

## RESEARCH

Notificações de fraturas do fêmur em idosos de uma capital nordestina: nos anos de 2008 a 2012

Notifications of femur fractures in an elderly northeastern capital: in the years 2008 to 2012

Notificaciones de las fracturas de fémur en un capital noreste de edad avanzada: en los años 2008 y 2012

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## ABSTRACT

**Objective:** to present notifications of femoral neck fractures in the elderly. **Method:** documentary retrospective study from the Health Indicator System and Aging Policy Monitoring on the femur fractures, including: admissions; proportion of hospitalizations and hospitalization rate according to sex. **Results:** 2008 to 2012 were registered 1,200 procedures related to fractures, among which 687 were in the elderly. Note that in 2009 there was a higher number of admissions in women with a ratio of 2.53 and hospitalization rate of 29.45; in 2010 the proportion of women in hospitalizations was 1.67. **Conclusion:** The fracture is a public health problem, although it is considered an event of old age, has consequences such as fear of walking, loss of ability to perform daily activities, decreased quality of life, and is the leading cause of hospitalization and death among elderly. **Descriptors:** Femoral Fractures. Aged. Old Age Assistance.

## RESUMO

**Objetivo:** apresentar notificações de fraturas de colo do fêmur em idosos. **Método:** estudo retrospectivo documental a partir do Sistema de Indicadores de Saúde e Acompanhamento de Políticas do Idoso sobre as fraturas de fêmur, abrangendo: internações; proporção de internações e taxa de internações segundo sexo. **Resultados:** de 2008 a 2012 foram registrados 1.200 procedimentos relacionados às fraturas, dentre as quais 687 foram em idosos. Nota-se que no ano de 2009 houve um maior número de internações em mulheres com uma proporção de 2,53 e taxa de internação de 29,45; em 2010 a proporção de internações em mulheres foi de 1,67. **Conclusão:** a fratura é um problema de saúde pública, embora seja considerado um evento da terceira idade, gera consequências como: medo de andar, perda da capacidade de realizar atividades diárias, diminuição na qualidade de vida, além de ser a principal causa de hospitalização e morte entre idosos. **Descritores:** Fraturas do Fêmur. Idoso. Assistência a Idosos.

## RESUMEN

**Objetivo:** presentar las notificaciones de las fracturas de cuello de fémur en el anciano. **Método:** Estudio retrospectivo documental del Sistema de Indicadores de Salud y Política de Envejecimiento de Supervisión para las fracturas de fémur, entre ellos: de admisión; proporción de hospitalizaciones y tasa de hospitalización por sexo. **Resultados:** 2008 a 2012 se registraron 1.200 procedimientos relacionados con las fracturas, entre los cuales 687 fueron en los ancianos. Tenga en cuenta que en 2009 hubo un mayor número de ingresos en las mujeres con una proporción de 2.53 y tasa de hospitalización de 29.45; en 2010 la proporción de mujeres en las hospitalizaciones fue de 1,67. **Conclusión:** La fractura es un problema de salud pública, a pesar de que se considera un caso de vejez, tiene consecuencias tales como el miedo de caminar, pérdida de la capacidad de realizar actividades diarias, disminución de la calidad de vida, y es la causa principal de hospitalización y la muerte entre los adultos mayores. **Descritores:** Fracturas del Fémur. Anciano. Asistencia a los Ancianos.

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## INTRODUCTION

The process of aging is as a gradual, universal and irreversible step, causing a series of morphological, physiological, biochemical and psychological changes, which can determine the progressive loss of functional capacity of the elderly and hinder the individual's adaptation to the environment. Thereby involving a sum of factors, emphasizing the social, psychological and environmental <sup>(1-2)</sup>. The femur fracture should be a concern for the whole society, the fact that this event may have disastrous consequences, given that elderly patients with trauma have mostly lost their autonomy and increased dependency, contributing to the increase of work not only the family, but while hospitalized<sup>(3)</sup>.

However, the elderly not only have to live with chronic diseases like something expensive<sup>(4)</sup>, because there are those who have problems with mental disorders, cardiovascular diseases, cancer and stress, the treatment is done with a large number of medicinal products<sup>(5)</sup>. The use of these drugs by the elderly is often marked by adverse reactions, in particular falls that may be induced by drugs, but also by loss of postural balance, neurological diseases and inadequate to the environment to which the elderly are exposed. All these factors are often linked to the occurrence of falls<sup>(6)</sup>.

