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Original Article

Sociodemographic profile and hospitalization process of elderly assisted at a emergency hospital

Perfil sociodemográfico e processo de hospitalização de idosos atendidos em um hospital de emergências

Perfil sociodemográfico y proceso de hospitalización de ancianos asistidos en un hospital de emergencias

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Objectives: to investigate the sociodemographic profile and the process of hospitalization of elderly assisted in an emergency hospital. **Methods:** descriptive epidemiological study conducted at an emergency hospital with 300 elderly patients using a form with hospitalization process and sociodemographic variables. **Results:** there was a predominance of females (56.0%), between 80 and 89 years old (45.4%), illiterate or with elementary education (86.7%), married or living in stable union (42.6 %), with non-communicable chronic disease (54.7%) and regular use of medications. The main reason for hospitalization was fall (54.7%) at home and in the morning hours (42.4%), with admission in the afternoon, transported by ambulance. **Conclusion:** the findings contribute to the development of strategies directed to assist and care of the healthy elderly and in vulnerable situations.
Descriptors: Aged; Emergencies; Epidemiology; Nursing.

Objetivos: investigar o perfil sociodemográfico e o processo de hospitalização de idosos atendidos em um hospital de emergência. **Métodos:** estudo epidemiológico descritivo, realizado em um hospital de emergência com 300 pacientes idosos utilizando um formulário com variáveis sociodemográficas e do processo de hospitalização. **Resultados:** observou-se predominância do sexo feminino (56,0%), entre 80 e 89 anos (45,4%), analfabetos ou com ensino fundamental (86,7%), casados ou vivendo em união estável (42,6%), com doença crônica não transmissível (54,7%) e em uso regular de medicamentos. O principal motivo da internação foi a queda (54,7%) na residência e no horário matinal (42,4%), com admissão no período da tarde, transportado por ambulância. **Conclusão:** os achados contribuem para a elaboração de estratégias direcionadas ao atendimento e cuidado do idoso saudável e em situações de vulnerabilidade.
Descritores: Idoso; Emergências; Epidemiologia**;** Enfermagem.

Objetivos: investigar el perfil sociodemográfico y el proceso de hospitalización de ancianos asistidos en un hospital de emergencia. **Métodos:** estudio epidemiológico descriptivo, realizado en un hospital de emergencia con 300 pacientes ancianos mediante un formulario con variables sociodemográficas y el proceso de hospitalización. **Resultados**: hubo predominio del sexo femenino (56,0%), entre 80 y 89 años (45,4%), analfabetos o con educación primaria (86,7%), casados o cohabitando (42,6 %) con enfermedades no transmisibles crónicas (54,7%) y en uso regular de medicamentos. La razón principal de la hospitalización fue la caída (54,7%) en la residencia y por la mañana (42,4%), con entrada por la tarde, transportado en ambulancia. **Conclusión**: los resultados contribuyen al desarrollo de estrategias dirigidas a la atención y cuidado del anciano saludable y en situaciones vulnerables.
Descriptores: Anciano; Urgencias Médicas; Epidemiología; Enfermería.

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Introduction

Brazil has been through a process of rapid aging of the population. It has now more than 20 million of seniors, representing approximately 11% of the total population. It is estimated that this number will triplicate by 2050[1]. Several factors have favored an increase in life expectancy, among them, the findings in the promotion of new techniques for disease prevention and health promotion, decrease in birth rates and increasing longevity, highlighting the increase in the number of older people in society[2].

Older people can be divided into the following categories: young old (60-74 years old), older aged (75-100 years old) and centenarians (over 100 years old)[3].

Old age is a stage of life with unique characteristics and values, in which individuals undergo changes in organic structure, metabolism, biochemical balance, immunity, nutrition, functional mechanisms, emotional and intellectual conditions, and yet, in communication itself[4]. With advancing age, the body becomes vulnerable, giving risk to the quality of life, and accidents generate high health costs[5]. Physiological changes can bring the appearance of diseases that can impair the functioning of the body, requiring more attention and special care.

So, with the changes in the age structure, there is the need to modify the various health concepts to provide quality of life for the elderly. The Elderly Statute, Law 10.741 of October, 1, 2003 states that "it is the State's obligation to ensure the elder protection to life and to health through effective implementation of social public policies that enable healthy aging and in dignified conditions"[6:13].

