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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Alves, A. H. C., Patrício, A. C. F. d. A., Albuquerque, K. F. d., Duarte, M. C. S., Santos, J. d. S., & Oliveira, M. S. d. (2016). Occurrence of falls among elderly institutionalized: prevalence, causes and consequences. *Revista de Pesquisa: Cuidado é Fundamental Online*, 8(2), 4376-4386. <https://doi.org/10.9789/2175-5361.2016.v8i2.4376-4386>

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Federal University of Rio de Janeiro State



Journal of Research Fundamental Care Online

ISSN 2175-5361
DOI: 10.9789/2175-5361

RESEARCH

Ocorrência de quedas entre idosos institucionalizados: prevalência, causas e consequências

Occurrence of falls among elderly institutionalized: prevalence, causes and consequences

Ocurrencia de caídas entre ancianos institucionalizados: prevalencia, causas y consecuencias

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ABSTRACT

Objective: To investigate the prevalence, causes and consequences related to occurrence of falls among institutionalized elderly. **Method:** Descriptive study, with a quantitative approach, carried out with 15 seniors who reside and were victims of falls in an institution of long permanence in the city of João Pessoa-PB. Used an instrument with demographic questions and questions pertaining to falls. The research was approved by the Research Ethics Committee, CAAE34521414200005176. **Results:** The elderly 80 (12) had suffered three or more crashes, the leading cause of downfall (46.7) weakness, disturbers of balance and gait; 60 presented serious injuries, 40 fractures and 93.3 were alone at the time of the crash. **Conclusion:** The results obtained corroborate for the development of educational activities as to the risks of falls in order to remedy the existing factors. **Descriptors:** Aging, Elderly, Accidents by falls, Prevention of accidents.

RESUMO

Objetivo: Investigar a prevalência, causas e consequências relacionadas à ocorrência de quedas entre idosos institucionalizados. **Método:** Estudo descritivo, com abordagem quantitativa, realizado com 15 idosos que residem e foram vítimas de quedas em uma instituição de longa permanência no município de João Pessoa-PB. Utilizado um instrumento com indagações sociodemográficas e perguntas referentes a quedas. A pesquisa foi aprovada pelo Comitê de Ética em Pesquisa, CAAE34521414200005176. **Resultados:** Dos idosos 80%(12) tinham sofrido três ou mais quedas, a principal causa de queda (46,7%) fraqueza/distúrbios de equilíbrio e marcha; 60% apresentaram ferimentos graves, 40% fraturas e 93,3% estavam sozinhos no momento da queda. **Conclusão:** Os resultados obtidos corroboram para o desenvolvimento de ações educativas quanto aos riscos de quedas no intuito de sanar os fatores existentes. **Descritores:** Envelhecimento, Idoso, Acidentes por quedas, Prevenção de acidentes.

RESUMEN

Objetivo: Para investigar la prevalencia, causas y consecuencias relacionan con la ocurrencia de caídas entre ancianos institucionalizados. **Método:** Estudio descriptivo, con un enfoque cuantitativo, llevado a cabo con 15 personas mayores que residen y fueron víctimas de caídas en una institución de larga permanencia en la ciudad de João Pessoa-PB. Utiliza un instrumento con preguntas demográficas y las cuestiones relativas a las cataratas. La investigación fue aprobada por el Comité de ética de investigación, CAAE34521414200005176. **Resultados:** Los ancianos 80 (12) habían sufrido tres o más accidentes, la principal causa de caída (46,7) flaqueza, disturbios del equilibrio y la marcha; 60 presentó heridas graves, 40 fracturas y 93.3 estaban solos en el momento del accidente. **Conclusión:** Los resultados obtenidos corroboran para el desarrollo de actividades educativas en cuanto a los riesgos de caídas para remediar los factores existentes. **Descritores:** Envejecimiento, Ancianos, Accidentes por caídas, Prevención de accidentes.

