identified as significant in relation to high fall risks using MFS (MFS score ≥45).

Materials and methods

This study was a descriptive, correlated study. The study was conducted in 2 local LTC settings in the city of Martin in Slovakia. The data were collected from July to October 2016. All residents of the facility were included in the study. The overall number of participants included in the study was 97. During the study 7 seniors exited, 1 senior returned to home care, and so the final number of participants was 89 (100%).

Data collection

The fall risk inventory designed by the authors included the major intrinsic fall risk factors of older adults and the Morse Fall Scale (MFS) screening tool.

The list of fall risk factors included the following items: gender, age, primary medical diagnosis, number of all diagnoses ≥4 (polymorbidity), number of prescribed medications – indication groups ≥4 (polypharmacy), the number of drugs used during in 24 h, history of falling, disorder of gait and balance, the use of ambulatory aids, impaired vision, impaired hearing, continence, and sleeping and mental disorders. The presence of disorders and illnesses, objectively diagnosed by the physician was determined by analyzing the subjects' medical files. Some of the risk factors in the list were also present as items in MFS (Table 1).

The MFS is a rating scale for screening fall risks and consists of 6 items: 1. History of falling (immediate history or within 3 months) (no 0, yes 25); 2. Presence of a secondary diagnosis (no 0, yes 15), a secondary diagnosis was coded if the patient had more than one medical diagnosis in his or her patient's chart; 3. Use of an ambulatory aid: none/bed rest/nurse's assistance (0), crutches/cane/walker (15), furniture for support (30); 4. Intravenous therapy/saline lock (no 0, yes 20); 5. Type of gait: normal/bed rest/wheelchair (0), weak (10), impaired (20); 6. Mental status: oriented to own ability (0), overestimates ability

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