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REFLECTIVE ANALYSIS ARTICLE

FALLS IN ELDERLY PEOPLE: REFLECTION FOR NURSES AND OTHER PROFESSIONALS

QUEDAS EM IDOSOS: REFLEXÃO PARA OS ENFERMEIROS E DEMAIS PROFISSIONAIS CAÍDAS EN LOS ANCIANOS: REFLEXIÓN PARA ENFERMEROS Y OTROS PROFESIONALES

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ABSTRACT

Objective: to reflect on the main changes that might facilitate the occurrence of falls, as well as on the main consequences of falls in elderly people and the work of the nursing professional. **Method:** this is a descriptive study, reflexive analysis type, developed through consultations to books, dissertations and papers published in scientific journals on the database LILACS and in the virtual library SCIELO, by using the descriptors: 'Accidents by falls', 'Elderly' and 'Nursing'. The considered inclusion criteria were: online available works in their full versions, in Portuguese and English languages, published between the years 2007 and 2012. The treatment of data took place by means of discursive textual analysis. **Results:** Three categories were developed << *Changes related to aging that might facilitate falls in elderly people* >>, << *Main consequences of falls in elderly people* >> and << *Work of the nursing professional in preventing falls at home* >>. **Conclusion:** there is a need to develop intervention strategies with the purpose of modifying the current configuration that propitiates the occurrence of falls in the elderly population. **Descriptors:** Accidents by Falls; Elderly; Nursing.

RESUMO

Objetivo: refletir sobre as principais alterações que podem facilitar a ocorrência de quedas, bem como as principais consequências das quedas em idosos e a atuação do enfermeiro. **Método:** estudo descritivo, tipo análise reflexiva, desenvolvido a partir da consulta de livros, dissertações e artigos publicados em periódicos científicos na base de dados LILACS e na biblioteca virtual SCIELO, utilizando os descritores: 'Acidentes por quedas', 'Idoso' e 'Enfermagem'. Foram considerados os critérios de inclusão: artigos disponíveis online na íntegra, em língua portuguesa e inglesa, publicados entre 2007 a 2012. O tratamento dos dados ocorreu pela análise textual discursiva. **Resultados:** emergiram três categorias: << *Alterações relacionadas ao envelhecimento facilitadoras de quedas em idosos* >>, << *Principais consequências das quedas em idosos* >> e << *Atuação do Enfermeiro na prevenção de quedas no domicílio* >>. **Conclusão:** há necessidade de desenvolver estratégias de intervenção com objetivo de modificar a configuração atual que propicia a ocorrência de quedas em idosos. **Descritores:** Acidentes por Quedas; Idoso; Enfermagem.

RESUMEN

Objetivo: reflexionar sobre los principales cambios que pueden facilitar la ocurrencia de caídas, y también las principales consecuencias de las caídas en los ancianos y la actuación del enfermero. **Método:** estudio descriptivo, análisis de tipo reflexiva, desarrollado a partir de la consulta de libros, disertaciones y artículos publicados en revistas científicas en la base de datos Lilacs y en la biblioteca Scielo, utilizando los descriptors: 'Las caídas accidentales', 'Anciano' y 'Enfermero'. Fueron considerados los criterios de inclusión: los artículos disponibles en línea en su totalidad, en lengua portuguesa e inglesa, publicados entre 2007-2012. El tratamiento de datos ocurrió por el análisis textual discursivo. **Resultados:** emergieron tres categorías: << *Alteraciones relacionadas con el envejecimiento facilitadoras de caídas en ancianos; Las principales consecuencias de las caídas en personas de edad avanzada* >>; << *Actuación del enfermero en la prevención de caídas en el hogar* >>. **Conclusión:** existe la necesidad de desarrollar estrategias de intervención con el fin de modificar la configuración actual que facilita la aparición de caídas en los ancianos. **Descriptor:** Caídas Accidentales; Ancianos; Enfermería.