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INTRODUCTION

The elderly population growing curve, graphics features jumping according to the Brazilian Institute of geography and statistics (IBGE) of 14.5 million in 1999 to 23.5 million in 2011, representing 12.1% of the population. In 2020, the projection is that this total increase to 26 million. ¹

Paraíba achieves 3rd place in Brazil and is the first State with the largest number of old people in the Northeast. The elderly account for elderly in João Pessoa Capital 74522 representing 10.3% of the total of 723,515 people. ¹

This accelerated growth of the elderly population, in various parts of the world, the increased prevalence of chronic degenerative diseases, especially the big geriatric syndromes "in which include the falls, because the aging process causes the body biological, psychological and social changes. ²⁻³

In Brazil, according to data from the Department of Informatics of the Ministry of health⁴ the falls are among the external causes with higher prevalence of death in the elderly.

An estimated 15% of seniors who are admitted to specialized centers in meeting the traumatized suffered falls of his own time. ⁵

The falls generate great commitment in the quality of life of the elderly. This is because the consequences of falling for the elderly are far more serious when compared the occurring in young individuals because of the impact that cause the elderly and his family and the risk involved in the life of the same. ⁶

Fall is one of the leading causes of disability and dependence in the elderly, is the direct cause of fractures. ⁷

Thus, falls represent one of the major clinical problems observed in the elderly population and public health because of its high incidence, consequences for the health and welfare costs. ⁸

Due to the rapid growth of people with 60 years or older in recent decades and considering aging-related physiological changes that will influence the prevalence of same, is of utmost importance to conducting research to provide subsidies for the construction of strategies that enable the prevention of this interlocutory appeal.

In this perspective, the study made it possible to find the prevalence, causes and consequences of falls in the elderly, subsidizing the building strategies that enable better decisions in health in pursuit of prevention of these diseases in this layer of society. Contributing to the practice of nurse that can intervene through Public health programs, hospitals and management with actions to promote the health of older persons, through educational actions, holistic assistance effective as being vulnerable to falls, aiming at

reducing risks, providing a quality of life aging, because the consequences of crashes are often irreversible.

Before such findings this study part of the following question: what is the prevalence and the main causes of falls observed in institutionalized elderly? What repercussions the falls produce in the daily life of the elderly person? To answer such questions, this study aimed to investigate the prevalence, causes and consequences related to occurrence of falls among elderly institutionalized.

METHOD

It is a field research, descriptive, transversal, with quantitative approach. The survey was conducted in the Instituição de Longa Permanência para Idosos Lar da Providência Carneiro da Cunha, located in the city of João Pessoa-PB.

On institution 99 elderly reside, however those who were victims of falls and meet the inclusion criteria results in a total of 15 seniors, so the study was conducted with this amount. Inclusion criteria were considered: age over 60 years be a resident of the institution and have been victim of a fall. As exclusion criteria: elderly without clinical conditions to answer the interview script (wheelchair, bed, advanced neurological disorder), be absent from the Member at the time the data collection occurs.

The research was used a screenplay by interview with objective questions being subdivided into two parts. The first with 10 questions on socio-demographic variables: age, sex, marital status, length of stay in the institution, profession/occupation, income, children, religion, educational level, engaging in physical activity. The second with nine questions regarding further related variables (falls): chronic diseases, medication use, smoking, occurrence of falls, many times suffered falls, how long suffered the fall, the fall, the crash site, consequences of the fall.

The implementation of data collection occurred through a quantitative survey of elderly residents at the place of collection of data that met the inclusion criteria listed. Subsequently, the research project was presented to the Ethics Committee of the Centro Universitário de João Pessoa and the Instituição de Longa Permanência para idosos Lar da Providência Carneiro da Cunha. Then, in agreement with the responsible for the data collection site there was the presentation of the proposal of the study with their methodological and ethical respect steps, and the invitation to participate in the research.

From acceptance to participate in the study, the subject has received two copies of the informed consent as established by resolution 12/466,⁹ and the interview was applied individually. The collection occurred on days scheduled on the day shift as the availability of

the elderly, in the premises of the institution during the period from August to November 2014.

The collected data were processed in the *software* Statistical Package for the Social Sciences (SPSS) 19.0, and analyzed from simple statistical checking frequency and percentage, later discussed in the light of the proposed literature.

For the research were considered all ethical principles from the 466/Resolution 12 of the National Health Council that governs the survey among human beings.¹⁰ the study occurred after the assessment and authorization by the Committee of ethics in research of Centro Universitário de João Pessoa (CAAE34521414200005176) and the participant's authorization through an informed consent.

