



Journal of Nursing

Revista de Enfermagem

UFPE On Line

ISSN: 1981-8963

ORIGINAL ARTICLE

EXTRINSIC FACTORS FOR THE RISK OF FALLS IN HOSPITALIZED ELDERLY FATORES EXTRÍNSECOS PARA RISCO DE QUEDAS DE IDOSOS HOSPITALIZADOS FACTORES EXTRÍNSICOS PARA RIESGO DE CAIDAS DE ANCIANOS HOSPITALIZADOS

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ABSTRACT

Objective: to identify the extrinsic factors favorable to the occurrence of falls in hospitalized elderly patients. **Method:** quantitative, documental, retrospective and descriptive study carried out from the collection of records in the admission and discharge book of the patients hospitalized in the unit of surgical clinic of a University Hospital. The sample consisted of 424 elderly hospitalized from January to December 2015. The data were entered in Excel and analyzed in the SPSS Program, version 2.0., And the results, presented in tables. **Results:** the profile of the elderly showed a majority of females 227 (54%), mean age 71.6 years, with higher admission numbers in February 55 (13%), mean time of 4.8 days and motive of exit 351 (83%) due to hospital discharge. Eight (62%) wards were considered safe environments, although four (31%) wards had excess furniture. **Conclusion:** knowing the profile of the elderly and the extrinsic factors will enable health professionals to identify the risks and provide safe care for the elderly. **Descriptors:** Aged; Hospitalization; Accidental Falls; Nursing Care; Aging; Risk Factors,

RESUMO

Objetivo: identificar os fatores extrínsecos favoráveis à ocorrência de quedas de pacientes idosos hospitalizados. **Método:** estudo quantitativo, documental, retrospectivo e descritivo realizado a partir da coleta de registros no livro de admissão e alta dos pacientes internados na unidade de clínica cirúrgica de um Hospital Universitário. A amostra reuniu 424 idosos internados no período de janeiro a dezembro de 2015. Os dados foram digitados no Excel e analisados no Programa SPSS, versão 2.0., e os resultados, apresentados em tabelas. **Resultados:** o perfil dos idosos mostrou maioria para o sexo feminino 227 (54%), uma média de idade 71,6 anos, com maiores números de internamento em fevereiro 55 (13%), média de tempo de 4,8 dias e motivo da saída 351 (83%) por alta hospitalar. Consideraram-se oito (62%) enfermarias como ambientes seguros, embora quatro (31%) enfermarias tinham excesso de móveis. **Conclusão:** conhecer o perfil dos idosos e os fatores extrínsecos possibilitará, aos profissionais de saúde, identificar os riscos e prover a assistência segura ao idoso. **Descritores:** Idoso; Hospitalização; Acidentes por quedas; Assistência de Enfermagem; Envelhecimento; Fatores de Risco.

RESUMEN

Objetivo: identificar los factores extrínsecos favorables a la ocurrencia de caídas de pacientes ancianos hospitalizados. **Método:** estudio cuantitativo, documental, retrospectivo y descriptivo realizado a partir de la recolección de registros en el libro de admisión y alta de los pacientes internados en la unidad de clínica quirúrgica de un Hospital Universitario. La muestra se reunió 424 ancianos internados en el período de enero a diciembre de 2015. Los datos fueron digitados en Excel y analizados en el Programa SPSS, versión 2.0, y los resultados, presentados en tablas. **Resultados:** el perfil de los ancianos mostró la mayoría para el sexo femenino 227 (54%), una media de edad 71,6 años, con mayores números de internamiento en febrero 55 (13%), y media de tiempo de 4,8 días y motivo de la salida 351 (83%) por alta hospitalaria. Se consideraron ocho (62%) enfermeras como ambientes seguros, aunque cuatro (31%) de las enfermerías tenían exceso de muebles. **Conclusión:** conocer el perfil de los ancianos y los factores extrínsecos, posibilitar, a los profesionales de salud, identificar los riesgos y proveer la asistencia segura al anciano. **Descriptor:** Anciano; Hospitalización; Accidentes por Caídas; Atención de Enfermería; Envejecimiento; Factores de Riesgo.

