### OCCURRENCE OF FALL IN ELDERLY HOSPITALIZATIONS

Marcia Adriana Poll\*
Andréa Cristina Malheiros Hoffmeister\*\*
Cenir Gonçalves Tier\*\*\*
Silvana Sidney Costa Santos\*\*\*\*

### **ABSTRACT**

This exploratory/descriptive whose objectives were to identify the socio-demographic profile of elderly hospitalized due to falls; investigate the occurrence or factors related to hospitalization of the elderly from falls. It was used a structured instrument and the analysis was performed by numerical values through the Microsoft Excel for Windows program. The research approved by the Ethics Committee in Research of the University of Cruz Alta, under number CAAE - 0002.0.417.000-09. It became evident that the fall affects both genders, with female predominance, and age above 80 years old. From the fourteen elderly identified, ten suffered falls from height and these occurred during the performance of activities of daily living. Among all events involving elderly falls, occurred one casualty. In this elderly group, seven had a femur fracture and treatment performed for most cases had to be surgical. It is expected through this research contribute to minimize the vulnerability of the elderly with regard to falls, helping in the prevention and care through the development of suitable actions or strategies, in order to improve the quality of life of this population.

Keywords: Elderly. Accidental falls. Morbidity. Mortality. Nursing.

### INTRODUCTION

The quality of life gains a broad sense and given the epidemiological transformation that Brazil's passing in recent times and the great protagonist of this new scenario is the increase in the elderly population. The contemporary world has as a characteristic the population aging, driven by the reduction of mortality rates and better living conditions. This phenomenon is quite noticeable in developing countries, like Brazil, where the number of elderly has risen from three million in 1960, to 14.5 million in 2000 and in the last decade spent reaching 20.5 million, in 2010. Moreover, estimates for the next 20 years indicate that the elderly population will exceed 30 million<sup>(1-2)</sup>.

Corroborating, according to the latest Census conducted by the IBGE in the 1960 the participation of older people with more than 60 years in the general population has increased progressively, with 4.7% in 1960, 5.1% in 1970, 6.1% in 1980, 7.7% in 1991,

8.6% in 2000, and 10.8% in 2010. In addition, with possibilities of reaching the next two decades to nearly 13% of the total population<sup>(2)</sup>.

The rapid increase in elderly population observed in Brazil results in an increasing demand for health services and is one of the biggest challenges to their practices<sup>(3)</sup>. Of diseases that compromise the health of the elderly, include the external causes, which given that name by the international classification of diseases (ICD-10) of the World Health Organization – who/2000. The events that make up the external causes are traffic accidents, work accidents, drowning's, assaults and self-harm, as well as the falls. This event is showing as one of the most affects the population of elderly<sup>(4)</sup>.

In Brazil, the external causes are the third cause of death and the age group above 60 years is that features greater mortality from this event in the country, as well as for hospitalization in the public system, with hospitalizations and mortality rates equal to 109 and 650 per 100 thousand inhabitants in

<sup>\*</sup>Nurse. MS in Nursing. Professor of undergraduate in nursing course at Federal University of Pampa-UNIPAMPA. Member of Group of Studies and Research in Nursing of the West Border of Rio Grande do Sul (GEPEnf FORS). Uruguaiana, RS, Brasil. Email: adripoll@hotmail.com
\*\*Nurse. Specialization in progress in Urgency, Emergency and Trauma/SEG - Cruz Alta, RS, Brasil. Email:andreahoffmeister@hotmail.com

<sup>\*\*\*</sup>Nurse. PhD in Nursing. Professor of Undergraduate Nursing Course at UNIPAMPA. Uruguaiana, RS, Brasil. Email:cgtier@gmail.com
\*\*\*\*Nurse. PhD in Nursing. Professor at School of Nursing Federal University of Rio Grande - FURG, Rio Grande, RS, Brasil. Email:
silvanasidney@terra.com

2008, respectively. Even in the period between 2008 and 2010, were accounted for in the SUS 413,139 hospitalizations by external causes among the elderly, which were due mainly to falls (62.4%), transport accidents (8.1%) and external causes not classified (7%)<sup>(5)</sup>.

Thus, observe a growing rise in hospital admissions and, because of complications caused by external causes. There is a sudden change in the lives of the elderly, due to the after-effects left, besides the fall being one of the leading causes of accidental death in people older than 65 years. In this perspective, the fall in the elderly becomes one of the most frequent concerns regarding morbidity and mortality and the high costs for health services (6)

In this context, this research has significant social relevance, since, from the survey of morbidities that affect older people admitted to a hospital, actions/interventions may be drawn as a form of prevention for falls, in order to reduce the number of hospitalizations and the possible deaths arising from this event, as well as improve the quality of life of the elderly population.

