

PROFILE OF OLDER ADULT VICTIMS OF TRAUMA CARED FOR IN THE EMERGENCY CARE UNIT OF A TEACHING

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ABSTRACT

This study analyzed the sociodemographic and clinical characteristics of older adult victims of trauma cared for in the emergency care unit of a teaching hospital. Method descriptive study with a quantitative approach performed in a reference emergency service, through the assessment of 2,113 electronic medical records of 2014 and 2015. The Chi-square test, Student t-test, and Spearman's correlation coefficients with 5% significance level were used for the statistical analysis. The majority of the older adults were female, aged between 60 and 80 years, white, with incomplete primary education, married, and housewives. The main medical specialties were orthopedics/traumatology and general surgery, and the most frequent diagnoses were unspecified traumas, followed by upper-and lower-limb fractures and femoral fractures. The prevalent clinical outcome was hospitalization in a specific sector of orthopedics and traumatology. There was an association between the types of trauma and the age of each older adult, and between the types of trauma and sex, with prevalence of female older adults. Therefore, nursing should intervene in the prevention of trauma in older adults with special attention to old aged women.

Keywords: Older adult. Electronic medical records. Nursing. Teaching hospitals. Injuries.

INTRODUCTION

The number of the older adult population has been increasing in the past years. According to the Brazilian Institute of Geography and Statistics (IBGE), the aging trend of individuals aged over 60 years will quadruple by 2060, representing almost 27% of the Brazilian population. With the increase in life expectancy, there is concern that individuals should become older in the best possible way. Therefore, measures should be implemented to prevent health problems and improve the quality of life⁽¹⁾.

Aging is a process that varies in each individual. It is gradual for some and faster for others, depending on lifestyles, socioeconomic conditions, functional and morphological diseases, chronic-degenerative diseases such as cardiovascular, cerebrovascular, hypertension, glaucoma, cataracts, osteoporosis, diabetes mellitus, depression, Alzheimer's disease, and Parkinson's disease. These diseases increase the risk of falls and traumas, which can directly affect the lives of older adults, causing changes in their physical and mental capacities⁽²⁾.

Traumas in older adults represent the fifth cause of death, with almost 14,000 daily deaths, which is considered a public health problem⁽³⁾. The most frequent traumas in older adults are physical, relating to falls, burns, and traffic accidents such as trampling and collisions⁽⁴⁾. There are factors that predispose to falls, among them are immobility and functional incapacity to perform activities of daily living, decreased muscle strength, dizziness, and presence of chronic diseases. Also, there are factors relating to the environment, such as slippery floors, poor lighting, lack of support bars in the bathrooms, and high or narrow steps, among others^(2,5,6).

Older adults, who suffer more than two traumas per year, exhibit a doubled mortality rate compared to those who fall only once. Falls can cause fractures, bruises, soft tissue injuries, and lead to death, in addition to causing physical damage. Traumas are the most frequent and serious home accidents involving older adults⁽⁵⁾.

Immediate intervention to provide care to older adult victims of trauma contributes to a better prognosis. The relevance of health professionals for

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older adult victims of trauma is the contribution to enhance their self-esteem and recover their autonomy, encouraging them to perform activities of daily living⁽⁷⁾. The daily life of individuals who are aging is an incessant struggle, because they face problems such as decreased mobility and visual acuity, and diseases. Therefore, favoring the independence of these individuals is fundamental, encouraging self-care based on activities developed by themselves on their behalf, thus meeting their physiological and behavioral needs⁽⁸⁾.

Understanding the relationships involving trauma in older adults allows promoting prevention strategies and health, in addition to the improvement of their living conditions^(2,6,9). Therefore, the goal of the present study was to analyze sociodemographic and clinical characteristics of older adult victims of trauma cared for in the emergency care unit of a teaching hospital.

METHODS

This is a descriptive study with a quantitative approach, conducted through the assessment of electronic medical records of older adult victims of trauma, cared for in the emergency care unit of a teaching hospital in the northwest of São Paulo, Brazil, which is a reference emergency care service. This unit serves about 1,000 older adult victims of trauma per year.

