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INFORMATION CAMPAIGN ON PREVENTION OF FALLS IN ELDERLY AND OLD PEOPLE ⁴

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Abstract: *An estimated 1.6 million older adults experience at least one fall each year, and the potential consequences of falling become more serious with age. About one in five falls in people over the age of 80 results in a hospital visit.*

According to NSI data for 2023, people over 65 in Bulgaria number 1,531 million people. The aging of the population in Bulgaria will pose serious challenges to the health and social system, so all possible preventive measures must be taken to preserve the health and independence of the elderly. Falling is a serious factor endangering them from injuries, disabilities, fear of a subsequent fall and dependence on constant care from relatives.

Many factors can affect balance beyond age, such as medications, vision changes, neuropathy, brain injuries, obesity, and poor physical fitness. Even if there are no risk factors, neglecting regular balance work can lead to increased volatility.

The aim of this report is to provide a set of evidence-based and expert consensus recommendations for the prevention and management of falls applicable in older people for use by health and other professionals, taking into account: physiological changes and disorders, structural and functional aging markers, medico-social processes, an individualized approach that includes the perspectives of older people, carers and other stakeholders.

The report was developed within the framework of the project No 2024 - FOZZG – 01 "Development and research of a complex rehabilitation approach for the prevention of falls in the elderly and elderly", financed by the "Scientific Research" fund of the University of Ruse.

Keywords: *Information campaign, prevention, falls, physical activity, sport, elderly and old people, quality of life.*

INTRODUCTION

Falls occur at all ages and are an inevitable part of the walking and the physical activity. They occur in 30% of adults over the age of 65 each year. The consequences of falls in adults are extremely serious, despite concerted efforts by researchers and clinicians to understand, assess, and manage their risks and causes. In addition to personal distress, falls and fall-related injuries are a serious health problem due to their association with subsequent morbidity, disability, hospitalization, institutionalization, and mortality.

In Europe, total deaths and disability-adjusted life years due to falls have increased steadily since 1990. Studies on the global burden of this problem reported nearly 17 million years of life lost to falls in 2017. The associated social and economic consequences are significant. In high-income countries, approximately 1% of health care costs are old age-related costs. (Montero-Odasso M., van der Velde N., Martin F. C. et al, 2022).

The number of falls and related injuries is likely to increase further, partly because there

⁴ The research paper was presented on October 26, 2024, at the Health Promotion Section of the 2024 Scientific Conference co-organized by University of Ruse and Union of Scientists - Ruse. Its title in Bulgarian is: „ИНФОРМАЦИОННА КАМПАНИЯ ЗА ПРЕФЕНЦИЯ НА ПАДАНИЯТА ПРИ ВЪЗРАСТНИ И СТАРИ ХОРА“.

are more older people, but also because of the increasing prevalence of multimorbidity, polypharmacy and frailty among them. Data have been published that speak to differences in the prevalence of falls between and within regions of the world (James SL, Lucchesi LR, Bisignano C et al., 2020; Haagsma J.A., Olij B.F., Majdan M. et al., 2017).

These differences may be due in part to differences in culture and lifestyle. There are also differences between living environments, with the incidence of falls being higher for older people living in care homes or during hospital stays (Lipsitz LA, Nakajima I, Gagnon M et al., 1994).

This suggests that risk factors may differ across habitats and national cultures, which may have implications for prevention strategies.

EXPOSITION

Approximately 1.6 million older adults experience at least one fall each year. The potential consequences of falling become more serious with age. About one in five falls in people over the age of 80 results in a hospital visit. According to data from the National Statistical Institute, people over 65 years of age in Bulgaria number 1,531 million people in 2023 (<https://www.nia.nih.gov>).

The aging of the population in Bulgaria will pose serious challenges to the health and social system, so all possible preventive measures must be taken to preserve the health and independence of the elderly. Falling is a serious factor endangering them from injuries, disabilities, fear of a subsequent fall and dependence on constant care from relatives.

Many factors can affect balance beyond age, such as medications, vision changes, neuropathy, brain injuries, obesity, and poor physical fitness. Even if there are no risk factors, neglecting regular work on the balance can lead to increased instability (Stefanova I., Mindova S., 2020; Murray CJL, Callender CSKH, Kulikoff XR, et al., 2018; Naghavi M, Abajobir AA, Abbafati C, et al., 2017).

The aim of this report is to provide a set of evidence-based and expert consensus recommendations for the prevention and management of falls applicable in older people for use by health and other professionals, taking into account: physiological changes and disorders, structural and functional aging markers, medico-social processes, an individualized approach that includes the perspectives of older people, carers and other stakeholders.

