ABSTRACT

Objective: to identify the more frequent external causes in elderly patients served in the First-Aid Service. Method: it is a quantitative study with a descriptive approach, in which we made use of secondary data collected from the medical charts of the First-Aid Service of the city Pelotas/RS/Brazil, from August 2008 to July 2009. The data analysis was performed in the Excel 2007 program. The research project was approved by the Ethics Committee, under the Protocol nº 50/2010. RESULTS: we have identified 504 elderly people who were victims of morbidity due to external causes in the surveyed period. Of these, 299 were females and 205 were males. In this study, falls were highlighted, accounting for 48% of cases, followed by traffic-related accidents, with 10%. Conclusion: it is believed in the need for better (re) structuring of health services and programs so that they can respond to the emerging demands of this new epidemiological profile of the country. Descriptors: External Causes; Elderly People; Nursing.

RESUMO


RESUMEN

Objetivo: identificar las causas externas más frecuentes en ancianos atendidos en Pronto Socorro. Metodología: estudio cuantitativo, de abordaje descriptiva, en el cual fueron utilizados datos secundarios colectados junto a las fichas de atendimiento del Pronto Socorro de Pelotas/RS/Brazil, de agosto de 2008 a julio de 2009. El análisis de los datos fue realizado en el Programa Excel 2007. El proyecto de investigación fue aprobado por el Comité de Ética, protocolo nº 50/2010. Resultados: se identificaron 504 ancianos que sufrieron morbilidad por causa externa en el periodo seleccionado. De estos, 299 eran mujeres y 205 eran hombres. En este estudio ganaron destaque las caídas, representando 48% de los casos, seguidas por los accidentes de tránsito con 10%. Conclusión: se resalta una necesidad de un mejor (re) estructuración de los servicios y programas de salud para que puedan responder a las demandas emergentes de ese nuevo perfil epidemiológico del país. Descriptores: Causas Externas; Ancianos; Enfermería.
INTRODUCTION

The increased number of accidents and violent acts in Brazil, factors considered as external causes, has reflected in the organization of the health system, due to the rising costs with hospital admissions and treatment procedures. In Brazil, the proportion of hospitalizations for external causes progressively increased, from 5% in 1998 to 6%, in 2005, as well as the proportion of expenses, which rose from 6% to 8%, constituting a major challenge for health policies and services of the country.¹

Accidents and violence forms constitute a set of health damages that might or might not induce the victim to death, in which the said accidental causes are included - generated by traffic movement, work, falls, poisoning, drowning and other accident types - as well as the intentional causes (aggressions and self-inflicted injuries). This set of damages is presented in the 10th International Classification of Diseases (ICD-10) under the name of external causes.²

Although the main victims of external causes are young adults, this event has been also gaining prominence in the elderly population, especially in large urban centers, since that population aging is a social phenomenon. Therefore, advanced age, added to chronic diseases, can make the elderly subject more vulnerable in relation to dangers inside and outside the home environment. Accordingly, external causes, especially accidents, involving elderly subjects can produce long hospital stays and temporary or permanent sequels. Furthermore, at least one caregiver family member is removed from active economic activities, entailing high costs with health care to the Brazilian Unified Health System (SUS) and the society itself, and also contributes to the decline of functional ability in the elderly people, by interfering in the healthy aging.³

It should be highlighted that the city of Pelotas has 14% of its 328,275 inhabitants belonging to age group of 60 years or over, being that it is above the average of the Rio Grande do Sul State (RS), which has a rate of 12.2%, and above the Brazilian index, which shows that 9.5% are aged 60 years or older.⁴

Based on these statements, the present study aims at identifying the more frequent external causes in elderly patients in the First-Aid Service of Pelotas/RS/Brazil.

This study should be considered of utmost importance, as it might serve as a basis for health care professionals working in all levels of assistance of the SUS and of the society at large, generating knowledge about more frequent external causes in elderly patients in the First-Aid Service of the city of Pelotas, thereby, helping with the health promotion and prevention of these hazards, aiming at improving the conditions and the quality of life in this age group.

OBJECTIVE

- To identify the more frequent external causes in elderly patients served in the First-Aid Service.