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INTRODUCTION

The scientific and technological development associated to better health conditions and social welfare, among other factors, has resulted in relevant increase in life expectancy around the world. In Brazil, there are approximately 21 million people aged over 60 years of age and it is estimated that, in 2025, this country will be the sixth greatest in the world in relation to the amount of elderly people.¹

Aging is a natural process, which might be accompanied by problems in the physical and/or mental health, provoked by the presence of personal and contextual factors that favor the emergence of Chronic Non-communicable Diseases (NCDs) and predispose the occurrence of accidents, among them, one should cite falls. Fall is an unintentional and accidental change of position that causes the individual to remain in a level lower than the initial position.² No matter what the cause, the accumulation of changes in body balance reduces the compensatory capacity of the individual, which increases its instability and, consequently, its risk of falling.³

Falls are configured as the major cause of trauma in elderly people and the risk of happening increases proportionally to the number of existing factors, because they result from a complex interaction among thereof.⁴ These factors are categorized in four dimensions: biological, behavioral, environmental and socioeconomic. A recent study categorized such factors in: environmental, falls in adults, cognitive, physiological and related to medicinal drugs⁵, taking into account the risks for falls according to the nursing diagnosis "Risk for falls" of the North American Nursing Diagnosis Association (NANDA).

A fall in an elderly person might represent consequences of physical nature, such as skin lesions, dislocations, fractures and functional decline, besides psychological consequences, such as fear and loss of confidence, thereby resulting in decreased autonomy and independence. In Brazil, it is estimated that 32% of falls occur in people aged between 65 and 74 years; 35% in people aged between 75 and 84 years and 51% in people aged over 85 years. Thus, the fall becomes a limiting event, and might be considered an indicator of decline in the health of elderly people, weakness, institutionalization and death.⁶

The risk of falling increases in a significant manner with the aging process, which causes the falls to be considered a geriatric syndrome and a huge public health problem, due to

increased expenses and demand for long-term care actions.² In this context, it is essential that health professionals/ nurses start and intensify the establishment of strategies for promoting health and preventing falls in elderly people, whether they are hospitalized, institutionalized or domiciled.

Such fact justifies the interest in developing this study, which might provide a better understanding of the main changes that might facilitate the occurrence of falls, as well as on the main consequences of falls in elderly people, by highlighting the importance of health professionals, especially nurses, have skills that can minimize the occurrence of these accidents.

Based on the above, one has to question: What are the main changes that might facilitate the occurrence of falls in elderly people? What are the main consequences of falls in elderly people? How is the work of the nursing professional with regard to falls in elderly people? Accordingly, in an attempt to reflect on the questions and, in expectation of enabling interactive gazes and committed to the health of elderly people, it emerges the following objective:

- To reflect on the main changes that might facilitate the occurrence of falls, as well as on the main consequences of falls in elderly people and the work of the nursing professional.

METHOD

This is a descriptive study, reflexive analysis type, developed through reading printed books and online available materials, such as: master's dissertation, documents from the Brazilian Institute of Geography and Statistics (IBGE, as per its Portuguese acronym) and the Brazilian Society of Geriatrics and Gerontology (SBGG, as per its Portuguese acronym). Moreover, there were consultations to scientific journals of nursing on the database of the Latin American and Caribbean Health Sciences (LILACS) and in the virtual library Scientific Electronic Library Online (SCIELO), by means of the descriptors: 'Accidents by falls', 'Elderly' and 'Nursing'.

The defined criteria for inclusion of publications for this review were: online available works in their full versions, in Portuguese and English languages, published between the years 2007 and 2012, matching the proposed theme. We have opted for this period of time due to the fact that they are papers referring to the past five years, thereby representing a benchmark to data considered recent in relation to the theme at stake.

We have used the technique of textual discursive analysis⁷ as an analytical tool of studies that met the inclusion criteria. This technique consists in discovering the cores of meaning that make up a communicational process, whose presence or frequency add significant perspectives to the study object in question. The notion of the theme is associated to a claim that is linked to a particular issue, and might be presented by means of a word, phrase or idea.⁷

RESULTS AND DISCUSSION

After analyzing the studies, the following categories have emerged << *Changes related to aging that might facilitate falls in elderly people*>>, << *Main consequences of falls in elderly people* >> and << *Work of the nursing professional in preventing falls at home* >>.