The report was developed within the framework of project "Development and research of a complex rehabilitation approach for the prevention of falls in the elderly and elderly" financed by the "Scientific Research" fund of the University of Ruse, Department of "Public Health".

In order to collect data on risk factors for falls and to undertake a strategy for information and prevention of falls in elderly people, professors and students from the Department of Public Health at the University of Ruse conducted a survey among 96 people aged 65 to 100 years. The majority of respondents have a history of falling, and this is not a condition for participation in the survey. The questionnaire survey included questions related to falls in the past three years, presence or absence of pre-existing disease, consequences of falls, use or non-use of a mobility aid, use of medication and its relationship to falls, presence of weakness or mobility difficulties, presence of external risk factors (in the home environment and in the community), awareness of risk factors of the home environment or residential services (nursing homes, accommodation centers, sheltered housing and institutions), about the risks of falling in old age.

Two thirds of them are women - 66, and 31 of the participants - men. Only some aspects of all the factors related to fall risk are considered, namely: the mechanism and environmental risk factors. Most of the respondents live in a home environment (77), and 20 of them are users of residential services. The high percentage of people who fall is striking – 81.3% of them reported falling in old age and 85.4% had fallen in the last 3 years.

Data from the conducted survey show that all who indicated a history of falling have consequences, some of them combined from different types of them. Regarding the consequences of a fall in the examined persons, a diverse picture emerges, but the most frequent are fractures.

Само за страх от падане е съобщено от 7 човека (Nedelcheva T., Dimitrova A., Mincheva P., 2024).

In 33 of the respondents (34%), only fractures are noted, but there are also 4% in which the presence of combined consequences is noted, some of which are fractures. Various injuries were also reported in one-third of people, with 12 people reporting them to the limbs, 4 to the head, another 4 combined, and 10 people reporting a combination of trauma and fear of falling as serious consequences after the fall. Thus, in total, 31% of the respondents were injured as a result of the fall.

The research directions are focused on individual actions at the level of the person in old age. Intended beneficiaries include older people living in the community, care homes, hospital patients and in home settings. We considered specific features of assessment and/or prevention applicable to older people with common medical conditions associated with a higher risk of falling, and where evidence supported this (ie, Parkinson's disease, post-stroke, post-fracture of the hip, significant cognitive impairment, etc.).

Separate recommendations have been developed for these conditions and advice on their implementation is provided.

The management of fall-related injuries is beyond the scope of these guidelines, but because there is a close epidemiological and clinical link between falls and fractures, explicit consultation with clinicians and services who can assess bone health, identify osteoporosis risk, and fractures and provide management to maintain bone health (International Osteoporosis Foundation, 2022).

Although the adaptation of falls prevention measures and resources to the local context of health protection in Bulgaria is inevitable, our recommendations cover the global population of elderly and old people.

Results from several studies have shown that almost twice as many patients who had a specialist leaflet with vestibular rehabilitation exercises and a consultation from a healthcare professional felt much better or had no vertigo at the end of the study compared to those who had standard medical care (medications to suppress the symptoms of dizziness).

Even patients who only used a specialized vestibular rehabilitation exercise booklet experienced better recovery than just applying standard medical care. Only 5 percent of patients who received a specialized booklet of vestibular rehabilitation exercises plus the option of a medical consultation were worse at the end of the study, compared with 15 percent of those who received only standard medical care.

Based on the results of the study, information brochures were developed and distributed, including basic tips for preventing falls in the elderly (**Figures 1 - 4**).

КАК ДА ПРЕДТВРАТИМ ПАДАНЕ?



- ДА НЕ ИЗПОЛЗВАМ ХЛЪЗГАВИ И НЕУДОБНИ ОБУВИ!
- ДА ПРЕМАХНА КИЛИМИ И ПЪТЕКИ, КОИТО МИ ПРЕЧАТ!
- ДА СЪЗДАМ БЕЗОПАСНИ УСЛОВИЯ В ДОМА СИ!
- ДА ИМАМ ДОБРО ОСВЕТЛЕНИЕ!
- ДА СИ ПИЯ РЕДОВНО ЛЕКАРСТВАТА!
- ДА НЕ ПРИЕМАМ ЛЕКАРСТВА, КОИТО НЕ МИ Е ПРЕДПИСАЛ ЛЕКАР!
- ДА СЛЕДА ЗА ДОБРОТО СИ ЗРЕНИЕ И СЛУХ ПОНЕ ВЕДНЪЖ ГОДИШНО ПРИ СПЕЦИАЛИСТ!
- ДА ИЗПОЛЗВАМ ПОМОЩНИ СРЕДСТВА ПРИ НУЖДА (БАСТУН, ПАТЕРИЦИ, ПРОХОДИЛКА...!)
- ДА СЪМ ФИЗИЧЕСКИ АКТИВЕН!
- ДА СТАВАМ БАВНО!
- ДА ТРЕНИРАМ ПАМЕТТА СИ!