One of the goals is to increase the quality of services offered by the Unified Health System to address the details of the elderly person's life. These include: identification of socially vulnerable situations; the realization of early diagnosis of dementia processes and evaluation of functional capacity[1].

Elderly demand for health care often occurs when they are affected by significant limitations and/or require assistance due to reduced muscle strength and functional disabilities. This is crucial time for health professionals, especially nurses, act to reduce possible disabilities and dependency[7]. Thus, these professionals' understanding on the elderly interferes in the way of providing adequate care and treatment[4].

In emergency units, care to seniors is common due to the higher frequency of age-related problems, requiring skilled professionals for immediate assistance to customers. Therefore, it is essential to value the maintenance of the quality of life of this population, with a view to the possibilities of disease prevention, maintenance and rehabilitation of their health status[8].

The elderly with preserved quality of life, most of the times, also has their autonomy, both physical and psychic independence, preserved. This requires formulating new care concepts for the health of elderly people, which must be are able to embrace the differences in the health status of this population group, respecting their particularities and peculiarities in order to prioritize health actions aimed at the healthy elder, combined with qualified programs aimed at already sick elderly.

Given the above, this study aims to investigate the sociodemographic profile and the process of hospitalization of elderly assisted in an emergency hospital.

Method

This is a descriptive epidemiological study, with quantitative approach, performed in an emergency hospital, located in the metropolitan area of the city of Fortaleza, Ceara state's capital, in the northeastern region of Brazil.

The study population comprised elderly aged 60 years or older met and admitted in that hospital. It was adopted as inclusion criteria the elderly accompanied by a caregiver. Elderly were excluded

if they had some hemodynamic instability with no conditions to understand and/or answer the survey questions and/or their caregivers. Those waiting to be transferred to the Intensive Care Unit were also excluded.

To estimate the number of participants in the study, it was made the calculation was based on the average number of admissions in five months (300 elderly patients) using the formula for finite populations. A 95% confidence level with a sampling error of 5.0% was adopted and a minimal sample of 200 patients was estimated. However, the study sample was 300 elders, interviewed from August to December 2013.

The data were collected using a structured questionnaire, applied individually, respecting the clinical and emotional conditions of the patients, as well as their caregivers', during hospitalization. The form consisted of sociodemographic variables: gender, age, education, occupation, marital status, and data related to the process of hospitalization and care for the elderly: reason for admission, day of the week, time of occurrence of the episode, time of the episode and municipality of residence. Trauma/injuries presented, degree of damage, length of stay and discharge conditions were also investigated.

Data were processed in Microsoft® Excel 2010 program and after compiled into statistical software Epi Info Software for Health Professionals. The results were analyzed in simple percentage frequency, followed by descriptive and comparative analysis according to research related to the theme.

The study followed the recommendations and ethical requirements contained in Resolution No. 466/12, receiving the protocol approval nº 372525.

Results

Of the 300 elderly, most were female (168; 56.0%),> 80 years old (136; 45.4%) of self-reported brown color (230; 76.7%), little or no education (260; 86.7%), married or living in stable union (128; 42.6%), performed some kind of work (157; 85.7%), living in Fortaleza, Ceara state's capital. Among the elderly, 164 (54.7%) reported being carriers of chronic diseases, among which diabetes and hypertension stood out, and were making regular use of medication (160; 53.3%) (Table 1).

Table 1 - Characterization of elderly patients at an emergency hospital according to gender

