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## RESEARCH

### Análise dos fatores de risco de quedas em pessoas idosas com transtornos mentais

Analysis of risk factors for falls in older people with mental disorders

Análisis de los factores de riesgo de caídas en personas mayores con trastornos mentales

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#### ABSTRACT

**Objective:** To analyze the risk factors for falls in older people with mental disorders. **Method:** A qualitative case study, the interpretation was performed by direct observation and analysis of medical records of 12 elderly institutionalized in psychiatric hospital. **Results:** 58% were female, 75% aged between 60 and 69 years, 100% had independent gait and everyone had a clinical diagnosis of schizophrenia. About history of falls, 57% of elderly females showed the occurrence of falls and 20% of males had the same history. The purpose of the site of the falls, 8% occurred in the courtyard; 25% in the ward, and 67% in the bathroom. **Conclusion:** The results reinforced the need to prevent the occurrence of falls, to ensure the institutionalized elderly person in a psychiatric hospital a process of senility decent and healthy through the planning and execution of programs to prevent the condition. **Descriptors:** Aged, Accidental falls, Mental health

#### RESUMO

**Objetivo:** Analisar os fatores de risco de quedas em pessoas idosas com transtornos mentais. **Método:** Foi realizado um estudo de caso qualitativo, interpretativo através da observação direta e análise de prontuários de 12 pessoas idosas institucionalizadas no Hospital Psiquiátrico. **Resultados:** 58% eram do gênero feminino; 75% com idade entre 60 e 69 anos; 100% tinham marcha independente e todos apresentaram diagnóstico clínico de esquizofrenia. Sobre o histórico de quedas, 57% das pessoas idosas do gênero feminino apresentaram a ocorrência de quedas e 20% do gênero masculino tiveram o mesmo histórico. A propósito do local das quedas, 8% ocorreram no pátio; 25% na enfermaria; e 67% no banheiro. **Conclusão:** Os resultados reforçaram a necessidade em prevenir a ocorrência de quedas, a fim de garantir a pessoa idosa institucionalizada em hospital psiquiátrico um processo de senilidade digno e saudável por meio do planejamento e execução de programas para prevenção deste agravado. **Descritores:** Idoso, Acidentes por quedas, Saúde mental.

#### RESUMEN

**Objetivo:** Analizar los factores de riesgo de caídas en las personas mayores con trastornos mentales. **Método:** Un estudio de caso cualitativo, la interpretación se realizó mediante la observación directa y el análisis de las historias clínicas de 12 ancianos institucionalizados en un hospital psiquiátrico. **Resultados:** 58 % fueron mujeres, el 75% tienen entre 60 y 69 años, el 100% tienen marcha autónoma y todos tenían un diagnóstico clínico de la esquizofrenia. Acerca de la historia de las caídas, el 57% de las mujeres de edad avanzada mostraron la aparición de cataratas y 20% de los hombres tenían la misma historia. El propósito del sitio de las cataratas, 8% se produjo en el patio, el 25% en la sala, y el 67% en el cuarto de baño. **Conclusión:** Los resultados refuerzan la necesidad de prevenir la ocurrencia de caídas, para asegurarse de que la persona de edad avanzada institucionalizada en un hospital psiquiátrico de un proceso de senilidad decente y saludable a través de la planificación y ejecución de programas para prevenir la enfermedad. **Descriptor:** Anciano, Accidentes por quedas, Salud mental.

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## INTRODUCTION

The population aging has caused a great impact on modern society, sparking the interest of researchers in studying the aging process of the human being and how to obtain quality of life in old age. Advances in medicine, environmental changes and habits have allowed the increase in life expectancy. Longevity has important implications and may bring problems, with serious consequences on different dimensions of human life, physical, mental and social. With that, the growth in the number of elderly carries an ambiguous situation experienced by many people: the desire to live more and more and, at the same time, the fear of living in the midst of disability and dependency. In fact, the advancement of age increases the chance of occurrence of diseases and of losses to the functionality.

Thus, the aging process is typically characterized by notable declines of the control and the organization of movements, among the most prominent there are the depressed movements (both initiation and execution), and the deterioration of the quality of the movement runs and decreased strength and muscle power. The loss of motor function that sustains the basic activities of daily living, such as the muscle power to climb stairs or the speed of locomotion across a street before the change of the illuminated signs, denies the independence and autonomy the elderly person.<sup>1</sup>

Before the Brazilian population ageing demographic scenario, there is often the definitive institutionalization of elderly people with low levels of functional dependence and at different ages. On the other hand, the international literature reveals that in rich countries the institutionalization of elderly happens in older age (over 85 years) and when they are victims of multiple functional losses and with cognitive disorders.