The sample of the present study consisted of 2,113 medical records of older adult patients aged 60 years or older cared for in 2014 and 2015. The inclusion criteria were medical records that contained the necessary information for the study, such as age, sex, marital status, race, profession, origin, religion, and education. The records also had to indicate the clinical characteristics, medical specialty, period of care provided, type and location of trauma, and clinical outcomes. Patients referred to other services, or those who were still hospitalized during the period of data collection, were excluded from the study, because it was not possible to know the clinical outcomes.

We used an instrument to collect data relating to the sociodemographic profiles in order to determine age, sex, marital status, race, profession, origin, religion, and education. We collected data relating to clinical characteristics, medical specialty, period of care provided (morning, afternoon and night), type and location of the traumas, and clinical outcomes, considering four possibilities: referral to the hospitalization sectors; referral to the outpatient clinic;

discharge from the outpatient unit with a follow-up visit scheduled, and discharge after consultation.

The data were stored in Excel® spreadsheets. The statistical analysis was performed using the chi-square test to obtain a pre-determined degree of reliability, and whether or not there was dependence between the variables analyzed in the sample, namely sex, age, marital status, race, education, and profession. The Student's t-test was used to determine the mean age of the sample of the older adults, and the Spearman's correlation coefficients was used to analyze the types of traumas and sex, given that correlation coefficients may vary in terms of the values, from -1 to +1. The higher the absolute value of the coefficient, the stronger the relationship between the variables. We adopted 5% significance level for statistical interference, or the adjusted p value <0.05. The study was approved by the Research Ethics Committee, Opinion No. 1,515,188.

RESULTS

We assessed 2,113 medical records of older adult victims of trauma cared for in an emergency care unit. The sample was divided into two groups, one sample from 2014 (n = 983) and the other from 2015 (n = 1,130). The greatest amount of care provided to older adult victims of trauma at the emergency care unit occurred in the evenings (418/43% in 2014; and (517/46%) in 2015). Regarding the older adults' profile, the majority of them lived in cities of the São José do Rio Preto region, State of São Paulo, Brazil.

Table 1 shows that, among 2,113 subjects, 1,371 were female (64.88%), 991 were married (46.9%), the prevalent group was aged 60 to 70 years (n = 859; 40.65%), and the predominant race was white (n = 1,901/97%). The predominant level of education was incomplete primary education (n = 1,353/64.03%). There was prevalence of Catholics (n = 1,665/78.8%), and most women were housewives (n = 1,001/47.37%).

The mean age of the older adults was 73.8 years in 2014 and 73.4 in 2015, and the majority of the older adults were aged around 62 years (5.39%). The greatest number of traumas was also observed in the 62-year-old older adults (5.13%) in 2015. The minimum age of the sample was 60 years in 2014 and 2015, according to the criteria for the selection of medical records, and the maximum age was 102 years in 2014 and 101 in 2015.

Table 1. Profile of older adult victims of trauma cared for in an emergency care unit in 2014 and 2015. São José do Rio Preto, SP, Brazil, 2017 (n = 2,113).

Variables	No. of older adults cared for		Total
	983/2014%	1,130/2015%	%
Sex			
Male	335-34.1	407-36.0	35.12
Female	648-65.9	723-64.0	64.88
Marital Status			
Married	444-45.2	547-48.4	46.90
Widower	350-35.6	391-34.6	35.07
Single	105-10.7	91-8.0	9.28
Divorced	76-7.7	97-8.6	8.18
N/A	8-0.8	4-0.35	0.57
Age Group			
60 to 70 years	397-40.4	462-40.8	40.65
71 to 80 years	343-34.9	409-36.3	35.59
81 to 90 years	204-20.7	221- 19.5	20.11
91 to 100 years	38-38.6	37-3.3	3.55
>100 years	1-0.1	1-0.09	0.09
Race			
White	884-89.9	1,017-90.0	89.97
Other	75-7.7	89-7.9	7.76
N/A	24-2.4	24-2.1	2.27
Education			
Incomplete Primary Education	642-65.4	711-62.9	64.03
Complete Primary Education	167-17.0	202-17.9	17.46
Incomplete Secondary Education	5-0.5	7-0.6	0.57
Complete Secondary Education	54-5.5	69-6.1	5.82
Incomplete Higher Education	3-0.3	1-0.09	0.19
Complete Higher Education	22-2.2	17-1.5	1.85
N/A	90-9.1	123-10.9	10.08
Religion			
Catholic	76-7.7	900-79.6	78.8
Evangelical/Pentecostal	138-14.0	142-12.6	13.25
Other Religions	47-4.8	55-4.9	4.82
N/A (did not report)	33-3.3	33-2.9	3.12
Profession			
Housewife	478-48.6	523-46.3	47.37
Outdoor work	330-33.6	398-35.2	34.45
Retired	132-13.4	150-13.3	13.35
N/A	43-4.4	59-5.2	4.83