RESULTS AND DISCUSSION

Participated in this study 15 elderly people with a mean age ± 7.1 79.6 years, 66.7% (10) women. Old age has a strong association with the risk of falls, because of the biological aging process causing structural and functional changes that accumulate gradually with increasing age. These changes may compromise the performance of motor skills, and encouraging him to fall.¹⁰

With respect by a predominance of females in the context of aging, is due to greater life expectancy of this genre. However, as the higher rate of falls among women, there is still no definitive explanation about this fact, however, it is considered that the lower quality and muscle strength in women, and the prevalence of chronic diseases can increase the likelihood of women become more fragile.¹¹

As for the civil State 60% (9) were single and 40% (6) widowed, compared to 66.7% children (10) had, being the amount: 26.7% (4) two, 20% (3) three, 13.3% (2) four and 6.7% (1) a son. The time of institutionalization obtained mean values and standard deviation of 7.9 \pm 5 years, being the maximum 20 years. The profession was more number of maid with 26.7% (4).

The educational level revealed 46.7% (7) illiterate, primary education incomplete 26.7% (4), 20% full key (3) and 6.7% (1) full high school. In a study with 310¹² elderly people in Santa Cruz found relationship between education level and the presence of balance deficit. The authors cite that education can reflect in important aspects of life of the elderly as housing, culture, income, and health, and is likely that people with a higher level of education have greater concern about your health, greater ability to get involved in their recovery and better hygienic habits. The higher education can also be related to greater involvement in preventive health education programs. In other words, causes to preserve their physical and organic in a way more satisfying, including the structures responsible for postural control.

The practice of physical activities, type of activities, chronic diseases and the use of continuous medications in the group studied are exposed right away in the table 1.

Table 1- Information on physical activity, chronic diseases and medications of continuous use of the participants, João Pessoa-PB, 2014.

VARIABLES	N	%
Physical activity		
Practice	11	73.3%
Type of activity		
Walk	9	80%
Walk and dance	1	6.7%
Dance	1	6.7%
Chronic Diseases		
Hypertension	12	80%
Diabetes	8	53%
Hypertension and diabetes hand in hand	5	33.3%
Medications		
Continuous use	14	93.3%
TOTAL	15	100%

Source: data from the researcher, 2014. * Possibility of more than one reply by subject of research.

Whereas most of the seniors polled 73.3% (11) physical activity, it is important to note that physical activity gives the elderly a better quality of life and allows you to perform all the activities of daily life. Sedentary people pose several problems, not only by age, but by the lack of using their physiological functions. The maintenance of the human body is of paramount importance to greater life expectancy. Physical activity is a therapeutic modality that promotes physical mobility the postural instability, which are directly related to the reduction of falls.¹³

Hypertension revealed in 80% of the elderly. The Diabetes Mellitus showed 53% of seniors. High blood pressure has a high prevalence and risk factors of the disease, are heredity, gender, age, ethnic group, socioeconomic status, education level, excessive body weight and smoking.¹⁴

Comparing with a field research,¹⁵ descriptive method of hypothetical-deductive approach, quantitative and cross-sectional character with 84 elderly held in a club in João Pessoa the prevalence of hypertension was 45.2% referred author and the prevalence of diabetes was 23.8% referred.

Diabetes is a disease that can cause highly limiting in some complications as: blindness, amputations, kidney diseases, cardiovascular complications and brain, consequently causing damage to functional capacity, quality of life and autonomy of the individual.¹⁶

As for the use of medicines, 93.3% of the elderly are continuous use, the authors claim that 5.17 the use of medicines consists of a risk factor for falls, because the drugs can reduce the alert, as well as psychomotor function, or cause muscle weakness, postural hypotension, arrhythmia, dizziness, especially when inappropriate doses. With this, there is a great need for the preparation of educational campaigns on the irrational use of drugs in institutions of long permanence, aiming to educate health workers and asylum seekers on the dangers of this indiscriminate.

None of the elderly respondents were smokers. This fact becomes a positive point, because smoking disfavors longevity, being a risk factor for various diseases, especially

cancer, cardiovascular and respiratory diseases. Even though some of the elderly are former the beneficial effects of the suspension of the smoke are evident in all age groups, including even the elderly, especially in terms of quality and life expectancy.¹⁸

Regarding the amount and how long the elderly investigated suffered a fall, you can find out just below in table 2.