On this subject, it appears that the terms confusion, dementia and senility are commonly employed to describe mental dysfunction in old age. Although many people consider aging as being the reason for the mental decline, cognitive changes that are severe enough to interfere with the function is part of a group of diseases called cognitive demential disorders of moderate to severe.<sup>1</sup>

Due to the great increase of mental disorders that arise at the stage of human aging, geriatric psychiatry has recently emerged as a subspecialty of Psychiatry, since in the elderly occur modifications that interfere in the prevalence, clinical presentation and therapeutic strategies for the treatment of various psychopathologies.<sup>2</sup>

There is a direct relationship between the use of psychotropic drugs-prescribed for the treatment of mental disorders and the risk of falls in elderly people. According to study previously carried out, medications benzodiazepines, sedatives/hypnotics and Neuroleptics, antidepressants linked to increased risk of falls in the population above 60 years old.<sup>3</sup>

Falls, as well as produce a significant loss of autonomy, functional capacity and quality of life among the elderly population, can also increase the likelihood of them being

institutionalized in long-stay environments, because they cause the decrease of muscle strength, static and dynamic balance, flexibility and stamina.

Although many studies have been conducted to identify risk factors for falls in the elderly, few occupied of the determinants of injuries arising out of accidents more in institutionalized individuals by virtue of mental disorders. In this context, this research shows relevant due to the scarcity of publications on the topic and its results are expected to contribute to the theoretical foundation of future research on the relationship between the risk factors of falls in elderly people with mental disorders who are institutionalized in psychiatric establishment.<sup>4-5</sup>

Thus, the present study aimed to analyze the intrinsic and extrinsic risk factors of falls in elderly people with mental disorders institutionalized in a psychiatric hospital in the city of João Pessoa-PB.

## METHOD

The present study was a qualitative case study of interpretive type. The methodological choice by the case study was the need to interpret the phenomenon chosen (risk factors of falls in elderly people) within its real-life context (long-stay psychiatric institutions), especially because the boundaries between phenomenon and context are not clearly defined in the theoretical reference frameworks already developed according to the specialized literature research. The present study was a qualitative case study of interpretive type. The methodological choice by the case study was the need to interpret the phenomenon chosen (risk factors of falls in elderly people) within its real-life context (long-stay psychiatric institutions), especially because the boundaries between phenomenon and context are not clearly defined in the theoretical reference frameworks already developed according to the specialized literature research.

Knowing that the methodology of case study consists of a detailed investigation of a given object (which, in this case, was represented by elderly institutionalized in a psychiatric hospital located in João Pessoa/PB), aiming to provide an analysis of the context and of the processes involved in the phenomenon under study, qualitative approach was chosen to interpret the meanings and understandings, processes the data collected during a preset period of time.

It is noteworthy that the data collection phase was only performed after the approval both by the Collegiate course of physiotherapy as by the Ethics Committee of the Faculty of Medical Sciences of Paraíba, according to the data of the certificate number 021/2010 of the mentioned Committee.

This research population was determined as the 20 people in Geriatric Ward of institutionalized Psychiatric Hospital Juliano Moreira, situated in the city of João Pessoa/PB under management of the State Secretariat of health of Paraíba. From this population and according to the criteria for inclusion of research-age less than 60 years and be institutionalized in the Geriatric Ward of the Psychiatric Hospital Juliano Moreira for



treating mental disorders and/or behavioral-was taken a sample of 12 elderly people. In this sample, no patient presented preserved Cognition both to be enlightened about their participation in the survey by signing the informed consent as of replies to the questionnaire concerning the roadmap of interview on the occurrence of falls and the risk factors related to this event.

Considering the stalemate for the realization of data collection through the use of interview technique with elders of the geriatric ward and recalling that qualitative research is Multimethods par excellence by use of varied sources of information, the conduct of data collection has been redefined from the combination of the direct observation of the search context more examination of written documents (assessment form and evolution of patients) and imagetics (documentspictures) produced in the geriatric ward of psychiatric hospital.

The direct observation had a key role to seize the intrinsic and extrinsic risk factors of falls of the sample surveyed. Based on a screenplay by observation, which in turn was adapted from the screenplay by previously produced interview, sought to view and register as many of the risk factors of falls in elderly people who interested in our research. Included observations made during the moments of recognition of the site visit and the data collection by means of consultation of written documents.

The examination of the written sources, more specifically the evaluation and evolution of the sample surveyed, was guided by other writers also search based on the screenplay of the original interview. In this method the objective was to acquire information about the socio-demographic conditions of health and about the risk factors of falls registered in the records of the elderly patients since its first entry in the psychiatry service.