The most prevalent medical specialty that provided care to the older adult victims of trauma was orthopedics/traumatology, with 811 patients in 2014 (82.50%) and 964 in 2015 (85.30%). However, when

orthopedics was grouped with general surgery, there was 95.78% prevalence of all occurrences recorded (Figure 1).

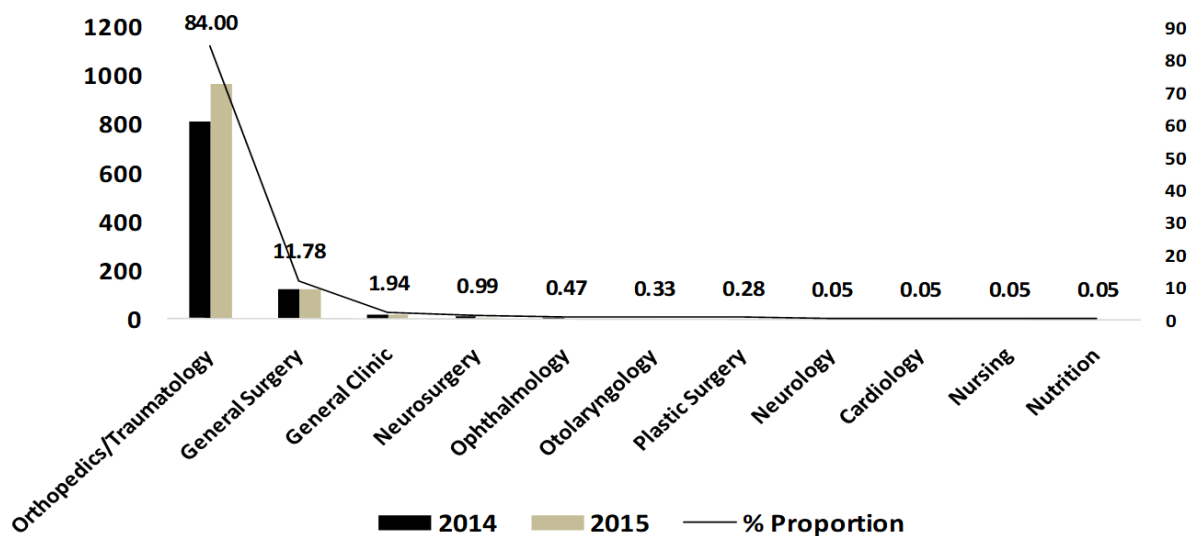


Figure 1. Type of medical specialty that provided care to the older adult victims of trauma in an emergency care unit in 2014 and 2015. São José do Rio Preto, SP, Brazil, 2017 (n = 2,113).

The prevalent medical appointments were those performed by physicians in the orthopedics and traumatology sector, with 724 older adults (73.65%) in 2014 and 978 (6.24%) in 2015. After being cared for in the emergency care unit, the clinical outcomes were divided into four possibilities: (a) referral to the

inpatient unit (41.55%); (b) referral to the outpatient unit (20.35%); (c) discharge from the outpatient unit with a scheduled follow-up visit (18.36%), and discharge after consultation (10.74%), totaling 1,923 (91%) visits.