Variables	Men	Women	Total
	n (%)	n (%)	n (%)
Age group (years old)			
60 to 69	49 (37.1)	29 (17.3)	78 (26.0)
70 to 79	38 (28.8)	48 (28.6)	86 (28.6)
≥80	45 (34.1)	91 (54.1)	136 (45.4)
Race/Color (self-reported)			
Brown	103 (78.0)	127 (75.6)	230 (76.7)
Others	29 (22.0)	41 (24.4)	70 (23.)
Education			
Illiterate	51 (38.6)	53 (31.5)	104 (34.6)
Elementary School	63 (47.8)	93 (55.3)	156 (52.1)
High School	13 (9.8)	16 (9.6)	29 (9.7)
Higher education	5 (3.8)	6 (3.6)	11 (3.6)
Marital status			
Single	15 (11.4)	25 (14.9)	40 (13.4)
Married/Stable union	74 (56.1)	54 (32.1)	128 (42.6)
Widow(er)	27 (20.5)	84 (50.0)	111 (37.0)
Divorced/Separated	16 (12.1)	5 (3.0)	21 (7.0)
Occupational status			
Retired	59 (44.7)	84 (50.0)	143 (47.7)
Farmer	32 (24.2)	23 (13.7)	55 (18.3)
Others	41 (31.1)	61 (36.3)	102 (34.0)
Municipality of residence			
Fortaleza	63 (47.7)	89 (53.0)	152 (50.6)
Others	69 (52.3)	79 (47.0)	148 (49.4)
Carrier of chronic disease			
Yes	61 (46.2)	103 (61.3)	164 (54.7)
No	71 (53.8)	65 (38.7)	136 (45.3)
Regular use of medication			
Yes	62 (47.3)	98 (58.3)	160 (53.3)
No	70 (52.7)	70 (41.7)	140 (46.7)
Total	132 (100.0)	168 (100.0)	300 (100.0)

As for the hospitalization process, there was a significant proportion of hospitalization resulting from falls (223; 74.3%). Women had the highest number/proportion (142; 84.5%) in this reason, followed by run over (34; 11.4%). Men had a higher number of episodes of run over and accidents by motorcycle/car (40; 30.3%). As for the occurrence of the episode, most took place at home (194; 64.6%), on weekdays (226; 75.3). And when analyzing the time of

occurrence of the episodes, most occurred during the day (220; 73.4%), with concentration in the morning, between 6 and 12 a.m. (127; 42.4%) (Table 2).

Table 2 - Data related to the hospitalization process of hospitalized elderly in an emergency hospital according to gender

Variables	Men	Women	Total
	n (%)	n (%)	n (%)
Reason for admission			
Fall	81 (61.4)	142 (84.5)	223 (74.3)
Run over	21 (15.9)	13 (7.7)	34 (11.4)
Car/motorcycle accident	19 (14.4)	6 (3.6)	25 (8.4)
Other reasons	11 (8.3)	7 (4.2)	18 (6.2)
Day of week of the episode			
Weekend (Saturday/Sunday)	41 (31.1)	33(19.6)	74(24.7)
Weekdays (Monday to Friday)	91 (68.9)	135(80.4)	226(75.3)
Site of the episode			
Home	65 (49.2)	129 (76.8)	194 (64.6)
Street	56 (42.4)	31 (18.5)	87 (29.0)
Other	11 (8.3)	8 (4.8)	19 (6.4)
Time of the episode			
6 to 12 a.m.	53 (40.2)	74 (44.0)	127 (42.4)
12 a.m to 6 p.m.	40 (30.3)	53 (31.5)	93 (31.0)
6 to 12 p.m.	29 (22.0)	24 (14.3)	53 (17.6)
12.pm. to 6 a.m.	10 (7.6)	17 (10.1)	27 (9.0)
Total	132(100.0)	168(100.0)	300 (100.0)

Table 3 shows the information related to hospitalization process. The most frequent time of admissions was during the day (62.6%), with a concentration between 12 a.m. and 6 p.m. (112; 37.3%), taken by the appropriate transportation, the ambulance (81.0%). The time elapsed since the event that triggered hospitalization until admission to the hospital was >3 hours (62.0%). Regarding the major injuries presented by the elderly due to the episode that led to hospitalization, there was a predominance of extremity traumas (240; 80.0%), with prevalence of women (86.9%). Among the elderly, the main physical impairment after the event was the impossibility to locomotion (282; 94.0%). The average time of hospital stay was 4.3 days, with a higher proportion of time from 8 to 15 days (87; 29.0%). When evaluating the reason of discharge, a greater proportion occurred by improved health reasons (172; 57.3%). However, there was discharge due to transfer to other hospitals (30.0%). It was observed that 27 (9.0%) patients died during hospitalization.