To corroborate and extend the evidence from direct observation and of written documents, while access to the databases of the Geriatric Ward of the Psychiatric Hospital Juliano Moreira and historical archive situated on the Sanatorium Clifford-which together with the female, male and pavilions the hospital and outpatient geriatric Gutemberg Botelho integrate the complex Psychiatric Juliano Moreira has been relatively easy; it was made the imagery through record photographs of places of treatment and of coexistence of institutionalized elders.

Finally, the collected data were analyzed and presented through their qualitative results, based on interpretation of the answers obtained. They were divided, so relevant units with inductive sensing itself, keeping, however, the connection with the whole. The process of analysis of these units concentrated on sets of parts of socio-demographic data; health conditions; intrinsic factors; and extrinsic factors of falls in elderly people, counting with the support of the program Windows XP Microsoft Excel ® for the same exposure through graphs and tables, in addition to the description of the content of the same.

## RESULTS AND DISCUSSION

According to the documentary data of the survey, it was observed that the 12 elderly institutionalized at the site of the survey, 58% were female and 42% male. With respect to information concerning the age of the same sample analyzed, it was found that 75 percent were aged between 60 and 69 years old; 17% between 70 and 79; and 8% aged 80 or over.

It was possible, through the data collected, checking the incidence of mental disorders diagnosed in the elderly population investigated, relating the diagnosis according to the Tenth Revision of the international classification of diseases (or International statistical classification of diseases and related Health Problems) with the sex. In this way, the incidence in females of the diagnosis of residual schizophrenia (ICD-10 F 20.5) is 57%, followed by 29% of cases of paranoid schizophrenia (ICD-10 F 20.0). In males, there was a match for the values of incidence (20 percent) among all the CIDs found. It was possible, through the data collected; check the incidence of mental disorders diagnosed in the elderly population investigated, relating the diagnosis according to the Tenth Revision of the international classification of diseases (or International statistical classification of diseases and related Health Problems) with the sex. In this way, the incidence in females of the diagnosis of residual schizophrenia (ICD-10 F 20.5) is 57%, followed by 29% of cases of paranoid schizophrenia (ICD-10 F 20.0). In males, there was a match for the values of incidence (20 percent) among all the CIDs found.

With regard to information about the history of falls in the population examined according to sex, obtained in the Geriatric ward of the hospital records searched, it was found that 57% of the elderly female showed the occurrence of falls and only 20% of the males showed the same occurrence.

Regarding the location of the incidence of falls in the population observed according to the record made by health professionals on evolution of the patients surveyed, 67% of these events occurred in the bathroom of the ward; 25% in the infirmary, near the bed and 8% occurred in the yard. Noting that the participants did not use Orthotics or auxiliaries of locomotion during the collection period.

The external area of the Geriatric Ward of Psiquátrico Hospital Juliano Moreira corresponded to the courtyard that functioned as a space for coexistence of elderly patients where they were carrying out activities of daily life such as food, short walks and ingestion of medicines. The direct observation and imagistic sources this location showed that the floor is flat, sometimes soaked by rainwater and without the presence of handrails.

The internal area of the Geriatric Ward of Psychiatric Hospital Juliano Moreira, which corresponded to the space of the male and female wards, whose major area was occupied by beds, it was the site where the sample used for home, containment, intravenous drug treatment and/or for individual consultations from psychology, nursing, clinical medicine and Psychiatry. In addition, during the direct observation and photographic record of the infirmary was allowed the investigation of natural lighting

adequate, dry floor, lack of handrails and physical barriers (carpets, stairs, among others) for the displacement of older people.

It was observed that the bathroom was used by institutionalized elderly, with the aid of members of the nursing staff, to perform basic activities of daily living such as combing its hair, brushing the teeth, dressing itself and taking a bath. It was found that natural lighting was adequate, the bathroom floor was smooth and was wet during the observation, with the presence of handrails on only one side of the wall.

As for psychotropic drugs prescribed in the schedule of evolution of the patients surveyed, noted in table 1 that Neuroleptics are the most suitable, in which three (n = 3) of records analyzed contained the prescription and administration of Haloperidol, Quetiapine and Levomepromazine, Neuroleptics, medicines in different dosages.

**Table 1** - Aspects related to the types and quantity of psychotropic drugs prescribed to the analyzed sample. João Pessoa, Paraíba, Brazil, 2013.

TYPES	CHARTS ANALYZED (n=6)	MEDICINES
Neuroleptics	3	Haloperidol; Quetiapine; Levomepromazine;
Antidepressants	2	Amitriptyline; Carbolitium.
Anti-anxiety Drugs	2	Clorazepan; Diazepam
Anticonvulsants	2	Carbamazepine; Phenobarbital

Research data.