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INTRODUCTION

Population aging is a phenomenon in world society and has been taking on significant proportions, especially in developing countries. It has been noted that, since 1940, mortality rates have declined, especially among younger people. Thus, life expectancy increased from 50 to 73 years, reflecting the increase in the elderly population.¹⁻² It is estimated that 25% of the population is composed of the elderly in 2050.³

According to data from the Brazilian Institute of Geography and Statistics, IBGE, in 2012, Brazil had 21 million people aged 60 or over. The World Health Organization, WHO, estimates that the country is the sixth largest number of the elderly in 2025 when it is expected to reach 32 million people in this age group.⁴

The Hospital Information System of the UHS of the Ministry of Health (HIS / UHS) shows that, from January 2011 to January 2012, in the city of Rio de Janeiro, the rate of hospitalization of the elderly was characterized by being around 12 thousand to almost 14,000 admissions per month.⁵

Also in the Hospital Information System, in 2013, 11,197,160 hospital admissions were registered in the UHS, of which 23.4% corresponded to hospitalizations of the elderly. These are more incidents among men in the age group between 60 and 79 years with a higher incidence for women from 80 years.⁶

Falls can have different consequences, from minor injuries to fractures and death, and impact health institutions by increasing the use of personal and material resources due to medical and nursing care. Thus, falls are considered the most costly injury among the elderly.⁷

Among the main causes of morbidity and mortality in the elderly population are falls. Approximately 30% of people over 65 and half of those over 80 suffer a fall each year. In a study conducted in Brazil, from 1996 to 2005, deaths from external causes led to death 41,054 elderly. Of these, 9,249 (22.5%) were coded as falls.⁸

The etiology of falls can be varied. Factors may be related to the person, such as drug use, fear of falling, walking disturbances, reduced activities of daily living or to environmental factors such as loose rugs, level differences and slippery floors.⁹

It is also believed to be essential to identify the extrinsic risk factors for falls in elderly patients in order to recognize the existing risks early and to immediately eliminate or

reduce them using appropriate measures to prevent the incident. Therefore, the relevance of this study is the contribution to the efficiency in the quality of care and comfort to the hospitalized elderly patient.

OBJECTIVE

♦ To identify the extrinsic factors favoring the occurrence of falls in hospitalized elderly patients.

METHOD

Quantitative, documental, retrospective and descriptive study performed at the surgical clinic unit of a University Hospital in the State of Paraíba, Northeastern region of Brazil. The surgical clinic operates with 13 wards and at least 37 active beds, one for patients in need of isolation.

Some data was retrieved through the admission and discharge register of the unit, from January to December 2015, as well as the subsequent evaluation by the researchers of the environmental conditions for the risk of falls found in said wards.

The universe was constituted by all people, aged 60 and over, admitted to the surgical clinic, regardless of the motivation, in the referred year. For this purpose, inclusion factors were included in the sample: being 60 years of age or older, of both sexes and admitted to the aforementioned period. Patients younger than 60 years were excluded.

For data collection, an instrument was developed to facilitate the search of data containing the information of the elderly (age, sex, date of admission and discharge, reason for leaving) and other data involving the relevant conditions for the prevention of risk of falls for hospitalized elderly people such as: the use of non-slip material; dry floor (at the time of data collection); security bars in the bathrooms; crates in beds; lighting and furniture in proper distribution. For the analysis of the research, the information was entered in Excel and later in the SPSS Program, version 2.0, for the configuration of the data, which had the presentations shown in tables.

This study obeyed Resolution 466/2012 of the National Health Council (BRAZIL, 2012) and was approved by the Research Ethics Committee with CAAE 4574615.0.0000.5183.