Table 2- Amount and how long the elderly investigated suffered fall, João Pessoa-PB, 2014.

VARIABLES	N	%
Falls		
A fall	1	6.7%
Two crashes	2	13.3%
Three or more falls	12	80%
TOTAL	15	100%
Time he suffered the fall		
Three months	1	6.7%
Four months	1	6.7%
Five months	2	6.7%
Six months	8	13.3%
Seven months	5	33.3%
A year	4	26.7%
One year and six months	1	6.7%
TOTAL	15	100%

Source: data from the researcher, 2014.

As shown in the table above 80% (12) of the elderly have already had three or more falls. As the authors¹⁹ the interviews in their descriptive study with a sample of 28 elderly inserted into physical activity program for seniors in the sports center of the Federal University of Santa Catarina showed that 50% of seniors reported two or more falls. The data in this superior research, 80% of the elderly have submitted three or more episodes of falls.

The old man who experienced more than two crashes is that more likely the new accidents by falls and, therefore, requiring evaluation that prioritize the pursuit of intrinsic and extrinsic factors involved in this kind of episode.²⁰

Thus, the results show the need to implement prevention measures against falls, contributing to better quality of life for these elderly people, since the consequences of the event can be serious and often fatal.

The data about the reasons, place and consequences of the fall can be found in Table 3.

Table 3- Information about the cause, location, company and sequels of the fall in institutionalized elderly, João Pessoa-PB, 2014.

VARIABLES	N	%
Reason of the fall		
Associated with the environment	4	26.7%
Reduction of vision	1	6.7%
Weakness/balance and gait disorders	7	46.7%
Syncope/dizziness/vertigo	1	6.7%
Associated with the environment and weakness/balance and gait disorders	2	13.3%
TOTAL	15	100%
The crash site		
In front of the block	3	20%
Patio	8	53.3%
Room	2	13.3%

Street	1	6.7%
Room	1	6.7%
TOTAL	15	100%
He was accompanied at the time of the fall		
No	14	93.3%
Aftermath of the crash		
Fractures	6	40%
Serious injury	9	60%
TOTAL	15	100%

Source: data from the researcher, 2014.

Among intrinsic factors that caused falling in the elderly can be highlighted: 46.7% of weakness/balance and gait disorders. The intrinsic factors may be determined as those related to the subject, and may present decreased function of the systems that constitute the postural control, disease, cognitive and behavioral disorders, showing inability to maintain or to regain balance, when necessary.²¹

Extrinsic factors are related to the environment and 26.7% of elderly people were found affected by this cause. These encompass littered environments or confused; poor lighting; bed and Chair heights inadequate; rugs on smooth surfaces; use of slippers or shoes badly adjusted and with slippery soles; the absence of handrails; presence of stairs of uneven width or height; among others.²²

Thus it is extremely important to perform modifications in domestic environments in order to reduce the dangers, in addition to the need to promote health, prevent disease and disability in the elderly with the goal of minimizing the risks that might provide.

It was observed that the location where the greatest number of falls was in the yard with 53.3%. Points out that the local occurrence of fall is important to identify extrinsic factors that predispose to the occurrence of the same and develop preventative measures. However, not always the episodes of falls among the elderly are identified, whether by underreporting in the elderly by self-report oblivion, or even fail to arrive at a hospital.²³

Considering the finding of 93.3% of the elderly are alone at the time of the crash. The aging process causes changes in the body of the elderly, leaving the more fragile, require more care and attention, thereby minimizing the risks for falls.

The main consequences caused by falls in the elderly were: 60% with serious injuries, 40% with fractures. The fractures seem to assign the elderly greater vulnerability to new episodes, regardless of their frequency. Due to these injuries, the elderly commonly suffers from the limitation of their activities, causing a functional decline in activities of daily life and social isolation decreased social activities, feeling of insecurity and fragility, thus creating a fear of the consequences related to the fall. Being so, from physical damage, starts a chain reaction that causes psychological, social and economic damage.^{8,24}

The dependence of the elderly person causes challenges for her, for her family and caregivers who need several conditions for the maintenance of essential care in favour of recovery or adaptation of the elderly after the fall.²⁵

The identification of the causes of falls and their consequences are of paramount importance in the establishment of strategies for prevention.