Table 2. Types of trauma and age of the older adult victims of trauma cared for in an emergency care unit in 2014 and 2015. São José do Rio Preto, SP, Brazil, 2017 (n = 2,113).

Types of Traumas	60 to 70 years %	71 to 80 years %	>80 years %	Total %
Unspecified traumas	362 - 39.7	200- 26.2	108-24.7	670-31.7
Upper-and lower-limb fractures	221 - 24.2	199-26.1	144-32.9	564-26.7
Femoral fracture	120 - 13.1	182-23.9	146-33.3	448-21.2
Falls	147 - 16.1	98- 12.9	27-6.1	272-12.9
Other fractures	63 - 6.9	83- 10.9	13-3.0	159-7.5
Total	913 - 43.3	762-36.0	438-20.7	2,113-100

In general terms, unspecified traumas were prevalent, followed by upper-and lower-limb fractures, femoral fractures, and falls. Regarding the age group, the greatest number of traumas occurred with older adults aged between 60 and 70 years, followed by 71

to 80, and over 80 years. It is noteworthy observing in Table 2 that the falls occurred mainly in the group aged 60 to 70 years, and femoral fracture in the group aged 71 to 80 years.

Table 3. Types of trauma and sex of older adult victims of trauma cared for in an emergency care unit in 2014 and 2015. São José do Rio Preto, SP, Brazil, 2017, (n = 2,113).

Types de Traumas	Male - %	Female - %	Total
Unspecified traumas	242-33.0	428-31.0 (C = 0.25)*	670-31.7
Upper-and lower-limb fractures	173-23.6	391-28.4 (C = 0.30)*	564-26.7
Femoral fracture	152-20.7	296-21.5 (C = 0.16)*	448-21.2
Falls	106-14.4	166-12.0 (C = 0.26)*	272-12.9
Other fractures	61-8.3	98-7.1 (C = 0.18)*	159-7.5
Total	734 - 34.7	1,379 - 65.3	2,113 - 100

Note. *p = 0.00; C = coefficient.

Table 3 shows the association between types of traumas and sex, with prevalence of female older adults, and a statistically significant association using the Spearman's correlation coefficients for each type of trauma. In general terms, unspecified traumas were prevalent, followed by upper-and lower-limb fractures, femoral fractures, falls, and other types of fractures in both sexes; however, they mainly occurred in women in a significant manner.

DISCUSSION

In recent years, Brazil has become a country with a great older adult population. In view of the changing profile of this population, older adult victims of trauma stand out, as well as the need of educational and preventive actions aimed at decreasing this aggravation⁽¹⁰⁾. The aging process is characterized by several physiological changes, which in turn directly interfere with older adults' responses to traumas⁽¹¹⁾.

In the present study, there was prevalence of trauma in women (64.88%), which is in line with results found in studies conducted in France that elaborated a scale to specify the risks of falls and concluded that female patients were prevalent⁽¹²⁾. Another similar study conducted in São Paulo, Brazil, with female older adults who had suffered fractures of the proximal third of the femur showed a prevalence of females over males, with a ratio of 3:1⁽¹³⁾. Still, a similar result was found in another study conducted with older adult victims of trauma cared for at an emergency service, in which 71% were female⁽¹⁴⁾. There was prevalence of the Catholic religion (78.8%) and housewives (47.37%). A study carried out in the State of Goiás, Brazil, showed that 91.7% of the older adults were aged 66 years or older, of both sexes, the majority was Catholic, and only 8.3% were evangelicals⁽¹⁰⁾.

Regarding marital status, a research conducted in two emergency care units of two hospitals in the city of Curitiba, PR, Brazil, showed that 113 older adults (43.3%) were married, 92 (35.2%) were widowers, 34

(13%) were divorced, and 22 (8.4%) were single, which is in line with the data found in the present study, in which the prevalent marital status was married⁽²⁾.

