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Risk of falls in the elderly: an integrative review based on the North American Nursing Diagnosis Association*

RISCO DE QUEDAS EM IDOSOS: REVISÃO INTEGRATIVA PELO DIAGNÓSTICO DA NORTH AMERICAN NURSING DIAGNOSIS ASSOCIATION

RIESGO DE CAÍDAS EN ANCIANOS: REVISIÓN INTEGRATIVA POR EL DIAGNÓSTICO DE LA NORTH AMERICAN NURSING DIAGNOSIS ASSOCIATION

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ABSTRACT

The objective of this study was to analyze the scientific production regarding risk factors for falls in the elderly, based on the North American Nursing Diagnosis Association found in the Brazilian and international literature from 2005 to 2010. This integrative review was performed using the descriptors: *accidental falls* and *elderly,* utilizing the following databases: Cumulative Index to Nursing and Allied Health Literature and Latin-American and Caribbean Health Sciences Literature. Thirty-two articles were selected for content analysis. The results are presented according to the risk factors indicated by the North American Nursing Diagnosis Association, which are: environmental risk factors, such as rooms with excessive furniture and objects/rugs on the floor, poor illumination, and slippery floors; cognitive risk factors such as reduced mental state; risk factors in adults such as age above 65 years; physiological risk factors such as impaired balance, visual difficulties, incontinence, difficulty in walking, and neoplasms; and risk factors associated with the use of certain medications. An examination of the risk factors for falls in the elderly shows the need to develop new strategies to change environments and intrinsic components.

DESCRIPTORS

Aged
Accidental falls
Risk factors
Geriatric nursing
Review

RESUMO

Foi objetivo desta pesquisa analisar a produção científica de fatores de risco para quedas, a partir do diagnóstico da *North American Nursing Diagnosis Association,* na literatura científica brasileira e estrangeira, de 2005 a 2010. Revisão integrativa, na qual foram utilizados os descritores: acidente por quedas e idoso, nas bases de dados da *Cumulative Index to Nursing and Allied Health Literature* e Literatura Latino-Americana e do Caribe em Ciências da Saúde, sendo selecionados 32 artigos para análise de conteúdo. Os resultados são apresentados conforme os fatores de riscos indicados na *North American Nursing Diagnosis Association*, sendo eles: fatores de riscos ambientais, como, recinto com móveis e objetos/tapetes espalhados pelo chão, pouca iluminação, piso escorregadio; fatores de riscos cognitivos, tais como, estado mental rebaixado; fatores de riscos em adultos, como, idade acima de 65 anos; fatores de riscos fisiológicos, como, equilíbrio prejudicado, dificuldades visuais, incontinência, dificuldade na marcha, neoplasia; fatores de riscos para uso de alguns medicamentos. Através dos fatores de risco de quedas nos idosos surge a necessidade de desenvolvimento de novas estratégias modificadoras dos ambientes e componentes intrínsecos.

DESCRITORES

Idoso
Acidentes por quedas
Fatores de risco
Enfermagem geriátrica
Revisão

RESUMEN

Se objetivó en este estudio analizar la producción científica sobre factores de riesgo para caídas, a partir del diagnóstico de la North American Nursing Diagnosis Association, en literatura brasileña y extranjera, entre 2005 y 2010. Revisión integrativa, utilizando los descriptores: Accidente por Caídas y Anciano., en las bases CINAHL y LILACS, seleccionándose 32 artículos para análisis de contenido. Los resultados se presentan conforme los factores de riesgo indicados en la NANDA, siendo: factores ambientales, como recintos con muebles y objetos/alfombras ubicados en el suelo, poca iluminación, piso patinoso; factores de riesgo cognitivos, como estado mental disminuido; factores de riesgo en adultos, como equilibrio perjudicado, dificultades visuales, incontinencia, dificultad de marcha, neoplasia; factores de riesgo por uso de algunos medicamentos. Mediante los factores de riesgo de caídas en ancianos surge la necesidad de desarrollo de nuevas estrategias que modifiquen los ambientes y componentes intrínsecos.