Table 3 - Data related to the hospitalization process of hospitalized elderly in an emergency hospital

Variables	Men	Women	Total
	n (%)	n (%)	n (%)
Time of admission (hours)			
6 to 12 a.m.	32 (24.2)	44 (26.2)	76 (25.3)
12 a.m. to 6 p.m.	49 (37.1)	63 (37.5)	112 (37.3)
6 to 12 p.m.	40 (30.3)	51 (30.4)	91 (30.3)
12 p.m. to 6 a.m.	11 (8.3)	10 (6.0)	21 (7.0)
Transport to the service			
Ambulance	106 (80.3)	137 (81.5)	243 (81.0)
Common vehicle	26 (19.7)	31 (18.5)	57 (19.0)
Time until admission to the hospital (hours)			
<1	15 (11.4)	14 (8.3)	29 (9.7)
1 to 2	21 (15.9)	34 (20.2)	55 (18.3)
2 to 3	14 (10.6)	16 (9.5)	30 (10.0)
>3	82 (62.1)	104 (62.0)	186 (62.0)
Trauma / injury location			
Extremities trauma	94 (71.2)	146 (86.9)	240 (80.0)
Head trauma	10 (7.6)	8 (4.8)	18 (6.0)
Thoracic trauma	2 (1.5)	1 (0.6)	3 (1.0)
Two or more traumas	21 (16.7)	10 (6.0)	32 (10.6)
Does not apply	4 (3.0)	3 (1.8)	7 (2.3)
Physical impairment			
Absence of impairment	3 (2.3)	2 (1.2)	5 (1.7)
Impossibility of locomotion	126 (95.5)	156 (92.9)	282 (94.0)
Impairment for manual activity and locomotion	3 (2.3)	10 (6.0)	13 (4.4)
Hospital stay (days)			
≥ 7	20 (15.1)	46 (27.4)	66 (22.0)
8 to 15	33 (25.0)	54 (32.1)	87 (29.0)
16 to 30	39 (29.5)	44 (26.2)	83 (27.7)
> 30	40 (30.3)	24 (14.3)	64 (21.3)
Discharge conditions			
Improved	100 (75.8)	72 (42.9)	172 (57.3)
Requested	6 (4.5)	5 (3.0)	11 (3.7)
Transfer	14 (10.6)	76 (45.2)	90 (30.0)
Death	12 (9.1)	15 (8.9)	27 (9.0)
Total	132(100.0)	168 (100.0)	300(100.0)

Discussion

Female elderly accounted for the largest proportion of hospitalization. A study conducted in Goiania, west-central region of Brazil, also observed higher prevalence of hospitalizations among female seniors[9], however, other studies have shown a predominance of males[10-11].

Regarding the predominant age group, our findings, 80 and 89 years old for women and 60 to 69 years old among men, differ from research conducted at the emergency room of a hospital in the metropolitan region of Rio de Janeiro, in which the prevalent age of admission of elderly was between 60 to 70 years old, for both genders[10]. Survival rate of the female population may be related to our results due to the fact that men, throughout their lives, are most often involved in situations that expose them to vulnerabilities, such as traffic accidents, which increases mortality rates of this population in young age, reducing the reach of old age[12].

It is noteworthy that the brown color is present in our population due to the mixture of races from the period of colonization. However, these figures may be overestimated, since in epidemiological surveys race is asked to the individual and they do their own specification, regardless of the interviewer's opinion.

Low education can influence negatively on people's quality of life in general and more specifically in older people's lives in relation to the understanding of health promotion concepts and quality of life. Thus, the incidence of hospitalized elderly in this study may be related to their lower propensity to self-care.

In face of the aging process, the body becomes more fragile and consequently presents problems common to the elderly. Thus, more than half of the elderly reported having chronic diseases, among which diabetes and high blood pressure predominated, and making use of regular medication. Study conducted in the Rio Grande do Norte, northeastern Brazil, also identified higher incidence of hypertension (97.8%) and diabetes mellitus (24.4%) among the elderly[13].

Pre-existing illness in the elderly is a significant finding, since the incidence of chronic diseases increases with age. Therefore, treatment of these diseases requires integral patients' adherence, which involves attending medical appointments, regular use of prescribed medication, adoption of a healthy lifestyle and, above all, commitment with their own health, being the subject, not the object, of the action.

In this study, the main cause for hospitalization of the elderly were not pre-existing chronic diseases, but the occurrence of falls in their own residence, 223 (74.3%), followed by a significant number of pedestrian accidents, 34 (11.4%). Similarly, in a public referral hospital for trauma care in Porto Alegre, the most common types of injuries were: falling from their own height, with 211 admissions (52.5%); other types of falls, with 82 (20.4 %); and traffic accident, with 58 (14.4%) hospitalized elderly, mostly due to run overs[14].