Fall is defined as an unintentional displacement of the body at a lower level in early relationship with correction of disability in a timely manner, determined by multifactorial circumstances compromising stability. This event comprises causal elements classified as intrinsic or internal order and extrinsic or external character (7). Falls in the elderly are a frequent problem with important physical, psychological and social consequences. Among the main consequences of the falls are fractures, which seem to be attributed to the elderly more vulnerable and new episodes, regardless of their frequency <sup>(8)</sup>.

In Brazil, the variation in incidence between different cities studied can be justified by differences in climatic conditions, sun exposure, people of different racial backgrounds and different lifestyles, and anthropometric measurements. In the period from October 2005 to October 2006 were registered in all national territory 27,647 Fracture of Proximal Femur (FPF) <sup>(9)</sup>.

The FPF is associated with a considerable functional disability, reduced independence, impaired quality of life, mainly due to a reduction in life expectancy and. Only 25% of patients who have suffered FPF recover completely and others may have: persistent pain, difficulty walking, difficulty climbing stairs, insecurity and fear of further falls<sup>(9)</sup>.

The occurrence of femoral fracture in the elderly's life brings impacts that generate a decline in their quality of life, because often the fracture prevents them move around and associated with other chronic diseases can cause them to death. There is a significant increase in the number of hospitalizations in the network of health services and the costs

they cause. Hence the need to raise the number of cases of femoral fracture in the elderly João Pessoa / PB and to analyze these figures.

The aim of this study was to present the number of hip fractures notifications and consequences: number of hospitalizations; proportion of hospitalizations and hospitalization rate in João Pessoa-PB in the years 2008 to 2012.

## METHOD

We conducted a study of the documentary retrospective with a sample of elderly aged 60 and over 80 years, according to the Elderly Statute (10).

Data were obtained from the municipal secretary of Health João Pessoa / PB. The part listed period was January 2008 to November 2012. The selected were those admitted in the said township hospitals with ICD 10 - femur fracture.

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They considered the cases of femur fractures in the elderly reported the Hospitalization Authorization (AIH) the observation unit of the Health Indicator System and Senior Policy Monitoring (SISAPI) about the occurrences of femur fractures regarding: number of hospitalizations; proportion of hospitalizations and hospitalization rate by sex, between the years 2008 to 2012, the city of João Pessoa - Paraíba, Brazil.

For the study we used the years 2008 to 2012 available in SIH site of the Department of the Unified Health System (DATASUS; <http://www.datasus.gov.br>). The selection of the outcome of interest was based on the principal diagnosis with three digits (ICD-10: 720-721).

The data were compiled and organized into tables for a better view of them. In the tables included only data available for SUS and the corresponding years.

The study was conducted in accordance with the ethical principles of Resolution 196/96 of the National Health Council on research involving human subjects<sup>(11)</sup>. Taking into account the collection period and the project approved by the health secretary of the city of João Pessoa.

## RESULTS

According to the Datasus in João Pessoa between the months of Jan / 2008-Jun / 2014 were performed 1,299 procedures such as: closed reduction of diaphyseal fracture /

proximal physeal injury of the femur, surgical treatment of fractures / proximal physeal injury (neck) of the femur (synthesis), surgical treatment of femoral shaft fracture, surgical treatment intercondileana fracture / of the condyles of the femur and surgical treatment of supracondylar fracture of the femur (distal metaphyseal).

In the municipal health department, the available data allowed to know the behavior of hospitalizations for hip fractures among the elderly João Pessoa / PB, in 2009 and 2010. (Table 1)

Table 1. Distribution of occurrences related to hip fractures in the elderly. João Pessoa / PB. 2013.

| Occurrences                | 2009  |        | 2010  |        |
|----------------------------|-------|--------|-------|--------|
|                            | Male  | Female | Male  | Female |
| Number of Hospitalizations | 47,00 | 114,00 | 37,00 | 82,00  |
| Proportion of admissions   | 1,20  | 2,53   | 0,85  | 1,67   |
| hospitalization rate       | 19,36 | 29,45  | 12,76 | 17,97  |

The hospitalization rates as an indicator of the prevalence of hip fractures among the elderly can be viewed in the following table:

Table 2. Indicator values: hospitalization rate for hip fractures between the years of 2010, 2011 and 2012. João Pessoa / PB. 2013.

| Indicator                                      | Year  |       |       |
|--|-------|-------|-------|
|  | 2010  | 2011  | 2012  |
| Hospitalization rate for fracture of the femur | 14,34 | 15,68 | 18,76 |

The number of hospital admissions of elderly patients with primary diagnosis of hip fracture can be found in Table 3.