RESULTS

The study participants were 424 elderly hospitalized at the University Hospital's surgical clinic unit in the year 2015. Of these, 227 (54%) were female and 197 (46%) were

male. Regarding the age group, the elderly were between 60 and 103 years of age, with age prevalence ranging from 65 to 69 years (122 = 29%), as shown in table 1.

Table 1. Distribution of the elderly hospitalized in a surgical hospital unit of University Hospital, according to age group. João Pessoa (PB), Brazil, 2016.

Age group	n	%
60 to 64 years	120	28
65 to 69 years	122	29
70 to 74 years	72	17
75 to 79 years	53	13
80 to 84 years	31	7
85 to 89 years	18	4
90 to 94 years	7	2
95 to 99 years	0	0
100 years or more	1	0
Total	424	100

As for the months of hospitalization, it was observed that January and February lead the number of elderly hospitalized in the surgical clinic unit with 53 (12%) and 55 (13%) internal, respectively. The months of August (16 = 4%) and September (19 = 4%) obtained the lowest numbers of hospitalizations, according to table 2.

Table 2. Percentage distribution of the hospitalized elderly in a University Hospital clinic unit according to the months of the year 2015. João Pessoa (PB), Brazil, 2016.conference with age group. João Pessoa (PB), Brazil, 2016.

Months of the year	n	%
January	53	12
February	55	13
March	42	10
April	42	10
May	47	11
June	33	08
July	27	08
August	16	04
September	19	04
October	25	06
November	33	08
Dezember	32	08
Total	424	100

Regarding the hospitalization time of the hospitalized elderly, 381 (90%) occupied the beds from one to ten days; 28 (7%), from 11 to 20 days and 13 (3%) for more than 20 days. Two patients had no record of the date of exit. It was verified that the length of stay varied from one to 52 days of hospitalization, with a mean of 4.86 days and standard deviation 7,12. The majority of exits were due to discharge (351 = 83%), internal transfer (66 = 16%), death (5 = 1%) and two of them were not informed.

Regarding the extrinsic factors and environmental conditions, it was verified that 30% of the infirmaries had excess of furniture, as pointed out in table 3.

Table 3. Physical conditions of the wards of the Unit of surgical clinic of the University Hospital. João Pessoa (PB), Brazil, 2016.

Environmental conditions	Yes	%	No	%
Excessive furniture and objects	4	31	9	69
Adequate lighting	10	77	3	23
Non-slip material	2	15	11	85
Protection bars in the bathrooms	2	15	11	85

According to table 4, the risk conditions that the elderly were possibly exposed were evidenced. Eight (62%) nurses were considered as safe environments and the others presented some type of risk of falls.

Table 4. Environmental conditions of the wards of the Unit of surgical clinic of the University Hospital. João Pessoa (PB), Brazil, 2016.

Environmental conditions	n	%
Safe environment	8	62
Wet floors	2	15
Bed with inadequate height	2	15
Beds without railings	1	8
Total	13	100

* Safe environments (absence of wet floor, beds at proper height, and beds with railing).

DISCUSSION

The study demonstrated the predominance of the female sex in the elderly hospitalized in the clinic. The finding corroborates another, carried out with 103 elderly people from University Hospital in Pará, showing that 73.7% of hospitalizations were from women. This fact can be explained by countless researches that affirm that the female population is the most susceptible to the development of comorbidities, as well as the very fragility to which sex is related.¹⁰

In addition, women are more prone to cardiovascular disease from menopause, indicating a restricted relationship between blood pressure and female hormones, which increases the predisposition to the occurrence of pathologies.¹¹ Another interesting factor may be related to the greater longevity of women who, with the predominance of the greater cognitive deficit, end up needing more health care than men.¹²

The predominant age range between 65 and 69 years corroborates studies that are the most common balance alterations in the elderly over 65 years of age, and this prevalence can reach 85% in this population.¹¹ Still on these data, approximately 30% of the elderly population, increasing to 40% in those older than eighty years, ¹¹⁻² tended to decrease the efficiency of sensory systems (vestibular, visual, somatosensory). This alteration, associated to the lack of capacity to select sensory information of great importance, may be responsible for the increase of the body oscillation and of imbalances in the elderly contributing to the occurrence of falls.⁶

Thus, the predominant age group indicates the constant risk of falls to which the elderly were exposed during the hospitalization process in the referred clinic. Although the increase in age reflects the number of hospitalizations, showing a downward trend, this information can not be mischaracterized and, rather, used as an alert for the need for preventive measures in this regard.