♦ **Changes related to aging that might facilitate falls in elderly people**

The physiological aging leads to a decrease in functional reserves of the body that might be verified in all systems. This decrease can

lead to functional changes and loss of adaptability, which can cause physical unfitness in the elderly person and difficulty in performing Daily Life Activities (DLAs). Hence, there is a great need to understand the organic, psychological and social changes, given that the elderly care already is ranked among the main public health problems, both in developed and in developing countries, and it is highlighted as a priority theme of research.⁸

In order to effectively prevent falls in elderly people, it is necessary to understand the physiological changes that take place during the aging process. Within such concept, the Figure 1 is presented, which has the main changes related to the aging process that can provoke falls in elderly people.⁹

Musculoskeletal system and postural attitude	Cervical spine leans forward, thereby bringing the head closer to the sternum, due to slowness of movements; The dorsal kyphosis is emphasized (posture becomes leaned forward); Decrease in intercostal cartilages, musculoskeletal stiffness; The cartilages become thin and cracks appear, which make them more fragile and provoke reduced articulation mobility; The muscle tissue is replaced by collagen; Decrease and slowness in movements; Insecurity in gait (fear of moving around, walking).
Cardiovascular system and Circulatory system	Senile heart, (heart becomes more fragile, aged) Arteriosclerosis, winding and hardened peripheral vessels; Greater stiffness of heart valves; Increased systolic blood pressure; Decreased cardiac output by about 50%; Lack of adaptation of heart pump, congestive heart failure.
Nervous system	The brain loses neurons, thereby becoming less efficient; Gait in small steps (decreased quickness, thereby hindering fast walks); Bradykinesia (slow movements) and trembling; Hyporeflexia (decreased reflexes, slow); Restlessness, mental confusion and depression; Arteriosclerosis of brain vessels (brain blood vessels become hardened, stiff, fragile); Decreased visual acuity and hearing (visual impairment); Decrease in memory and perception.

Figure 1. Changes related to the aging process that might provoke falls in elderly people.⁹

Aging is a biopsychosocial process that affects the individual as a whole, although each organ or system of the organism is changed in different speeds and ways. The losses that take place over time might be related to the care actions dedicated to general health or the lack thereof. Aging entails physiological changes that favor the occurrence of falls, such as decline in muscle strength, changes in bone mass, deficit in balance, decreased reaction time, increased body oscillation, decline in reflexes, reduced postural control, motor coordination and

flexibility, besides visual impairments, proprioception, vibration and shortfall of vestibular system.⁹

The increased susceptibility of elderly people to suffer injuries resulting from a fall is due to its fragility, which is triggered by the high prevalence of comorbidities and associated to the functional decline arising from the aging process and the decreased physiological reserves.¹⁰In elderly people, a slight fall can become a potentially dangerous event.

The factors related to falls in elderly people are multiple and commonly classified into intrinsic and extrinsic. The intrinsic factors include the most varied types of diseases, physiological changes of aging and consumption of medicinal drugs, among others. The extrinsic factors are social and environmental circumstances that offer challenges for the elderly person, such as inadequate lighting, slippery surfaces, obstacles, inadequate footwear and clothes and irregularities on the soil, among others. The participation of environmental risk factors might be present in up to 50% of falls among the elderly people of the community.^{3,6}

The influence of environmental factors on the risk for falls is associated to the functional status and the impaired mobility of the elderly person. Accordingly, some postural maneuvers and environmental obstacles that generally do not offer risk can become serious threats to the safety and health of older people with sensory changes.¹¹ In a study conducted with 120 elderly patients, of both genders, attended in a geriatric outpatient unit of a university hospital in the municipality of João Pessoa/PB, Brazilian Northeast, it was found that a large number of elderly has suffered falls within the household itself (57%), with many of these falls arising from inadequate physical environment (44,9%), which demonstrates the importance of adequacy.¹²

The Regional Nursing Council of Rio Grande do Sul (COREN/RS, as per its Portuguese acronym) defines the request for adequate infrastructure in the institutions that attend the elderly patients as competence of nurses, with a view to making these institutions able to meet the specific needs of these people.¹³ It is essential that nurses have specific skills to deal with elderly people in the face of the need for assessment of their conditions and the environment in which they live, with a view to identifying the risk factors for falls and developing actions aimed at preventing these accidents and/or minimizing their consequences.¹¹

Understanding the changes related to the aging process becomes essential for making health professionals/nurses able to conduct specific care actions for the elderly patients, by identifying their needs, in order to enable the prevention of falls and the maintenance of functionality and quality of life.¹¹