DESCRIPTORES

Anciano
Accidentes por caídas
Factores de riesgo
Enfermería geriátrica
Revisión

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INTRODUCTION

The elderly population has increased and due to a new demographic scenario, old age can no longer be seen as it was once before. This change in the population pattern has been redefining social relationships and building a relevant image, supported on the fact that developing countries are unprepared to welcome this population in a technical and humanized way[1].

While these changes in the population profile cause modifications in the type of health care that is provided, it also imposes challenges for the government, translated as an emergence of social and health policies consistent with the real need of the elderly.

One of the characteristics of population aging in Brazil is the accumulation of progressive incapacities in functional and other activities, associated with adverse socioeconomic conditions. The mortality risk is replaced by comorbidities and give rise to the maintenance of functional capacity as a new health paradigm[2]. This paradigm becomes the responsibility of all, particularly of nurses.

In this scenario, longevity becomes contradictory, because, at the same time that it means life years, it also implies greater physical and psychological harms. This situation may be exemplified with the presence of Chronic Non-Communicable Diseases (CNCD), isolation, depression, fall in social position, and increased dependence[3]. Another perception regarding the elderly is the risk for falls.

A fall can be considered a sentinel event in the life of an aged individual, a potential marker of the beginning of function decline and/or symptom of a disease. Its frequency may increase progressively with age, in both genders, and in all ethnic and racial groups[3].

It is highlighted that falls are important causes of morbidity among the elderly. In addition to the possible serious consequences, such as fractures, there may be a lost of confidence to walking due to the fear of falling again, a situation referred to as pots-fall syndrome, which eventually reduces mobility and increases dependence[2]. For this reason, urgent measures are called for among health professionals, namely nurses, aiming at changing attitudes and reducing the harm caused by these accidents.

Among the nurses' actions, the Nursing Process, which includes the identification of the diagnosis, appears as an important tool, as it permits the identification of altered human responses, contributing with individualized care. Therefore, this study presents the literature data regarding the risk factors of falls in the elderly, taking into consideration the risk factors of the risk for falls nursing diagnosis, according to the *North American Nursing Diagnosis Association*[4]. These risk factors are presented below.

Environmental risks: cluttered environment, lacks antislip material in bath, lacks antislip material in shower, weather conditions, restraints, poor illumination, unfamiliar room, throw rugs. *Cognitive risks*: diminished mental status. *Risk in adults*: history of falls, age 65 or older, lives alone, lower limb prosthesis, wheelchair use, use of assistive devices (walker, cane). *Physiological risks*: anemia, arthritis, postoperative conditions, proprioceptive deficits, diarrhea, difficulty with gait, hearing difficulties, visual difficulties, vascular disease, impaired balance, sleeplessness, decreased lower extremity strength, orthostatic hypotension, incontinence, impaired physical mobility, postprandial blood sugar changes, neoplasms, neuropathy, acute illness, foot problems, urinary urgency, vertigo when extending neck, vertigo when turning neck. *Risk caused by medications*: antianxiety agents; antihypertensive; tryclcic antidepressants; diuretics; hypnotics; angiotensin-converting enzyme inhibitors (ACE) – medications used for heart failure; kidney disease; systemic sclerosis; tranquilizers; alcohol use[4].

Using the risk factor for falls, based on the risk for fall diagnosis of the *North American Nursing Diagnosis Association* was an attempt to contribute with the construction of a common and valid language for nurses' professional practice, particularly those working directly with the elderly.

Considering the growing elderly population and the small reference regarding falls in the elderly available in Brazilian nursing, there is a need for studies focusing on this particular age group in terms of the risk factors for these accidents.

This study is relevant considering the urgent need for nurses to know and point at the risk factors for falls in the elderly in order to identify the situation and the possible prevention.

Therefore, the prevention of falls should be the focus of nursing care. In view of this situation, nurses should encourage efforts for the prevention, early identification and treatment.

This study is relevant considering the urgent need for nurses to know and point at the risk factors for falls in the elderly in order to identify the situation and the possible prevention.

OBJECTIVE

To analyze the scientific production regarding the risk factors for falls in the elderly, according to the diagnosis of the *North American Nursing Diagnosis Association*, in Brazilian and international scientific literature, from 2005 to 2010.