As for the months of hospitalization, the month of January and February were much

more than the others leading the occupations of the beds. On the other hand, August and September were the lowest numbers of hospitalizations.

The hospitalization time of the elderly varied, for the most part, from one to ten days, presenting an average of 4.68 days. This result disagrees with a study carried out in a large university hospital in the South of Brazil, in 2011, in which the majority of hospitalizations lasted from ten to 24 days, for a median time of 20 days. This number represents a fairly high average for a clinical and surgical unit.¹³ Hospital discharges accounted for 82% of reasons for exits.

Associated with the profile found of hospitalized elderly, the environmental characteristics became relevant to complement this study. Although the study clinic does not have an instrument for registering falls in the environment, the environmental factors are in accordance with those cited in a study carried out in a University Hospital of Rio Grande do Sul, which proved to be slippery or wet floors, carpets scattered on the floor and Irregular floors Considerable factors for the occurrence of episodes.¹⁴

The environmental obstacles that may predispose the elderly to the occurrence of fall accidents are places where it is possible to locate scattered personal objects, wet ground or other physical obstacles characterizing the risk. There are also risks such as sitting or standing up from inappropriate places such as beds and chairs.⁹

Regarding the non-slip material in the bathrooms, in 11 (85%) infirmaries he was absent. The absence of non-slip materials in the wards, associated with wet floors, indicates an increased risk of falls, since the existence of these devices can act as preventive measures. These obstacles, associated with elderly age or some pathology, may increase the risk of falls to hospitalized elderly people.¹⁵

Data from a study carried out at the University Hospital of Natal-RN indicate that the absence of anti-slip material in the shower is a conditioning factor for the

occurrence of falls due to the conformation of the hospital environment, especially the infirmaries, where patients are the largest part of the time during hospitalization.

When analyzing the protection offered in the bathrooms, it is pointed out that 11 (85%) wards of hospitalized elderly did not have security bars. Thus, the adoption of adaptations in the environment such as the installation of safety bars, adequate lighting and ventilation, the removal of objects that become obstacles during the elderly walk, the use of lower beds and side rails raised in the beds are very relevant actions for the protection of the hospitalized elderly.¹⁷

Brazilian research has shown great emphasis on physical environmental elements that may be related to falls in the elderly. Thus, these studies may support the adoption of fall prevention measures in this risk group, in order to promote the necessary safety, minimizing the risk of falls and their consequences.¹⁸ Thus, the presented results reinforce the need for continuous investigations on the risks of falls in the hospital environment, as well as the need for preventive measures. This is because, in the clinic researched, preventive measures are based on the observation and judgment of the professionals who watch it.

Although the difficulties of the study were unclear records in the admission books of the surgical clinic, it is expected that the research will foster the importance of nursing care as critical and transformative professionals, planning care with care for the elderly and promoting quality care.

CONCLUSION

Knowing the profile of hospitalizations of the elderly of the clinic studied, besides the extrinsic factors favorable to occurrences of falls, awakens to the need to intensify attention in preventive actions, with specificity in the hospital environment, thus contributing to the economy in public health.

Therefore, the results can favor actions in the environment such as adherence to the use of anti-skid utilities for floors, the adoption of lamps with presence sensors in the bathrooms, the improvement of lighting, the educational approach for the prevention of falls (with the elderly and companions), the training of care teams and the adoption of an instrument for the recording of falls and injuries, in order to prevent these types of accidents and to guarantee a harmless assistance.

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Submission: 2017/12/01

Accepted: 2018/05/18

Publishing: 2018/07/01

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