

FALL HISTORY, MEDICATION USE, AND HEALTH STATUS OF ELDERLY PARTICIPANTS IN THE OPEN UNIVERSITY FOR THE ELDERLY UNI-API-UNIEVANGÉLICA

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ABSTRACT

According to the Brazilian Institute of Geography and Statistics (IBGE), 15.8% of Brazilians are elderly, representing an increase of 56% compared to 2010. Falls in the elderly are a public health problem. The main risk factors are: female gender, older age, polypharmacy, use of psychotropic drugs, history of falls, visual impairment, environmental factors, and cognitive decline. Studies show that 69.7% of older adults who have had a fall are related to medication influences. The objective of this study was to identify the history of falls, medication use, and health status of elderly people participating in activities at Uni-API-UniEVANGÉLICA. A questionnaire was used to analyze the history of falls, self-reported health conditions, and the Beers criteria for classifying medications in use. This was a cross-sectional, descriptive field study. The sample consisted of 120 elderly individuals, 91.6% of whom were women, with a mean age of 71 years. Regarding the history of falls, 40% reported having suffered a fall in the previous 12 months, most of whom had fair or poor vision, wore glasses, and were hypertensive. Regarding medication use, 69% of fallers were classified according to Beers' criterion 3. Finally, it was found that a large percentage of elderly people who fell had some disease that could compromise their health, in addition to visual problems and medication use, which are risk factors for falls.

Keywords: Health; Aging; Falls; Medications.

INTRODUCTION

According to the 2022 Demographic Census, 15.8% of Brazilians are elderly, representing an increase of 56% compared to 2010. In addition, the aging index—which represents the ratio of people aged 60 or older to the population aged 0 to 14—reached 80.0 in 2022 in Brazil, indicating that there are 80 elderly people for every 100 children, and the higher the value, the older the population (IBGE, 2023).

Aging is a stage of life characterized by changes throughout the body, which occur in a heterogeneous manner, whereby elderly people of the same chronological age may present different stages of development (SILVA *et al*, 2021). This stage involves physical and biological changes that affect the body over time. There is a reduction in the efficiency of organs and systems, with progressive degeneration of cells and tissues, resulting in a gradual decline in morphological, physiological, and cognitive functions (SILVA, 2023).

Falls in older adults are a public health problem. Risk factors that contribute to the risk of falls are associated with the environment and age-related physiological changes, such as imbalance, limitations in muscle strength, gait, and mobility (DURÃES *et al.*, 2023). It can be said that falls have multifactorial causes and are associated with extrinsic and intrinsic factors (CHEHUEN NETO *et al.*, 2018). The main intrinsic risk factors are: female gender, older age, polypharmacy, use of psychotropic drugs, history of falls, visual impairment, and cognitive decline (PRATO *et al.*, 2017).

In addition, due to the multiple pathologies that the elderly have, polypharmacy, that is, the use of five or more medications, is common. This, in turn, has become a major challenge for public health, as these patients are more vulnerable to the consequences of adverse drug events and interactions (CARLI *et al.*, 2019). Studies show that 69.7% of older adults who have had a fall were related to medication effects. (REIS; JESUS, 2017).

Thus, it is necessary to invest increasingly in identifying elderly people who fall and, through accessible diagnostic methods, identify the intrinsic factors associated with falls, such as medication use and health status. Therefore, the objective of this study was to identify the history of falls, medication use, and health status of elderly participants in the Open University for the Elderly project.

METHODS

This is a cross-sectional, descriptive field study. This study was conducted on the premises of UniEVANGÉLICA, where the workshops of the Open University for the Elderly Project (UniAPI) are held. UniAPI's main objective is to offer the elderly population opportunities for services and updating, creating a space for social interaction and the acquisition of knowledge in areas of interest related to healthy and dignified aging.

The research focused on registered elderly people participating in the activities of UniAPI-UniEVANGÉLICA Anápolis-GO, which has a registered and active population of 160 elderly people. To analyze the sample calculation, the formula

$$n = \frac{N \cdot Z^2 \cdot p \cdot (1 - p)}{Z^2 \cdot p \cdot (1 - p) + e^2 \cdot (N - 1)}$$
 was used, with a sampling error of 5%, where: n-calculated

sample; N – population; Z - standardized normal variable associated with the confidence level; p - true probability of the event; and - sampling error (SANTOS, 2003). Thus, the sample for this study was 120 elderly people of both sexes who were selected according to the inclusion and exclusion criteria described below.

The inclusion criteria for the study were: being aged 60 years or older, being able to walk independently, agreeing to participate in the study voluntarily, and having a Free and Informed Consent Form (FICF) signed by the participant. People with severe psychiatric problems, health problems that prevented participation in the assessment program, amputees, wheelchair users, and those who use any walking aid, and severe visual impairment were excluded from the study.

In addition, for data collection, the elderly responded to questions about clinical data, which asked about health conditions, such as the presence of associated diseases, in addition to self-reported visual problems. They were also asked about medications in use. The history of falls was assessed with the following question: *"Have you had any falls in the last 12 months?"* Falls were recorded regardless of the severity of the injury. To categorize the elderly, the Beers Criteria of the American Geriatrics Society (SOCIEDADE BRASILEIRA DE GERIATRIA E GERONTOLOGIA, 2020) were used. Medications that are considered potentially inappropriate medication (PIM) are classified into five criteria, which are: 1) medications that are potentially inappropriate in most older adults; 2) those that should normally be avoided in older adults with certain conditions; 3) drugs to be used with caution; 4) drug interactions; and 5) drug dose adjustment based on renal function.

The study was approved by the Ethics and Research Committee of UniEVANGÉLICA, in accordance with Resolution 466/12 of the National Health Council, through official letter no. 1,583,515.

RESULTS

One hundred and twenty elderly individuals participated in the study, 91.6% of whom were women and 8.3% men, with an average age of 71 years. Regarding the elderly participants' perception of visual problems, 60% considered their vision to be fair and 7.5% considered it to be poor. Another point worth mentioning is that 89% of participants wear glasses. In addition, when asked if they had any eye diseases, such

as cataracts, glaucoma, or macular degeneration, 37% said yes. Regarding the presence of diseases, 67% of the elderly reported having systemic arterial hypertension, and 20% reported having diabetes mellitus. Self-reported diagnoses of depression and osteoporosis/osteoarthritis were present in 25% and 52% of the participants, respectively.

Regarding medication use, 22% of the elderly did not meet any of the Beers criteria. In addition, 22% of participants classified themselves in two or more categories, with criteria 1 (medications that are potentially inappropriate in most older adults) and 3 (medications to be used with caution) being the most prevalent, present in 17% and 71% of participating older adults, respectively.

Regarding history of falls, 40% reported having fallen in the past 12 months. Of these elderly individuals, 77% considered their vision to be fair or poor, 92% wore glasses, 69% had systemic hypertension, 21% had diabetes mellitus, 35% had some eye disease, 17% self-reported a diagnosis of depression, and 48% had osteoporosis/osteoarthritis. Regarding medication use, 23% of these elderly individuals who suffered a fall were classified in two or more categories, with 69% belonging to category 3.

CONCLUSION

It is indisputable that the health condition of the elderly impacts the increase in the number of falls, which can result in serious complications that can compromise their quality of life. It was found that a large percentage of the elderly at UniAPI have a disease that can compromise their health. In addition, a minority of participants were not classified as having any of the Beers criteria for in , indicating that many use medications that are considered potentially inappropriate for the elderly.

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