METHOD

The integrative review was used because it is one of the broadest review methods, as it summarizes empirical and

theoretical literature data to provide a more thorough understanding of a given phenomenon and/or health issue[5].

The integrative review seeks to overcome possible biases in every stage of a rigorous method for searching, selecting and evaluating the relevance and validity of the material that is found. It is thus denominated because it provides broad information about a particular event that is linked to isolated elements from preexisting studies. It includes qualitative and quantitative research, which allows for synthesizing investigations and obtaining conclusions over a topic of interest[6].

Therefore, as mentioned before the integrative review permits the inclusion of both experimental and non-experimental studies at the same time[7]. It also supports the elaboration of concepts, theory development/review and also contributes with the direct applicability of health practices and the elaboration of policies[5].

The elaboration of an integrative review occurs in five different stages: formulation of the problem, data collection, assessment of the collected data, data analysis and interpretation, presentation of the results[7]. The present study was conducted following these stages.

In view of the possible implications and consequences of falls in the lives of the elderly and their relationship with the care provided by the nurse, the following guiding question was used in the study: considering the risk for falls nursing diagnosis of the *North American Nursing Diagnosis Association*, what factors can be identified among the elderly population, according to Brazilian and international literature in the period between 2005 and 2010?

Data collection was performed considering the specific inclusion and exclusion criteria. The inclusion criteria for the articles were: indexation in the chosen databases, according to the falls and elderly descriptors, separated by the Boolean operator *and* in the abstract; publication in English, Portuguese, Spanish; publication in the period between January of 2005 and July of 2010; presentation of the abstract for a first analysis; full text available of studies that addressed the risk for falls, as listed by NANDA, which applied to the elderly. The exclusion criteria were studies in the form of editorials and letter to the editors and articles that addressed falls in other age groups.

The investigated databases were: *Cumulative Index to Nursing and Allied Health Literature* (CINAHL); and the Latin-American and Caribbean Health Sciences Literature (LILACS).

Data collection was performed using a registry instrument contemplating: the data related to the identified articles regarding falls in the elderly and those regarding the risk for falls, according to the risk for falls nursing diagnosis by the *North American Nursing Diagnosis Association*[4].

The data extracted from the articles were discussed and compared with the researchers' theoretical knowledge. The interpretation of the data was performed by presenting the results under the light of the bibliography of Nursing and Gerontology related to accident by falls.

The risk factors for falls found in the present study, using the risk for falls nursing diagnosis, from the 2009-2011 NANDA classification[4], were: *Environmental:* cluttered environment/throw rugs, dimly lit room, weather conditions – slippery floor; *Cognitive*: diminished mental status; *In adults:* history of falls; age 65 or older; use of assistive devices; *Physiological:* difficulty with gait, visual difficulties, impaired balance, neoplasms; *Medications.* These risk factors appear as research categories.

Chart 1 – Themes related to the risk factors of the Risk for Falls nursing diagnosis, identified in the located articles - Rio Grande, RS, Brazil, 2010

Risk factors	Identification in the located articles	Total
1. Environmental		**8**
Cluttered room/throw rug	12,13,14,15	
Poor illumination	13,16,17	
Slippery floors	18	
2. Cognitive	16, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32	**11**
3. In adults		**16**
Age 65 years or older	23,24,26,31,34,35,36,37	
History of falls	14,25,30,35,38,39	
Use of assistive devices	40,41	
4. Physiological		**32**
Impaired balance	13,15,24,25,30,37,42,47,48	
Visual difficulties	14,15,16,23,28,36,37,42,49	
Urinary incontinence	16,23,25,26,33,50	
Difficulty with gait	15,25,30,47	
Neoplasms	26,28,29,51	
5. Use of medications	14,16,18,23,29,30,36,38,39,41,42,51,55,56,57, 58	**16**

The conclusions of integrative reviews may be published in the form of tables of charts. There are no models to be followed for the presentation of the results. The research, however, must explain the possible gaps and biases of the research[7].

RESULTS

A total of 637 articles were found, 541 of which were excluded because they did not address the factors contained in the risk for falls nursing diagnosis and others 64 for addressing other age groups rather than the elderly, 60 years of age and older. Therefore, 32 studies comprised the *corpus* of this study.