The predominant group was aged 60 to 70 years and the prevalent race was white in the two years analyzed. This finding is in line with a study that found a greater incidence of trauma and falls in individuals aged 60 to 70 years. This fact may be related to the new profile of the population, i.e., older adults have greater independence and autonomy and participate in social, work, and leisure activities, among others, which can expose them to falls and traumas⁽¹⁵⁾.

A study conducted in São Paulo, Brazil, showed similar results with respect to white or Asian older adults (93.6%) and black or mestizos (6.4%)⁽¹³⁾. Another study conducted in two emergency units of two hospitals in the city of Curitiba, PR, Brazil, showed that 88.5% of the older adults of both sexes were white⁽²⁾. Another study conducted in a hospital in the countryside of the State of São Paulo, Brazil, showed that retirees and pensioners aged between 60 and 69 years were fully active, which made them vulnerable to traumas, considering that they were moving to perform work or other activities that imply risk of falls⁽¹⁵⁾.

In the present study, we found a low level of education, given that 64.03% of the older adults had only incomplete primary education. This result is in line with the finding of a study that assessed older adults cared for in an emergency unit and found 60% of older adults with incomplete primary education⁽¹⁴⁾.

The prevalent medical specialty that provided care for the older adults was orthopedics/traumatology (84%), followed by general surgery (11.78%), totaling 96% of all occurrences recorded. A study on hospital admission of older adult population, conducted in the city of Rio de Janeiro, Brazil, in four distinct hospitals, analyzed the hospital inpatient authorizations and demonstrated that hospitalizations were largely due to surgeries (55.7%) and medical diagnoses (44.2%).⁽¹⁶⁾ Regarding hospital follow-up, another study carried

out in an emergency unit showed that 94.64% of patients with femoral fracture had undergone surgeries and were discharged from the orthopedic outpatient clinic with scheduled follow-up visits⁽¹⁷⁾.

Clinical outcomes of the older adult victims of trauma after being treated in the emergency care unit were mostly the referral to the specific hospitalization sector of orthopedics. This data differs from a study carried out in a city of the countryside of the State of São Paulo, Brazil, in which the majority of the victims, after medical consultation, diagnostic tests, and cared for in the emergency unit, did not require hospitalization and returned home⁽³⁾.

Despite the worrying increase in the rates of trauma and hospitalizations in the older adult population, the results of the present study showed a relationship between the types of trauma and the age of each individual. Unspecified traumas and upper-and lower-limb fractures were prevalent in the group aged 60 to 70 years, and femoral fractures had a higher incidence in the group aged 71 to 80 years, which is in line with the findings of a similar study that indicated several types of upper-and lower-limb traumas, highlighting femoral fractures in the group aged 70 to 74 years⁽³⁾.

The present study showed that there was an association between traumas and sex, with prevalence of female older adults. This result is in line with that of a study that found 75.9% of trauma occurrences among older adults caused by falls, which were more frequent in women⁽³⁾. Similar results showed that the number of falls was high in older adults, more frequent in women, and the prevalent group was aged 60 to 70 years⁽²⁾. Another study carried out in a hospital of the State of Bahia, Brazil, showed that women exhibited a higher incidence of falls among older adults, and that the prevalent group was aged over 80 years, indicating an increase during aging⁽¹⁸⁾.

The present study revealed a greater number of women who suffered femoral fractures. These data can be corroborated by a retrospective study conducted in 1911 with female older adults who had suffered femoral fractures, which demonstrated a similar prevalence⁽¹⁹⁾. Another study also found that female older adults had had a higher incidence of femoral fractures⁽¹⁷⁾.

There was an association between all types of trauma and sex, with prevalence of female older adults and a statistically significant association for each type of trauma. The investigation of these factors is

essential, because it provides subsidies for the early identification of risk factors and improvement in the actions performed by multiprofessional teams working in emergency services, such as educational measures and interventions aimed at meeting the needs of older adult victims of trauma.

CONCLUSION

With regard to the profile of older adult victims of trauma cared for in an emergency care unit, the prevalent characteristics were: group aged 60 to 80 years; female individuals; incomplete primary education; married; white; and housewives. The medical specialties that provided initial care were mostly orthopedics/traumatology, followed by general surgery. The most frequent types of traumas were unspecified, followed by upper-and lower-limb fractures, and femoral fractures. Regarding the clinical outcomes after the initial care provided in the emergency care unit, most patients were hospitalized in the orthopedics/traumatology sector of the institution.