For both, this research aimed to identify the demographic profile of elderly hospitalized because of falls and investigate the occurrence/factors related to hospitalization of the elderly from falls.

### **METHODOLOGY**

This research is a descriptive exploratory study, because aims to provide greater familiarity with the issue, with a view to make it more explicit or build hypotheses, in addition to describing the characteristics of a particular population or phenomenon or the establishment of relationship between the variables<sup>(7)</sup>.

Were held in general adult admission units, a hospital in the State of Rio Grande do Sul/RS, Brazil. The population of the study consisted of elderly patients hospitalized during the period from June to August 2010. And the sample was composed of 14 elderly patients aged 60 years or more who have agreed to be part of the research and whose

hospitalization was due to fall (W00 the W19), which is classified in nineteenth and twentieth Chapters of the international code of diseases (ICD-10), with regard to morbidity and mortality.

It is noteworthy that nurses reported units when occurred any hospitalization for elderly fall. Therefore, check, yourself if it could integrate the sample set for admission for fall, the objectives of the survey informed and they invited to participate, through the signing of an informed consent. As an instrument of data, collection used a structured questionnaire with open and closed questions.

With regard to the analysis, the data were considered and interpreted in numeric values through the program Microsoft Excel for Windows and on the basis of the information collected was held and elucidation the results.

The criteria used for the realization of research followed the precepts of the resolution 196/96, the National Health Council. To this end, the research project evaluated by the Research Ethics Committee of the University of Cruz Alta, receiving the Medallion number on 0002.0.417.000-09 CONEP, and refers to the Commission of Bioethics of the hospital located in the northwestern region of Rio Grande do Sul.

### RESULTS AND DISCUSSION

For a better explanation of the same data presented in three steps. The first are the demographic profile of the elderly, with a predominance of female literacy and age over 80 years. In the second, address-if risk factors that lead to traumatic events, such as fall of own time and fall to rise from bed. In addition, as a third step, morbidities resulting from fall, treatment and mortality among the elderly.

### Demographic profile of seniors surveyed

It was found that was more old women, eight (8) in relation to that of men, six (6), which experienced decline in that period. Some of the causes can be physical frailties of women compared to men, the high prevalence of disease, and still the biggest risk behavior for the falls<sup>(6,8)</sup>.

May also related to a woman's life expectancy. In Brazil, the absolute number of women has been higher when faced to that of men, which is evidenced in the age pyramid of the IBGE Census (2010) which brings the older women at a higher number compared with elderly men in all age groups shown below: from 65 to 69 years, women have a percentage of difference of 1.4% compared to men which is 1.2%; ranging in age between 70 and 74 years, the difference is of 1.1% to 0.9%; ranging in age from 75 to 79 years, the difference is 0.8% to 0.6%; aged 80 to 84 years, the percentage is 0.5% to 0.4% and 85 to 89 years of age difference is of 0.3% to  $0.2\%^{(2)}$ .

Corroborating with the data about the difference in age groups, the number of men for every 100 women in Brazil are of 96.0%; already globally, the number is 101.7% men to every 100 women. What proves that in Brazil the number of women is greater in relation to the number of men<sup>(2)</sup>. However, the tendency of women survives the men displaying less than male mortality, does not mean that they have better health<sup>(9)</sup>.

The higher frequency of crashes occurs between the populations of elderly female, because they have higher life expectancy compared to men, and carry out activities that leave it more vulnerable to the event, as housework (6, 10) Another important factor that should be highlighted is the presence of osteoporosis, a disease that affects both sexes, but more evident in females<sup>(11)</sup>. As well as, high blood pressure and diabetes most often reported by chronic-degenerative disease elderly long-term and with possibilities of like changes acute: hypertension hypotension, Hyperglycemia or hypoglycemia these factors that can easily cause falls<sup>(6)</sup>

In relation to the age group, the falls were more frequent in the elderly over 80 years, which totaled nine (9) cases. The risk of falling increases significantly with advanced age, due mainly to the loss of muscle strength and other physical characteristics (8). As for the increase of falls with the advancement of age, it found that approximately 30% of people 65 years or older fall at least once a year; and yet it estimated that 51% of seniors who fall are

aged above 85 years. This prevalence is related to the degree of independence, for the elderly who need help to perform activities of daily life are more predisposed to falls when compared to those of the same age group, but with a lesser degree of dependence<sup>(11)</sup>. According to data from the latest census of IBGE, the elderly dependency ratio in Brazil is 10.7% corresponds to the number of inhabitants of 65 years or older for every 100 inhabitants of age between 15 and 64 years<sup>(2)</sup>.