Regarding the year of publication, it was observed there were more recent studies, most published in 2007 and 2008. In terms of the origin of the articles, most were from countries in the Americas and Europe, with 16 and 12 publications, respectively. Seven articles were from Brazil.

Considering the databases, 22 articles were found in CINAHL and ten in LILACS. Another aspect observed refers to the predominance of the quantitative approach, used in 20 articles; another ten publications were qualitative; two studies involved both methods.

Chart 1 presents the distribution of the studies, according to the risk factors for falls present in the risk for falls NANDA nursing diagnosis.

DISCUSSION

Regarding the increase in the number of publications addressing falls in the elderly in Brazil, this result may refer to the year 2006, when there was a movement for reviewing/updating the National Health Policy (*Política Nacional de Saúde da Pessoa Idosa* - PNSPI), which had the purpose to

> recover, maintain and promote autonomy and independence of elderly individuals, guiding collective and individual health measures for this goal, consistent with the principles and guidelines of the national unified health system (SUS)[8].

In order to comply better with the National Health Policy for the Elderly, a global, interdisciplinary and multidimensional approach is required in elderly care, taking into consideration the interaction between the physical, psychological and social factors that affect health in the elderly[8]. These reasons may have made nurses more sensitive regarding their thoughts/research on falls in the elderly.

Considering the setting that is being outlined, it becomes crucial for health care workers, nurses in particular, to be prepared/updated to take care of the elderly. As it is not enough to simply know the clients' basic needs, health professionals must seek differentiated means to obtain knowledge, and, most of all, how to conduct research about the elderly[9].

One necessary and fundamental focus for care is the respect for the meanings that the elderly assign to the care they receive. Health workers must work by the principle that they guide the promotion of elderly care[10].

Another responsibility in elderly care refers to the maintenance of their overall capacities, including functional, cognitive and others. They may have an important effect on the quality of life, as they are connected with the ability to become occupied with work and/or other pleasurable activities until older ages. Therefore, it appears relevant to outline specific intervention programs to eliminate certain risk factors related to these incapacities[11].

Environmental risk factors

The risk factors associated with the environment, in an order of most to least frequent in the studied articles were: four regarding cluttered environments/throw rug [12-15]; three, on dimly lit room[13,16-17]; and one, about weather conditions, causing slippery floors [18].

Humans live in spaces in which the living and non-living components interact in the action and reaction to cause, directly or indirectly, states adequate or inadequate for life. This integration produces and reproduces situations suitable for the construction of a unique physical-social environment that can provide its components, both living and non-living, the means and/or ways for survival[19].

From this perspective, there are many environmental obstacles, referred to as non-living components, which may predispose the elderly to accidents by falls. Within the community, a large part of these events occurs in their own home. Whether they live in their own home or in a geriatric long-term care institution, it is often observed that there are several personal objects spread around in the bedroom, kitchen, and other rooms, in addition to throw rugs, wet floors, and others. The elderly also perform activities that are common for the addressed event, and are not adequate for their age, such as sitting and getting off beds and chairs by themselves.

Taking into consideration the familiarization that is build towards the environment, the affective relationship that is developed and the social representation, the elderly see the fact that there are in their own home and among their personal things as well being. It was, however, observed that there may be a strong statistical relationship between excessive personal objects in the homes of the elderly and falls[17].

Being aware that planning and re/adapting an environment must take into consideration the needs and particularities that appear with the natural and gradual changes that occur through life in the different organic systems,

maintaining the relationship environment of the elderly is extremely important. It is the nurses' role to identify the risk factors and implement actions to reduce the frailness of human beings during the process of aging, providing suitable locations/housing that guarantee a full life, active among the other living and non-living elements.

Humans, and their different environments, are the main object/subject of nurses' work and nursing knowledge, and are included in the whole of the health-related work and wellbeing of people and their surroundings[19]. Therefore, theoretical and operative constructs should, together, reduce the distance between environmental issues with the limitations imposed by the process of aging.