♦ Main consequences of falls in elderly people

Due to the increase in life expectancy and frequent falls in the elderly population, it is

crucial to pay attention to the consequences of these events and to professional behaviors that encompass the prevention of health problems of elderly people. About 40% to 60% of falls can cause injuries, with 30% to 50% cases of light injuries, 5% to 6% of more severe injuries, excluding fractures, and 5% of fractures.¹⁴

In a study conducted with 121 medical records of institutionalized elderly people, which had the purpose of determining the prevalence of falls in elderly residents from Long-Term Care Facilities for Elderly People (LTCFs), it was found that 11,4% of injuries took place in the head region, which could result in severe brain injuries, with prejudice to vital functions and life-threatening.¹⁴

With regard to fractures, the most common were in the hip region (25%). This type of fracture is more prevalent in individuals aged over 75 years, and it is the result from decreased reflexes and impaired capacity to protect the hip during the fall. About 25% of elderly patients with this type of fracture die within six months of the event and 60% are unable to perform their customary functions.¹⁴

The most common fractures in the old age are those linked to imbalance and falls, thereby provoking fractures in the femur neck, hip or lumbar vertebrae. These injuries cause the elderly person to be immobilized for a long time in hospital beds, which can lead to worsening of its general health status and, consequently, to death.¹⁰

In this sense, the changes that took place after the falls, according to speeches of elderly people and of their family members were the increase in difficulty and dependence to perform the Daily Life Activities (DLAs). The most affected (DLAs) were laying down/getting up from bed, moving around on flat and irregular surface outside the home, bathing, taking care of finances, making purchases, using public transportation and climbing stairs.¹⁵

In addition to fractures and physical injuries, falls can generate constant fear of falling, which gradually hampers the participation of elderly people in daily activities. In a study conducted with elderly patients, of both genders, attended in the geriatric outpatient unit of a university hospital located in João Pessoa/PB, of the 120 surveyed patients, 101 (84,17%) had already fallen, and of these, 48 (40%) in the last year. Among those elderly subjects who had already fallen, 85 (84,16%) showed fear of suffering another fall; and among the elderly subjects who had no history of falls, 12 (63,16%) reported having fear of falling.¹⁶

Fall can assume meanings of decay and failure for the elderly person, due to loss of ability of the body, thereby triggering feelings of vulnerability, embarrassment and guilt; the subsequent depressive answer is an expected result. Those who suffer falls show a big functional decline in DLAs and in social activities. The rupture with everyday life and the strangeness of the new situation of care can radicalize the dissolution of identity, thereby triggering or worsening psychological changes.⁹

In the long term, it also raises prejudices to the family and the health services, which need to be mobilized to the treatment and recovery of health of elderly people. After the fall, the rehabilitation might be time-consuming and, in the case of prolonged immobility, complications such as venous thromboembolism, pressure ulcers and urinary incontinence might appear. Upon becoming dependent, the victim of fall might require more time from its caregiver, which can entail social problems, such as isolation from family members, friends, among others.⁶

One should detect the physical and environmental risk factors and modify them, thereby contributing to the prevention of falls and possible complications to elderly people and to the maintenance of their autonomy.⁴ Accordingly, health professionals/nurses must keep in mind that acting with the preventive measures is the better way to be followed to modify the statistics of falls and, mainly, to improve the living and health conditions of elderly citizens.

♦ Work of the nursing professional in preventing falls at home

The environmental factors are those that provide greater risk of falls and, when associated to physical problems of the individuals, are even more aggravating. This association can provoke functional impairment and difficulty in performing physical activities, thereby provoking not only loss in the balance itself, as well as limitations of muscle strength, mobility and gait. That is why, in situations of health care, these factors must be assessed.¹⁷ It is essential that the health/nursing team know to identify and diagnose the individuals likely to suffer falls, in order to minimize this serious and frequent happening. Health professionals/nurses might help the elderly person to prevent falls, by stimulating the increase in mobility, healthy diet and safe environment.

Due to being the professional responsible for the management of care, the nurse must act preventively along with the elderly

people, by seeking to act on the factors that can trigger the accident by fall. One should emphasize that the action of the professionals along with the elderly subject implies a permanent dialogue, with an inter-subjective experience, which has elderly, family and nursing professionals as its central locus.¹⁸ The action of the nursing professional must be based on the needs of the elderly patient and the action of this practitioner must be focused on the (re) organization of household, by making this environment safer. Equally important is the knowledge of the physical condition of the elderly subject, in order to strengthen the motor system.