The documentary data and direct observation of the site of the research showed that most people in institutionalized care in Geriatric Ward of Psychiatric Hospital Juliano Moreira was composed of elderly women aged between 60 and 69 years old, with free gear, namely, corroborating with literature about the process of feminization of old age in Brazil since the female population grows faster when compared to male.<sup>6, 9</sup>

As a result of this sex inequality in life expectancy among Brazilians, there is such a larger proportion of women than men in this population group. Women live, on average, seven years longer than men and are living longer than ever and any analysis of longevity clearly indicates that, in relation to survival, women are the stronger sex.<sup>9</sup>

In any age group, schizophrenia is equally prevalent in men and women. However, women over 65 years are more likely to have schizophrenia onset compared to men and also there's greater propensity to prominent mood symptoms, as well as a better prognosis.<sup>10</sup>

The spectrum of schizophrenia mental disorders is commonly associated with early in the first phase of adulthood. When psychotic symptoms emerge for the first time in late stages of life, as in old age, the clinical presentation has similarities and differences in relation to early-onset syndromes. Sensory impairment, social isolation and a family history of schizophrenia have been associated with late-onset psychosis, but these risk factors appear to play a role not specific about the vulnerability. Although questions about the most appropriate diagnosis for these clinical pictures in old age remain unresolved, health professionals need to formulate treatment strategies that take into consideration the complex constellation of signs and symptoms of clinical presentation in elderly patients psychotics.<sup>11</sup>



In Brazil, about 30% of older people fall at least once a year, and its incidence increased over the years, ranging from 34% among seniors with 65 and 80 years, 45% between 80 to 89 years and 50% above 90 years. The same is more prevalent among women due to greater longevity which makes them more fragile and vulnerable to such accidents.<sup>11-2</sup>

Extrinsic factors that lead more elderly people fall are especially slippery floors and the absence of handrails in bathrooms, corroborating with essays that contend that, in long-stay institutions for elderly, falls occur more in bathrooms and onwards, reflecting the almost exclusive residence of them these last places.<sup>13-4</sup>

In addition to the risk factors of falls due to environmental hazards such as the type and condition of the floor of the bathroom that the elderly person uses, another factor was analyzed regarding psychotropic drugs prescribed to the sample considered, where it was observed that the majority of the sample (n = 4) used Neuroleptics like haloperidol and quetiapine.

The relationship between use of psychoactive (benzodiazepines and antipsychotics) that Act on the central nervous system (CNS) for treatment of psychiatric disorders is cited as cause of falls in elderly people due to postural hypotension, which may also cause sedation, arrhythmias, tremors, muscle relaxation or weakness. Researchers studied the association between falls, drugs and diseases in the elderly hospitalized in long-stay units, identifying high use of antidepressants and sedatives hypnotics among the subjects with a history of falls.<sup>15-6</sup>

Furthermore, the institutionalization in Geriatric Ward of the Psychiatric Hospital Juliano Moreira by itself already represented a factor of risk of falls since the elderly people who were there were those most at risk and that needed attention, support and specialist clinical services. For his isolation, physical inactivity and decrease in affection by the absence of relatives and friends, sub understood that the higher it was time of institutionalization, the greater would be biopsychosocial weakness elder and the prevalence of falls between the samples surveyed.

## CONCLUSION

Upon the results of this study in the analysis of the risk factors of falls in elderly people with mental disorders in Geriatric Ward of institutionalised Psiquátrico Hospital Juliano Moreira, one can observe that the relationship between gender (female), diagnosis of psychiatric disorder (residual schizophrenia), use of psychotropic drugs (Neuroleptics) and physical environment (bathroom) are predisposing factors for the occurrence of falls in the population studied.

Studies on the relationship between incidence of falls and possible risk factors in elderly people with mental disorders contribute to better planning of interventions aiming both to maintain functional ability in older age as to improve the quality of health care



provided to this population group, particularly in long-stay institutions. The data of the present research indicate that, in the preparation of programmes for the prevention of falls in elderly institutionalized women, should be taken into account in various spheres aspects as demographic conditions, and environmental health.

Considering the limitations of this case study, a number of recommendations could be made for future investigations. Using a larger sample could contribute to greater potential for generalization of results. Another possibility to be taken into account would be the definition of the form of quantifying some variables here observed, such as the use of medications. In addition to the active ingredient and impact on crashes, the dosage, recent change and the time of consumption may constitute potentially involved variables to the results obtained, once that influences postural stability in General. Anyway, their own motor variables could be targeted by specific functional tests.

Subject to the above, the results of this research have reinforced the need to prevent the occurrence of this interlocutory appeal, in order to ensure the elderly institutionalized in a psychiatric hospital process of senility worthy and healthier through the planning and implementation of programmes for prevention of falls.

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