The influence of environmental factors on the risk for falls is associated to the functional state and mobility of the aged person. The greater their frailness, the greater their susceptibility. Postural maneuvers and environmental obstacles that are not necessarily a problem for people of other ages may become a serious threat to the safety of people with physiological alterations.

With the purpose to promote and active aging process and maintain the independence of the old person, for as long as possible, it is necessary that health care workers, particularly nurses, offer available technologies to make precise diagnoses, and, this way, plan/promote adequate interventions, because the process of aging has different effects on different[20].

Nurses must assume an attitude of constant critical thinking and of making effective investments so that the care can actually be a substantial answer to the needs of the old person. Furthermore, this professional, as far as possible, should provide individualized care to the elderly patient, planning their needs in the most adequate way possible[21]. In this sense, nurses should perform the Nursing Process[22], mainly aimed at maintaining functionality, seeking to perform interventions to prevent falls among the elderly.

Cognitive risk factors

The diminished mental status appeared as a risk factor in eleven articles[16,23-32].

The process of aging can cause changes to every system of the body, which can lead to a reduction in its efficiency or performance over time. Just as in the physical aspects, the cognitive skill may also undergo changes that affect one's overall capacity[33]. For most people, this has little or no consequence in their daily lives. For those who already have cognitive impairment, dementia, memory difficulty, changes in their physical and mental health, there may be an increased risk and vulnerability, which may include an increase in the potential for falls.

People with some form of compromised cognition, usually present postural sway, diminished upper limb reaction time, lesser knee extension strength and altered proprioception. Therefore, their balance and coordination is reduced compared to people without any cognitive impairment[27,31]. There is a strong relationship between diminished mental status and falls[23-25,28-29,31-32].

In cases of elderly patients with diminished mental status admitted in a hospital unit or geriatric long-term care institution, the situation may exacerbate the clinical condition with the feeling of being separated from a partner and/or family/friends, feeling followed, vulnerable and/or exposed[25]. Behavior characteristics may create difficulties to manage security.

The use of protection grids on the bed appeared as a concern for nurses, in terms of preventing falls[16,25]. Although the use of these devices is realized as a factor of protection against falls and a way of facilitating/maintaining the individual's mobility in bed, for elderly patients with a diminished mental status it may help increase the chances of their falling and getting more seriously injured. This occurs because when they attempt to get out of bed they may try to go over, around it or through the grid, which also increases the severity of injuries caused by the falls.

From this perspective, the arbitrary use of protection grids in individuals with this clinical particularity may be dangerous. However, reducing its use is a factor that should be rethought. Alternatives for a replacement should address environmental aspects, with continuous interdisciplinary evaluation, involvement and leadership by the management, nurses and their team[25].

The chances for falling are three to five times greater in elderly individuals with cognitive impairments, as their protective and judgment functions may be harmed and, as a consequence, may have an increased difficulty to adapt to the environment[34].

Therefore, the nurses' role to help the elderly with a diminished mental status to deal with and adapt to the changes created by the new condition depends on a continuous evaluation process[25]. The same consideration should be given to the environment in which this process occurs when answering the demands of the elderly. The need to evaluate these risk since the beginning of the treatment is essential to provide significant care to those aged human beings.

Risk factors in adults

The risk factors for falls associated with adults, in an order of most to least frequent in the studied articles were: eight related to age of 65 or older[23-24,26,31,34-37]; six about the history of falls correlated to new events[14,25,30,35,38-39]; two bout the use of assistive devices[40-41].

The fall may be the reflex of an acute disease, such as respiratory infection, cardiac arrhythmia, stroke, *delirium*, and others. In this sense, the fact that one same person falls in different times may be related to different reasons,

which requires a broad investigation. Similarly, this search is necessary when a fall occurs for an unknown cause, in order to discover the factor(s), etiologic agents and/or trigger of the event[42]. The systematized search for causal factors, whether they are endogenous/intrinsic or exogenous/extrinsic, permits an adequate management, prevents new events and treats the associated diseases, avoiding comorbidities and the appearance of incapacities.

Although the prevalence and the consequences of falls increase with age, these accidents can be prevented. To do this, it is necessary to evaluate the elderly and their environment, in terms of the factors that increase, even further, their chances of falling, thus permitting to develop care strategies, considered potentially useful[43], such as using the nursing process.