The guidance in relation to practical measures might be implemented to minimize the occurrence of falls (Figure 2), with no need to big expenses or radical changes within the family scope.¹⁵

Bedroom	Keeping adequate lighting; Using a bed that does not exceed 50 cm in height; Keeping furniture easy to access and appropriate height for the elderly person, which must have rounded shapes and without tips; Avoiding carpets, wires or any other object in accesses to doors, hallways and around the bed.
Bathroom	Keeping adequate lighting; Using rubberized and non-slip carpets in the bathtub or shower stall; Keeping a safety bar in the shower stall and on the side of the toilet seat; Keeping soaps in a steady soap dispenser, avoiding holding it (elderly), in order to prevent falls or slips; Keeping a small bank in the shower stall, if the elderly decides to take a bath seated; Raising the toilet seat in approximately 50 cm, in order to facilitate the act of sitting and standing up.
Kitchen	Keeping adequate lighting; Keeping cookware cables inside the stove; Avoiding broad clothes that could remain held in the cookware cables; Keeping the kitchen well lighted with lamps of at least 60 watts; Organizing more used materials and products in environments easy to reach; Keeping sink countertop and stove in a corresponding height.
Living room	Keeping adequate lighting; Setting shelves and keeping sound systems and television with remote control; Keeping couches and armchairs with height around 50 cm; Keeping tables, chairs and other furniture with rounded corners.
Floor	Avoiding carpets and objects forgotten and scattered on the ground; Keeping adequate lighting; Avoiding smooth tile floors, using preferably non-slip, avoiding waxes or any bright and slippery products.
Stairs	Keeping adequate lighting; Setting handrails on both sides, extending them a little beyond the beginning and end of the rungs; Putting rubberized stripes on each rung; Putting colored tape on the edge of the top and of the end of the rungs.

Figure 2. Guidance strategies to prevent the occurrence of falls in elderly people at home. ¹⁵

The synthesis presented in the Figure 2 reflects the importance of a safe home environment and suited to individual essential conditions so that the elderly person can perform daily life activities. In order to understand the health care demands of elderly people, it is necessary, in addition to the assessment of their functional capacity, to have analysis of sociodemographic conditions, health problems and risk factors to which they are likely.¹²

There is a need for nurses to know and understand the reality of the everyday life of elderly citizens and of their caregivers/family members, with the purpose of recovering values of life, social conditions and ways of adapting them to the environment, thereby seeking greater autonomy. This requires the perception that the changing of habits and domicile cannot be simple for the elderly people and their families, since this scope, as well as its characteristics, is part of the construction of the history and of the culture of the individual.

CONCLUSION

We have considered the accomplishment of this study as satisfactory, because it was possible to reflect on the main changes resulting from the aging process that can facilitate the falls, the consequences of these events in elderly people and the work of nurses in relation to the prevention of falls at home.

As limitation of this study, there is the large number of publications related to falls in

elderly people published in other databases, besides the ones chosen as inclusion criteria, with the possibility that some relevant studies might not have been addressed.

Upon thinking about falls, one should be focused on prevention by means of a safe environment and habits and attitudes of the elderly person that might prevent risks. Accordingly, autonomy, functional capacity, independence and environment are important aspects to be analyzed in determining the falls. It is necessary to raise awareness of the population so that this too frequent event is not treated only after its occurrence, and the emphasis is focused on health promotion and implementation of preventive actions. Moreover, it is necessary to expand the knowledge of health professionals, especially nurses, about the health care of elderly people.

It is important that society understands that the falls in elderly people are not just a particular problem of the subjects affected by these accidents, but also a public health problem, which requires considerable investments in public policies and programs of health care and promotion of quality of life of older citizens and their family members. There is a need to develop intervention strategies with the purpose of modifying the current configuration that propitiates the occurrence of falls in the elderly population.

It is hoped that this study can stimulate health professionals, especially nurses, to feel sensitized in relation to the prevention of falls and their consequences, thereby contributing

to the maintenance of an active and participatory aging. In order to implement this care, it is important to consider the professional qualification and the commitment to a holistic care, by recognizing individual and collective aspects of the population at stake, with a view to holding a health promotion in an expanded and contextualized manner.

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