Another study conducted in the state of Paraiba with elderly assisted by the Mobile Emergency Service showed fall as the predominant type of trauma in the elderly population studied, corresponding to 134 (74.4%) of the cases, followed by traffic accidents, with 37 (20.5%) cases, and physical assault, with 5 (2.8%) cases[15].

The fall of elderly is a growing cause of injury, treatment costs and death. Environment obstacles that increase the risks of falling include poor lighting, uneven or slippery floors and lack of handrails. These falls often occur in the home environment and can be avoided[2]. The identification of the site of occurrence of falls is an important determinant for the development of public policies to promote the elderly health aimed at control and prevention of accidents involving this group, through strategies that involve both the elderly and their families.

Thus, there is need for measures to prevent falls and interventions conducted by health professionals, especially nurses, aiming to change attitudes and reduce damages caused by falls. The multiple causes leading the elderly to health facilities must be

considered, and attention can initially be focused on those seeking these services after suffering falls and/or those affected by functional disabilities so that nurses can act to guide them in terms of risk factors, and propose activities that can help them prevent such events[6].

The elderly often have little perception of risk factors for falls and other hazards to which they are subject and fail to report these issues to health professionals. This demands greater attention of professionals in seeking to identify these factors, which may be intrinsic, related the comorbidities, and/or extrinsic, related to drugs and to the environment[15].

The occurrence of falls is due to the need for independence felt by the elderly, who often refuse help for their daily activities such as bathing, hygiene, feeding, for moving at home and walking in streets, which makes them more exposed to environmental risks. Associated with such situations, physiological changes in physical mobility and eyesight should be considered, since they become impaired throughout life and undermine the realization of different activities.

Among the elderly population there are no results describing the prevalence of the event occurring on a certain hour or day of the week, making it clear that this group is subject to these episodes in any period, even though in this study, the incidence of events was more frequent on Wednesday, between the 6 and 12 a.m. Accidents occurred in the morning were probably due to the low light of the environment and/or the fact that the elderly gets up quickly from the bed, which makes them get off balance or shock up against some furniture, falling from their own height.

Importantly, treatment to the victim should take place preferably in a hospital nearest to their residence. This will contribute to lower stress caused by the hospitalization process. However, we still found a great demand of senior citizens from other municipalities, demonstrating the fragility of our health services, which sometimes need to refer clients to specialized hospitals.

Brazil has expanded significantly the pre-hospital care services, with emphasis on mobile and air rescue in order to promote higher quality in early care for victims of external causes (accidents and violence)[16]. The Emergency Medical Service has favored a quick and efficient care for victims of trauma, contributing to the reduction of morbidities and mortalities arising from these occurrences.

However, we still find a significant number of people who have the first care provided by lay people. This may serve as a warning for the promotion of actions directed to the population in order to guide them on how to proceed in emergency situations, including handling of victims of trauma, as an improper handling can trigger serious and even irreversible injuries, as death.

As for major injuries resulting from the injury that triggered hospitalization for elderly people, there was predominance of trauma in extremities (240/80.0%), thus contributing to the main physical impairment presented, the impossibility of locomotion, (282/94.0%). The most affected parts of the body resulting from falls are the lower limbs (32.0%), head (26.7%) and trunk (16.0%)[17].

Hospitalization, for the elderly, causes physical impairment due to restriction of movements and also generates psychological impairment due to the characteristics inherent to hospital services, which impose the restriction of the elderly to bed, distance from their home and break of their routine activities. Such restrictions may trigger stress and depression[2], interfering directly on the quality of their recovery.

We highlight that improved discharge means that the patient is still in the recovery process, i.e., needing care. This group also includes patients who were discharged with morbidities. In the case of the elderly, these morbidities are generally related to mobility problems. So, despite being discharged from hospital, they are often not able to return to activities performed prior to hospitalization.

Conclusion

We conclude that the elderly assisted and admitted to a public emergency health service in Fortaleza, in northeastern Brazil, were mostly female, with predominant age group between 80 and 89 years old, whose highest occurrence was caused by fall. Regarding occupation, although there were retirees, a large proportion (85.7%) informed performing some kind of work. Because they are carriers of chronic disease, probably the regular use of drugs was resulting from health problems such as hypertension and diabetes. The main reason for hospitalization was fall in their own residence, during the morning hours.