It is known that the risk of falling increases proportionally with the number of risk factors. Able to eliminate a risk factor, the likelihood that fall also decreases. This is essential

for seniors that, in General, have multiple risk factors for falls, some not modifiable. Strategies can be developed to transform or eliminate those factors which may act, if, with this, a significant reduction in falls. At the same time, they can develop interventions that Act on multiple factors, such as exercise programs, medication review, recommendations for safe behaviors, improving environmental safety.²⁶

Understand how preventive measures guidelines to seniors, families and caregivers about the danger of falling and its consequences. Information about the safety of the environment in which it lives and moves; lifestyle; Geriatric evaluation periodic global with caution to cognitive function, ability to perform the activities of daily life, mood disorders, social conditions; rationalization of prescribing and polypharmacy correction; annual ophthalmological assessment; indication of physiotherapy and exercise; nutritional evaluation; health promotion measures, with attention to the prevention and treatment of osteoporosis.²

The influence of environmental factors on the risk of falls is linked to the functional status and mobility of the elderly person. The more fragile, more vulnerable. Postural maneuvers and environmental obstacles that do not provide problems for older people healthier can change and become a serious threat to the security and mobility of those with changes in balance and gait.

In this sense, preventive measures may be appropriate at the time of the toilet, anti-slip floors placement and grab bars in bathrooms, placement of a differentiator of steps on the stairs as well as adequate lighting, handrails to support bilateral and removal of carpets at the beginning and end of the ladder, don't let the slippery slope, use shoes with non-slip soles keep objects in places of easy access.²⁷

As the elderly are at ILPI and in turn receive assistance from health professionals they should follow the Protocol part of the National Program of patient safety. Ordinance No. 529, 1 April 2013 instituted the national patient safety Program that aims to contribute to the overall qualification in health care in all health establishments of the national territory.

This Protocol aims to reduce the occurrence of patients at the point of care and its consequences, through the deployment/implementation of measures covering the risk assessment of the patient, ensure the multidisciplinary care in a safe environment, and promote the education of the patient, family members and professionals.²⁷

Therefore, it is extremely necessary to implement a patient safety protocol on prevention of falls of the elderly in ILPI, aiming at the reduction of physical damage, such as tissue injuries, wounds and fractures, functional decline and increased dependency and psychosocial issues, such as loss of autonomy, isolation and the fear of falling.

CONCLUSION

This study made it possible to identify the prevalence of falls among the elderly institutionalized noting that the largest number of elderly fell three times or more, one of the causes were the weakness/balance and gait disorders, followed by environment-related causes and weakness/balance and gait disorders, concomitants reduced vision and syncope/dizziness/vertigo. The consequences of crashes reported by seniors were serious injuries and fractures.

The detection of the causes of falls facilitates the construction of preventive measures, enabling the reduction of the episodes, resulting in the reduction of suffering, disability, death and social impact.

In this context, the implementation of the Protocol for the prevention of fall in ILPIs is essential, due to the prevalence of falls and the greater susceptibility. Being indispensable for the qualification in health care for the elderly.

However, this study alerts the professionals who work with the elderly and Government leaders about the need for more attention to preventive measures for falls, or in order to enable them to provide specific care for these elderly, reducing the prevalence, causes and consequences and collaborating as well for an improvement in the quality of life of a population quantitatively increases portion every day in our country: the elderly.

Although the study has noted important aspects as for falls in the elderly, it is necessary to highlight the small number of seniors who participated, suggests new research with the largest number of people in order to become acquainted with the phenomenon of singular form, tracing actions specific to this group that resides in long-stay institutions. However, that covered all the elderly living in long-stay institution who had been victims of falls.

Therefore, it is recommended the development of educational activities that reach the elderly audience, involving these individuals in the process of knowledge regarding the risk of falls, as well as guidelines and trainings for professionals working in the research institution in order to remedy the existing factors that can cause falls, especially in the courtyard that was the place where the greatest number of falls, which often cause physical and mental dependence in the elderly.

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Received on: 03/02/2015
Required for review: No
Approved on: 08/01/2016
Published on: 03/04/2016

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