The fall can be considered a traumatizing event for the elderly, thus it becomes a significant factor due to its psychological impact. The tendency to fall increases immobility. Elderly individuals may present the Post-Fall Syndrome, which refers to the fear of returning to everyday life activities and cause new accidents, thus secondary consequences may emerge[44], such as isolation, feeling of sadness and/or depression and often an early admission in geriatric long-term care institutions.

The assistive devices, despite providing the elderly with more independence, may cays physical injuries to users if used inappropriately. Many traumatic situations occur because the device does not allow for a structural adjustment to make it more adequate to the physiological characteristics of certain groups[45-46], including the elderly, which may result in a fall.

Therefore, it is the nurses' duty to perform functional evaluations and other assessments in the elderly, particularly those which apply instruments focused on balance and gait, so it is possible to establish therapeutic plans adequate to their needs. Along with those actions, the Nursing Process (NP) should be performed as an important tool for the systematization of the working process, emphasizing on the prevention of falls in the elderly.

Physiological risk factors

Risk factors associated with physiological systems, in an order of most to least frequent in the studied articles were: nine regarding impaired balance[13,15,24- 25,30,37,42,47-48] ; nine regarding visual difficulties[14-16,23,28,36-37,42,49]; six related to urinary incontinence[16,23,25-26,33,50]; four related to difficulty with gait[15,25,30,47]; in four there was a relationship with the presence of neoplasms in the elderly[26,28-29,51].

Aging may compromise the ability of the central nervous system to process vestibular, visual and proprioceptive signs responsible for maintaining body balance and locomotion. It may also diminish the capacity of changing the adaptive reflexes and the systems involved[52-53]. Thus, it increases the elderly's vulnerability to fall.

The reduced visual function in people 60 years of age or older is well known and among the cause for concern for the elderly population as well as for health professionals in terms of their (elderly) vulnerability to fall.

Another factor associated with elderly frailness refers to urinary incontinence, which is defined as a condition in which the involuntary loss of urine is an objectively demonstrable social issue[54]. It is often interpreted as an inherent part of the aging process. Nevertheless, it appears as a risk factor that increases falls.

In elderly patients diagnosed with neoplasms, the disease and associated treatments may weaken muscles and cause fatigue, which may lead to accidents caused by falls [51].

According to the National Health Policy for the Elderly (PNSPI) it is of utmost importance to know the functional characteristics of balance and gait, the perceptible conditions and the presence of chronic incommunicable diseases in order to promote the development of specific strategies for prevention, care and rehabilitation, with a view to maintain the autonomy of the elderly and preserve their independence for as long as possible[8].

Risk factor caused by medications

Medication use was stated as a risk factor for falls in sixteen of the studied articles[14,16,18,23,29-30,36,38-39,41-42,51,55-58].

Aging, characterized in this study as a gradual and inherent human process, has gained more and more importance due to its particularities. It also triggers the search for an active aging, closely related to disease management, often achieved by a regular use of medication.

It was found that the elderly fallers took a greater amount of medications than those who had not experienced any falls[36,41]. Elderly fallers are those who experienced two or more falls in the last twelve months. They are more predisposed to new accidents, and require an evaluation that emphasizes on searching the intrinsic and extrinsic factors for this type of episode[45].

Polypharmacy, i.e. the use of five or more drugs simultaneously, should be given special attention in the elderly. This practice promotes unwanted synergisms and antagonisms, non-compliance to clinically essential medications and exceeding costs with superfluous drugs, which contributed with the noncompliance to the drug treatment[58].

The use of polypharmacy appeared with a statistical value predictive of falls[13,36]. It is, however, necessary to consider that the use of these substances is also an indicator of impaired health, which may consequently increase frailness and predispose the elderly to these accidents.

Regarding the use of specific medications, a previous study found that among elderly fallers who lived in their own homes, psychotropic drugs were the most often used (48.5%), followed by antihypertensive agents (27.1%).

Among institutionalized elderly who experienced falls, 93 (41.0%) used only one medication, whereas 87 (38.0%) used two or three medication categories[29].