As to care in hospital, they had mostly been admitted between 12 a.m. and 18 p.m., taken by health care ambulances, with the elapsed time from the occurrence until admission to the hospital of more than three hours. The most frequent injury was the extremities trauma, with impossibility of locomotion. Individuals were hospitalized for a period of eight to fifteen days and came out due to improved discharge, but still were in rehabilitation process.

Collaborations

Coutinho MLN, Samudio MA and Andrade LM contributed to the work design, data collection, analysis, data interpretation and writing of the article. Coutinho RN contributed to data collection, data interpretation, work design and writing of the article. Silva DMA contributed to the project design, review, critical anaysis and final approval of the version to be published.

References

1. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Envelhecimento e saúde da pessoa idosa. Brasília: Ministério da Saúde; 2012.
2. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Ações Programáticas e Estratégicas. Atenção à saúde da pessoa idosa e envelhecimento. Brasília: Ministério da Saúde; 2010.
3. Eliopoulos C. Enfermagem gerontológica. Porto Alegre: Artmed; 2011.
4. Schimidth TCG, Silva MJP. The perception and understanding of health professionals and undergraduate students regarding aging and the elderly. Rev Esc Enferm USP. 2012; 46(3):612-17.
5. Carmo LV, Drummond LP, Arantes PMM. Avaliação do nível de fragilidade em idosos participantes de um grupo de convivência. Fisioter Pesqui. 2011; 18(1):17-22.
6. Ministério da Saúde (BR). Lei nº 10.741 - de 1º de outubro de 2003 - dou de 03/10/2003 – alterado. Dispõe sobre o Estatuto do Idoso e dá outras providências. Brasília: Ministério da Saúde; 2003.
7. Aciole GG, Batista LH. Promoção da saúde e prevenção de incapacidades funcionais dos idosos na estratégia de saúde da família: a contribuição da fisioterapia. Saúde Debate 2013; 37(96):10-9.
8. Ciosak SI, Braz E, Costa MFBNA, Nakano NGR, Rodrigues J, Alencar RA, et al . Senescence and senility: a new paradigm in primary health care. Rev Esc Enferm USP. 2011; 45(2):1763-8.
9. Pagotto V, Silveira EA, Velasco WD. Perfil das hospitalizações e fatores associados em idosos usuários do SUS. Ciênc Saúde Coletiva. 2013; 18(10):3061-70.
10. Cunha BSS, Nascimento AS, Sá SPC. Perfil clínico e sociodemografico de internação de idosos na unidade de emergência de um hospital geral. Estud Interdiscipl Envelhec. 2014; 19(1):189-200.
11. Lage JSS, Okuno MFP, Campanharo CRV, Lopes MCBT, Batista REA. Capacidade funcional e perfil do idoso internado no serviço de emergência. Rev Min Enferm. 2014; 18(4):855-60.
12. Almeida RLF, Filho JGB, Braga JU, Magalhães FB, Macedo MCM, Silva KA. Via, homem e veículo: riscos de acidentes. Rev Saúde Pública. 2013; 47(4):718-31.

13. Júnior EBS, Oliveira LPAB, Silva RAR. Doenças crônicas não transmissíveis e a capacidade funcional de idosos. J Res Fundam Care Online. [Internet]. 2014 [citado 2015 nov 24]; 6(2):516-24. Disponível em: http://www.seer.unirio.br/index.php/cuidadofundamental/article/viewFile/3301/pdf_1235

14. Melo SCB, Leal SMC, Vargas MAO. Internação de idosos por causas externas em um hospital público de trauma. Enferm Foco. 2011; 2(4):226-30.

15. Cruz HMF, Pimenta CAM, Dellarozza MSG, Braga PE, Lebrão ML, Duarte YAO. Quedas em idosos com dor crônica: prevalência e fatores associados. Rev Dor. 2011; 12(2):108-14.

16. Oliveira FMRL, Fernandes MGM, Barbosa KTF, Pereira MA, Santos KFO, Nunes TB. Characterization of trauma in elderly assisted in a mobile emergency care service. Rev Rene. 2013; 14(5):945-50.

17. Alvares LM, Lima RC, Silva RA. Ocorrência de quedas em idosos residentes em instituições de longa permanência em Pelotas, Rio Grande do Sul, Brasil. Cad Saúde Pública. 2010; 26(1):31-40.