Regarding schooling were eleven (11) with incomplete basic education, two (2) non-literate and only one (1) elderly with high school. With regard to the educational level of the elderly in Brazil, it verified the large number of elderly people with low schooling exists in the Brazilian population.

The ratio of illiteracy per age group disclosed by IBGE census (2010) shows that of the 15 to 29 years is 3.0%; from 30 to 59 years is 9.5%; of 60 and more years, is 26.6%, considered by the total number of people of each age group. These data show that illiteracy among the population of senior citizens represents the social reality of the country, as well as the vast majority of developing countries from Latin America, having direct influence on health care, because it interferes with the learning process and education(2)

Given the context, important fact, which should emphasized regarding the educational system, is that individuals with a higher level of education are concerned more with their State of health and therefore adhere more easily to preventive programs. Front of this assertive the high level of illiteracy among elderly can justify the low adhesion by difficulty that the elderly, in their vast majority, have to understand and accept the information provided by National Campaigns, as well as the guidance provided by the health team on a daily basis, both in basic health units, or in other levels of health care. Associated with illiteracy also has the social vulnerability of the elderly due to the precarious social security compensation that prevents access to the resources necessary to maintain a healthy living condition<sup>(2,12)</sup>.

As for the marital State, suffered declines both the elderly who had no companions, as the seniors who owned buddy, totaling seven (7) cases of falls in both sexes, being five (5) women and two (2) men without spouses and four (4) men and three (3) women with companion. The predominance of the female population with advanced age, because of the higher male mortality, justifying that the Brazilian women live alone, either because they are widows or single women, or by the fact of widows marry again with greater frequency than the widows (9.13).

As for the link with the health system, ten (10) were users of SUS and four (4) used other private health plans. The Research shows that 10 of the elderly wore the single Health System (SUS), reinforcing what has discussed: the external causes and, among them, the fall in the elderly, have a high cost for the system of public health, since it reaches a population that, for the most part, discovered by health plans<sup>(14)</sup>.

In Brazil, only 29.4% of seniors have health insurance while the others, i.e. the vast majority of senior citizens, unable to afford a private health plan, depending on the SUS exclusively. Among the elderly users of SUS, 5.8% average monthly family income showed more than three minimum wages per capita, while, among seniors who had private plans, this ratio reached 42.8%. These results show a heterogeneous Brazil compared to the elderly and their needs<sup>(9)</sup>.

When it comes to diversity a study on elderly mortality in Recife ratifies that there is increased mortality in elderly coefficients for both sexes as the living condition worsens, with the risk of death for the masculine and feminine of 1.56 times and 1.62 times greater compared to the high stratum condition of life<sup>(13)</sup>.

As to the origin, the majority of seniors surveyed from the municipality in which the search occurred, but found themselves elderly from different localities in this institution inmates. This is justified because the hospital institution at stake is regional reference in high complexity for the ninth Health Coordination in Jacuí.

## Risk factors that lead to traumatic events by falls

Most traumatic events, ten (10), occurred in the home environment, with a predominance of falls from height itself, which occurred during the fulfillment of daily life activities. Secondly, the falls when he gets up out of bed, corresponding to two (2) senior citizens. Also occurred (1) by fallen horse and one (1) for domestic violence.

The etiology of the fall comes from the Association of intrinsic risk factors, which relate to the very elderly and extrinsic that is the events related to the environment. Such factors, associated, leading to traumatic occurrence<sup>(14)</sup>.

One can consider the fall of his own time as the primary causal agent, including related to external causes in the elderly population. They took place in diverse environments of home, involving multiple locations and elements that make up this scenario, since floor, rugs, stairs, high bed, Dim lighting, excess furniture, lack of grab bars in the bathroom, among others. This shows that these environments are not appropriate to the geriatric population, making necessary a greater awareness of the population regarding this issue, as well as an urgent reorganization of the environments in which the elderly live and spend most of their time<sup>(14)</sup>.

Because of these falls, as potential health problems in the elderly, measures need to adopted, such as security and prevention care on the occurrence of the same, at least in those situations where they linked to environmental factors<sup>(14)</sup>

As the fall related to violence against the elderly, protective measures need to be implemented in the context of general health and, because there is a service aimed at the specific needs of the elderly, such as: recognize the own factors of the aging process, possible associated Comorbidities, violence against vulnerable groups, among other factors. So little relation comprehensive care (by multidisciplinary team), desirable and recommended in cases of falls resulting from accidents and violence. With few exceptions, the elderly seen as one more person, in public services of health, without the minimum priority advocated and determined by the Statute of the Elderly<sup>(15)</sup>.