Как да се изправим след падане?

- Не се движете прибрзано, останете спокойни и неподвижни за няколко минути, тъй като твърде бързото движение може да влоши скрити наранявания.
- Бавно движете ръцете и краката си, за да се уверите, че не сте наранени ниско.
- Бавно се преобрънете настрана, като започнете от главата и се движите надолу по тялото към краката.
- Избухайте се в позиция за пълзене и пълзете стабилно на ръце и колени към здрав предмет като стол или ниска мебел. Не бързайте, тъй като е важно да избягвате прекомерни движения, които могат да причинят допълнителни усложнения на скрити наранявания.
- Подпрете се на предмет (например стол), коленичете с единия крак и стъпете с другия (другият ви крак трябва да образува ъгъл от 30 градуса). Ръцете ви трябва да хащат предмета и съответно да осигуряват опора и баланс.
- Избухайте се до предмета и седнете върху него (ако е възможно; ако е стол или ниска мебел). Отделете малко време за почивка и възстановяване, преди да правите нещо друго.
- Внимавайте за всякакви наранявания, които може да сте пренебрегнали, наблюдавайте как се чувствате – ако започнете да изпитвате необичайно главоболие или обриване, или ако подозирате, че нещо не е наред, незабавно се обадете за помощ на телефон 112 или на ваши близки.

Брошурата е изготвена по проект No 2024 - Ф033Г - 01, "Разработване и изследване на комплексен рехабилитационен подход за превенция на падания при възрастни и стари хора" финансиран от фонд „Научни изследвания“ на Русенски университет, катедра „Обществено здраве“

ПРЕВЕНЦИЯ НА ПАДАНИЯ



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- ДА ТРЕНИРАМ ПАМЕТТА СИ!

БЪДЕТЕ ФИЗИЧЕСКИ АКТИВНИ!!!

Физическата активност има особено важна роля за поддържането и възстановяването на здравето на възрастните хора. Значението и се свързва с осигуряването на успешно и здравословно стареене.

Здравословното стареене трябва да бъде свхващано не само като състояние на липса на заболяване а като състояние на добър функционален капацитет, активност и независимост.

Успешното стареене включва съхраняване на способността на възрастните хора да водят самостоятелен начин на живот и да изпълняват пълноценно своите функционални задачи и ежедневни дейности.

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Figure 1. Information leaflets with basic advice for the prevention of falls in old age

- Conducting information campaigns aimed at risk groups;
- Ensuring the possibility of screening tests for the risk contingents annually;
- Inclusion of persons with an established risk of falls in preventive programs, including regular physical activity;
- Development of training programs for people at risk and their relatives in order to adapt the living environment to reduce the risk of falls;
- Follow-up of individuals at risk of osteoporosis and osteopenia in order to start treatment early and monitor the effect of treatment.



Figure 5. Information campaign for prevention of falls in the elderly and elderly

CONCLUSION

The world's population is aging. Falls and related injuries are increasingly common, making their prevention and management a critical global challenge. Opportunistic case finding is needed as older people may be reluctant to report falls. The awareness of the elderly, their relatives, health professionals, taking into account the general and individual risk factors, enables effective measures to deal with this socially significant problem - falls in old age, which should be a priority of essential importance. Implementation of some of these recommendations may need to be modified and adapted to meet low economic resource settings and country, district and environmental needs.

We believe that these guidelines will contribute to improving the health and well-being of older people, which is the main goal of achieving healthy aging.

Reducing the incidence of falls and related injuries, particularly fractures, trauma and contusions, as well as ensuring functional mobility is preserved and reducing the fear of falling, which can limit activity, will contribute to achieving this.

We hope that the collected up-to-date information from reports and scientific articles, as well as from the results of our own collective research on the project "Development and research of a complex rehabilitation approach for the prevention of falls in the elderly and elderly" of the University of Ruse, Department of Public Health will provide guidance for health and other professionals working with older people on how to identify and assess the risk of falls and which interventions, alone or in combination, to offer as part of an individualized approach.

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