When nurses administrate drugs in the elderly, particularly psychotropic drugs, they must understand the physiological changes that occur with age, which may alter the effect of the medications and lead to adverse reactions. Elements such as the loss of body water, reduced lean tissue and increased fatty tissue may all alter the onset and duration of the effects of many medications. These changes in the organism affect the concentration of these substances, which may predispose to toxicity[57,59].

Therefore, nursing care for the elderly must emphasize on the risk and benefit of medication use, and seek strategies regarding the administration times of these substances, so that the elderly patient is less sleepy while performing the activities of daily living, thus with a smaller risk for falls.

CONCLUSION

This study was considered successful as the proposed objective was achieved. It was possible to analyze the Brazilian and international scientific production from 2005 to 2010, about the NANDA risk for falls nursing diagnosis, regarding the risk factors for the elderly population. By performing an integrative review, contemplating searches on CINAHL and LILACS databases, a total 32 articles were obtained for analysis.

On a first analysis, the data from the articles were characterized according to the indicators: author, journals, methodological approach, sample, language, country of origin of the study, year of publication, results and conclusions. In this first stage, it was noticed that most articles were published in international journals, and in English. It was also found that most studies were recent, published in 2007 and 2008. Regarding the origin of the studies, most were from countries in the Americas and Europe, with 16 and 12 publications, respectively.

After the characterization of the data, they were analyzed in terms of content, as proposed by the authors and chosen to support this integrative review. Therefore, categories were pre-established based on the risk factors indicted in the risk for fall nursing diagnosis of the *North American Nursing Diagnosis Association*.

The first risk factor was environmental, with particular emphasis on: cluttered environment/throw rugs, dimly lit room, weather conditions – slippery floor. These environmental obstacles/conditions may predispose to accidents by falls.

Regarding the risk factors associated to adults: age 65 or older, history of falls, use of assistive devices, the changes caused by aging, the consequent use of prosthesis to compensate/help with gait, in addition to recurring falls, are predictive indicators of these events.

In terms of the cognitive risks, the diminished mental status, characterized by dementia, appeared as a risk factor for falls, as it involves changes in cognitive, physical and behavioral aspects, and the administration of psychotropic drugs, which may increase the vulnerability of the elderly.

Regarding the physiological risks: impaired balance, visual difficulties, incontinence, difficulties with gait, neoplasms. At old age, the ability of the central nervous system to process vestibular, visual and proprioceptive signs hinders the maintenance of body balance and locomotion. Urinary urgency and complications due to cancer treatments also appeared as indicatives of falls.

The risk for falls associated to the use of medications revealed that the continuous use of several drugs predisposes the elderly to several adverse effects and more drug interactions, which was preponderant in the risk for falls.

A relationship was observed between the risk for falls in the elderly, described in the nursing diagnosis of the *North American Nursing Diagnosis Association* and the Brazilian and international literature of nurses. It is still an incipient association, and, thus, calls for further studies, particularly focused on the elderly. In this research we also observed a preliminary evidence-based practice that needs to be improved/extended in other studies.

One study limitation is the fact that there is a considerable number of publications addressing falls as a theme, but they do not contemplate the risk factors of this event, which makes the search exhaustive. Therefore, it is possible that some relevant studies were excluded from the sample of selected articles. Another limitation refers to the language barriers, because the articles analyzed in this study were written in languages different from Portuguese.

The study, however, permitted to synthesize the research regarding the risk factors in the elderly, as well as the main results, thus making it easier for readers to analyze the pre-existing information on this theme.

The integrative review was an adequate choice and helped achieve the proposed objective. It permitted to build improved and updated knowledge on the studied theme regarding the risk factors for falls in the elderly, which may provide the support for developing alternatives and strategies that allow for changing environments and intrinsic components that can be changed.

Therefore, we hope this study and the proposals for possible interventions that result from it serve as the interconnection between health services and the academia, with the purpose to promote the improvement of care for the elderly. We also hope that health care professionals, particularly nurses, who work with the elderly, feel sensitized regarding the prevention of falls, thus, avoiding its consequences and contributing with maintaining an active aging.

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