It considered that the actions aimed at prevention reduce the falls and, consequently, the hospitalizations, as well as providing improvement in the quality of life of the elderly, with regard to the reduction of limitations, disabilities, loss of autonomy, including reducing numbers of dropouts and hospitalizations in long-stay Institutions.

## Morbidity and mortality linked to fall among the elderly

In relation to the health of the elderly, nine (9) reported having no underlying disease, i.e. a disease that has arisen before and that may have originated, and three (3) living with hypertension. As for the morbidities associated with heart diseases and diabetes, there was one (1) old for each, respectively.

Concomitant to the aging process, emerge the physiological changes of the age, as well as diseases can arise that affect this population range, being those of metabolic and cardiovascular, neurological order, which triggers a series of consequences associated with events such as the fall, thereby increasing the index of morbidity and mortality of these individuals and the prevalence of new accidents<sup>(16)</sup>

The fractures resulting from falls have assumed a prominent position, totaling 13 elderly fractured and, among them, the femur disclaims the leadership, representing seven (7) elderly. In relation to the other, they reached two (2) senior citizens, on the tibia. Ankle, patella, and fracture of nose represented each, respectively, for one (1) old. The ECA also appears in a (1) elderly who suffered this event, plus one (1) elderly with abrasions and bruises.

Front of the foregoing, the findings of this study are reported in the literature, in which the lesions resulting from trauma, in the elderly, feature diverse profile, ranging from minor injuries, in which are included the bruises and abrasions to serious injury such as fractures, and those, in particular the femur, the latter lead the hospitalizations by external causes among the elderly<sup>(11)</sup>.

It is noteworthy that about 90% of the femur fractures caused by falls, whose

etiology is multifactorial, usually consisting of a combination of medical Comorbidities, neuropsychiatric use of drugs and environmental factors. The LSO, the femur fractures are often irreversible damage: reduce functional capacity, increase the physical dependence, and cause social isolation (1,17).

In addition, the Comorbidities are predecessors of mortality after fracture of the femur. The effect of Comorbidities on mortality has been measured both the amount and the type of coexisting diseases. Therefore, elderly people with the highest number of coexisting diseases have a higher possibility of death<sup>(17)</sup>.

As form of treatment for most falls in the elderly, in the events researched opted for surgical treatment, corresponding to ten (10) citizens, while the conservative treatment aimed at four (4) elderly. treatment shown in the femur fractures is usually surgical, being the conservative (immobilization for plaster, for example) chosen in cases there are contraindications for surgical intervention<sup>(18)</sup>. The surgical treatment, associated with the intervention of the health team, promotes more effective rehabilitation on harm reduction for the elderly, in addition to being the treatment of choice for this type of fracture.

On the other hand, some factors may affect the recovery of the elderly who undergo the surgical procedure, such as 6.8 average days waiting for completion of the surgical procedure, since the date of the fracture; an average of 13 days of hospitalization after the procedure; aggregate Comorbidities. This Association of adverse events involving the surgical treatment hinders recovery, which in many cases can contribute to the death of the elderly<sup>(17-18)</sup>.

The present study showed a death among the 14 seniors who were part of the survey, which can considered relevant under the epidemiological aspect to the healthcare industry considering the number of the population studied. In the set of external causes that affect the elderly, the fall has more frequently in this stratum of the population and its complications are the leading cause of

death in the elderly above 65 years, with a tendency to increase with advancing age<sup>(19)</sup>

Given the above, emphasizes the importance of developing preventive actions/interventions to prevent falls can affect the elderly, in order to prevent the occurrence of possible consequences, which can be a simple bruise, or severe fractures, and even evolve into it.

Among these measures, the use of auxiliary tools such as scales and appears as a crucial tests in the evaluation of physical mobility of the elderly, being important instrument to be used by health professionals, mainly, by the nurse, in the evaluation of the elderly against falls<sup>(20)</sup>.

There is a need to expand the investment in education and health, in relation to falls prevention, in order to reduce the high rates of mortality and morbidities resulting from this event. In addition to the expansion of multidisciplinary and interdisciplinary studies focused on this population, with a view to assisting the elderly in its specificity, with regard to the scope of the primary attention to the technological high density and complexity clinic, covering your bio psychosocial aspect, in order to safeguard his rights as a citizen.

### FINAL CONSIDERATIONS

The goals that present research were found to be affected, because it was identified a greater number of falls among women in the age group above 80 years of age, with high school incomplete, users of the unified health system (SUS), from the municipality in which the search occurred. Most traumatic events happened in the home, with a predominance of fall of his own time, during the carry out the activities of daily life. Among the highlights were the morbidities femur fractures and surgical treatment as the main choice, besides

the study pointed to a death among the 14 seniors surveyed.