Table 3. Distribution of femur fracture occurrence among the elderly from 2008 to 2012. João Pessoa / PB. 2013.

| Age group | Number of femur fractures a year |      |      |      |      | Total |
|-----------|----------------------------------|------|------|------|------|-------|
|           | 2008                             | 2009 | 2010 | 2011 | 2012 |       |
| 60 a 64   | 18                               | 12   | 16   | 12   | 18   | 76    |

|              |            |            |            |            |            |            |
|--------------|------------|------------|------------|------------|------------|------------|
| 65 a 69      | 18         | 20         | 7          | 15         | 14         | 74         |
| 70 a 74      | 17         | 35         | 11         | 20         | 22         | 105        |
| 75 a 79      | 20         | 33         | 18         | 19         | 25         | 115        |
| 80 e +       | 51         | 79         | 60         | 66         | 61         | 317        |
| <b>Total</b> | <b>124</b> | <b>179</b> | <b>112</b> | <b>132</b> | <b>140</b> | <b>687</b> |

## DISCUSSION

Note that in 2009 there was a higher number of admissions in women with a ratio of 2.53 and hospitalization rate of 29.45; in 2010 the proportion of women in hospitalizations was 1.67, demonstrating the emphasis on the female.

According to 2000 the Census data, persons aged over 60 account for 8.56% of the population, and of these 55% are women. The life expectancy of this population was estimated at 68 years and seven months. The average life expectancy of men is 64.8 years and for women 72.6 years<sup>(12)</sup>.

The increase in the femoral fracture percentage may occur under the action of forcing a light intensity resulting from pathological origin demineralization (example, tumors) or loss associated with age and bone zone which is subject to the most intense applications<sup>(13)</sup>, in which older people are more vulnerable to death after suffering hip fractures.

SUS estimated the estimate of the direct cost of hospitalization for treatment of osteoporotic fracture of the proximal femur for Health Supplementary System was significant. SUS total spending on this type of hospitalization were higher<sup>(14)</sup>.

In addition, the proportion of elderly hospitalizations for hip fractures in the elderly total admissions in the SUS is not equal to the proportion of spending on elderly patients hospitalized for hip fractures in the total costs of hospitalization of elderly people in SUS. The ratio of these two proportions should be seen as a measure of how expensive it was for SUS hospitalization of elderly patients with hip fractures<sup>(15)</sup>.

In the elderly, most of the fractures is characterized as secondary to falls, with the highest percentage femur fracture related to increased bone loss that occurs at menopause, common in older age groups capable of triggering serious complications in the elderly, such as the possibility of getting property definitely is a challenge to health professionals to make your walking as soon as possible<sup>(3)</sup>.

The hospitalization rate was more significant among women with a decrease in 2010. The high percentage of elderly hospitalizations for hip fractures can be explained both by the ease of access for the elderly in the urban area. Usually this type of fracture occurs by a drop of the elderly or minor physical trauma, featuring one of the main reasons of concern of falls in the elderly.

Regarding gender, it was found that 55 (61.80%) were female and 34 (38.20%) male, thus showing a higher incidence among women. The greater incidence of falls in women can be explained by the higher prevalence of chronic diseases, increased exposure to domestic activities and to present a smaller amount of lean muscle mass and strength compared to men of the same age, as well as osteoporosis<sup>(16)</sup>.

This problematic for the elderly in particular regarding the duration of hospitalizations of elderly with hip fractures since many seniors remain at home and notify not reinforcing the idea that the high discharge percentage may be a deficiency in relation to the continuity of care for the elderly who suffered hip fractures, although it is recommended for the elderly undergoing surgery to rehabilitation and clinical treatment for osteoporosis preventively and so preventing them return home without proper monitoring<sup>(7)</sup>.

## CONCLUSION

This study sought to present the notification of femoral neck fractures in the elderly in the years 2008 to 2012, noting that understand the old health problems, mainly due to falls allows guide public policies to be adopted for this population. The results show that from 2008 to 2012 were registered 1,200 procedures related to fractures, among which 687 were in the elderly. Note that in 2009 there was a higher number of admissions in women with a ratio of 2.53 and hospitalization rate of 29.45; in 2010 the proportion of women in hospitalizations was 1.67.

Thus, the results of this study help to understand the magnitude of femur fracture problem in the elderly. This study includes an essay on the femoral neck fractures in the elderly in Singapore, requiring a greater depth to map the situation in this population, with emphasis on the differences of hospitalizations among municipalities, emphasizing its impact as a problem of health of the elderly that generates a high cost to the SUS.

Such profile may help managers and health professionals to adequate care and contextualized with implemented at the national level actions. Further studies covering the topic osteoporosis and hip fractures are essential to increase and improve scientific knowledge of these conditions and thus contribute to the assessment of the situation of falls in the elderly in the country.

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