There was an association between the types of traumas and the age of each older adult, and between the types of trauma and sex, with prevalence of women. Therefore, the multiprofessional health team, especially nursing, should intervene in the prevention of trauma in older adults, with special attention to old aged women.

With the increase in the older adult population, the occurrence of traumas has significantly increased, mainly with changes in lifestyles and exposure to the risk of accidents. It is necessary that health services, especially primary care, perform continuing education and educational actions during home visits or in specific groups within the community, focusing on older adults' awareness of trauma prevention, involving these individuals, caregivers, family members, and health professionals.

One limitation of the present study was the lack of data in some electronic medical records about clinical information referring to treatments and daily follow-up during older adults' hospitalizations. However, the study made health professionals aware of the need to provide care to the older adult population in order to minimize the prevalence of trauma and consequent hospitalization, especially among women.

RESUMO

Este estudo objetivou analisar as características sociodemográficas e clínicas de idosos, vítimas de trauma, atendidos em uma unidade de pronto atendimento de um hospital de ensino. Método descritivo, com abordagem quantitativa, realizado em um serviço de referência em urgência e emergência, por meio de análise de 2113 prontuários eletrônicos referentes aos anos de 2014 e 2015. Para análise estatística utilizou-se Qui-quadrado, T Student e do coeficiente de correlação de Spearman, com nível de significância de 5%. A maioria dos idosos com idade entre 60 e 80 anos, do sexo feminino, com ensino fundamental incompleto, casado, cor branca e profissão do lar. As principais especialidades médica foram ortopedia/traumatologia e cirurgia geral e os diagnósticos mais frequentes foram traumas não especificados, seguidos de fraturas de extremidades e do fêmur. O desfecho clínico predominante foi a internação hospitalar em setor específico de ortopedia e traumatologia. Houve associação entre as variáveis tipos de traumas com a idade de cada idoso e entre os tipos de trauma e sexo, com predomínio do sexo feminino entre todos. Portanto, a enfermagem deve intervir na prevenção de trauma em idosos, com atenção especial às mulheres de idade avançada.

Palavras-chave: Idoso. Registros eletrônicos de saúde. Enfermagem. Hospitais de ensino. Lesões.

PERFIL DE ANCIANOS, VÍCTIMAS DE TRAUMA, ASISTIDOS EN UNIDAD DE PRONTA ATENCIÓN DE UN HOSPITAL DE ENSEÑANZA**RESUMEN**

Este estudio analizó las características sociodemográficas y clínicas de adultos mayores víctimas de trauma, atendidos en la unidad de emergencias de un hospital escuela. Método descriptivo con abordaje cuantitativa realizado en un servicio de referencia en emergencias, por medio del análisis de 2.113 registros médicos electrónicos referentes a los años de 2014 y 2015. Para análisis estadístico se utilizó el test del qui-cuadrado, el test t-Student y el coeficiente de correlación de Spearman, con un nivel de significancia del 5%. La edad de la mayoría de los adultos mayores era de 60 a 80 años, del sexo femenino, con enseñanza primaria incompleta, casadas, de raza blanca y amas de casa. Las principales especialidades médicas fueron ortopedia/traumatología y cirugía general. Los diagnósticos más frecuentes fueron traumas no especificados, seguidos de fracturas de las extremidades y del fémur. El desenlace clínico predominante fue la internación hospitalaria en sector específico de ortopedia y traumatología. Hubo asociación entre los tipos de traumas con la edad de cada adulto mayor y entre los tipos de trauma con sexo, predominando el sexo femenino. Por lo tanto, la enfermería debe intervenir en la prevención de traumas en adultos mayores, con atención especial a las mujeres de edad avanzada.

Palabras clave: Adulto mayor. Registros médicos electrónicos. Enfermería. Hospitales Escuela. Lesiones.

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