Despite the small number of subjects involved, which limits the ability of generalization of their results. Attention to the same allowed preventive measures could draw up and implemented in order to reduce falls in the elderly's life, so he can enjoy his old age with quality.

As a contribution to nursing research, emphasize the dimensions of teaching, research, extension, and assistance. Education, the results of this research may sensitize healthcare teachers, especially those working in nursing gerontogeriatric, as for the deepening of the contents on falls in the elderly.

In research and extension, expected to awaken the nurses and other health professionals for new studies and extension actions that have as purpose issues related to falls in the elderly, emphasizing those that lead to preventive measures.

It expected, with regard to assistance, business professionals, especially nurses, make yourself aware of how to prevent falls in the elderly. In addition to developing the ability to provide a careful targeted the elderly, focusing on the specificity of the nursing care to this population as well, to ensure that changes linked to the natural process of aging does not direct the events of falls also within the hospital, thus preventing, adverse reactions in-hospital.

Anyway, aims to contribute to broaden the knowledge about the aging process, raising our eyes of healthcare professionals on prevention, in order to reduce falls in the elderly. In addition to offering paid and quality, assistance, with a view to effective interventions in reducing the complications and mortality of these, aiming to provide quality of life to the elderly population..

# OCORRÊNCIA DE HOSPITALIZAÇÕES DE IDOSOS POR QUEDAS RESUMO

Pesquisa exploratória/descritiva cujos objetivos foram identificar o perfil sociodemográfico de idosos hospitalizados em decorrência de quedas; investigar a ocorrência/fatores relacionados à hospitalização dos idosos por quedas. Utilizou-se um instrumento estruturado e a análise foi realizada pelos valores numéricos por meio do programa Microsoft Excel for Windows. A pesquisa recebeu parecer favorável pelo Comitê de Ética em Pesquisa da Universidade de Cruz Alta, sob número CAAE - 0002.0.417.000-09. Evidenciou-se que a queda atinge ambos os sexos, com predominância do sexo feminino, e a idade acima dos 80 anos. Do total de quatorze

idosos, identificou-se que dez sofreram quedas da própria altura e ocorreram durante a realização das atividades de vida diárias. Dentre todos os eventos envolvendo quedas ocorreu um óbito. Do total de idosos, sete apresentaram fratura de fêmur e o tratamento realizado para a maioria dos casos foi cirúrgico. Espera-se através desta pesquisa, contribuir para minimizar a vulnerabilidade dos idosos no que se refere às quedas, auxiliando na prevenção/cuidado por meio da elaboração de ações/estratégias viáveis, com intuito de melhorar a qualidade de vida dessa população.

Palavras-chave: Idoso. Acidentes por quedas. Morbidade. Mortalidade. Enfermagem.

### INCIDENCIA DE HOSPITALIZACIONES DE ANCIANOS POR CAÍDAS

#### **RESUMEN**

Pesquisa exploratoria/descriptiva cuyos objetivos fueron identificar el perfil socio demográfico de ancianos hospitalizados por consecuencia de caídas, investigar la incidencia/factores relacionados a la hospitalización de los ancianos por caídas. Se utilizó un instrumento estructurado y el análisis fue realizado por valores numéricos por medio del programa Microsoft Excel for Windows. La pesquisa recibió un parecer favorable del Comité de Ética en Pesquisa de la Universidad de Cruz Alta, con el número CAAE-002.0.417.000-09. Se comprobó que la caída alcanza ambos sexos, con predominancia del sexo femenino, con edad arriba de los 80 años. Del total de catorce ancianos se identificó que diez sufrieron caídas de la propia altura y ocurrieron durante la realización de las actividades de vida cotidianas. Entre los acontecimientos envolviendo caídas ocurrió un fallecimiento. Del total de ancianos, siete presentaron fractura de fémur y el tratamiento realizado para la mayoría de los casos fue quirúrgico. Se espera a través de esta pesquisa, contribuir para disminuir la vulnerabilidad de los ancianos en lo que se refiere a las caídas, auxiliando en la prevención/cuidado por medio de la elaboración de acciones/estrategias viables, con el intuito de mejorar la calidad de vida de esa población.

Palabras clave: Anciano. Accidentes por caídas. Morbilidad. Mortalidad. Enfermería.

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**Corresponding author:** Marcia Adriana Poll. Rua Iris Ferrari Valls, nº1814, apt. 202, Centro, Uruguaiana, RS, CEP: 97500-340. E-mail:adripoll@hotmail.com

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