METHOD

This Article was elaborated from the Dissertation << Elderly people victims of accidents and violence forms served in a First-Aid Service in the Brazilian South >>, presented to the Post- Graduation Program in Nursing of the Faculty of Nursing at the Federal University of Pelotas, Brazil, 2010.

The city of Pelotas has a First-Aid Service that serves the population of its macro-region, providing solely assistance by means of the Brazilian Unified Health System. This service serves a daily average of 206 patients, according to data obtained from the medical charts (MC). In June 2008, the unit totaled 6,186 attendances, of which 1,153 were related to elderly patients (18%) and, of these, 171 were attended due to external causes (14%).

It is a quantitative study with a descriptive approach, in which we made use of secondary data collected from the medical charts (MC) of the First-Aid Service of the city of Pelotas/RS/Brazil. The selected charts were those of elderly aged 60 or over, living in the city or not, who had received the first attendance in this institution due to external cause, as chapters XIX and XX of the ICD-10, in the period from August 2008 to July 2009. For data collection, we have selected charts that represented a week of each month in an alternate manner: starting from the fourth week of August 2008, the first week of September, the second week of October and so on in a period of 12 months.

The variable of interest for this study was the external cause in elderly patients served in the First-Aid Service of the city of Pelotas. The occurrence of these accidents was described according to gender, age (organized into categories 60-69, 70-79 and 80 or over), week day in which the event took place and the month (categorized by quarters - jan/feb/mar; april/may/june; july/aug/sep...
and oct/nov/dec). The data analysis was performed in the Excel 2007 program.

The project was approved by the Ethics Committee of the Faculty of Nursing at the UFPe, under the Protocol n° 50/2010. As to the ethical issues, they have obeyed the regulatory standards and guidelines for researches involving human beings, in accordance with the Resolution 196/96 of the Brazilian National Health Council.5

We have identified, through medical charts, 504 elderly people who suffered from external causes in the surveyed period. Of these, 299 were females and 205 were males.

Table 1 shows the distribution of types of external causes in elderly patients in the First-Aid Service of the city of Pelotas.

<table>
<thead>
<tr>
<th>Types of Causes Externas</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>243</td>
<td>48,2</td>
</tr>
<tr>
<td>Traffic-related accident</td>
<td>52</td>
<td>10,3</td>
</tr>
<tr>
<td>Accident involving animals</td>
<td>42</td>
<td>8,3</td>
</tr>
<tr>
<td>Lower limbs trauma</td>
<td>41</td>
<td>8,1</td>
</tr>
<tr>
<td>Upper limbs trauma</td>
<td>30</td>
<td>6,0</td>
</tr>
<tr>
<td>Traumatic brain injury</td>
<td>23</td>
<td>4,6</td>
</tr>
<tr>
<td>Unspecified cutting</td>
<td>21</td>
<td>4,1</td>
</tr>
<tr>
<td>Physical aggression</td>
<td>18</td>
<td>3,6</td>
</tr>
<tr>
<td>Thoracic trauma</td>
<td>11</td>
<td>2,2</td>
</tr>
<tr>
<td>Other causes</td>
<td>23</td>
<td>4,6</td>
</tr>
<tr>
<td>Total</td>
<td>504</td>
<td>100%</td>
</tr>
</tbody>
</table>

It is observed in Table 1 that falls were the external cause that more affected elderly people of both genders, being that they were described in the charts as follows: fall, fall from the height itself, fall out of bed, fall from stairs and fall on the ground, followed by traffic-related accidents, which were consisted of trampling, collision between cars or between a car and a bicycle. Moreover, accidents involving animals such as dogs and insects were predominant.

Figure 1 shows the gender-related distribution the main external causes that affected the elderly patients.

It is perceived in this figure that falls were the most prevalent accidents in the elderly people. Such accidents were more frequent in women than in men, being that the latter were those who more suffered from traffic-related accidents.

Table 2 shows the distribution of the elderly patients served in the First-Aid Service due to falls, according to gender, age, seasonality and week days.
In this table, it is observed that there is a larger proportion of older women affected by falls, being that the age group with the highest frequency is the one from 60 to 69 years. It should be emphasized that as the age of both sexes increases, the percentage difference decreases.

Regarding the year’s quarter in which falls took place, in the case of males, they were more frequent in the quarter corresponding to the period from July to September, while, in women, the falls were more frequent in the quarter related to the period from April to June.

It should be also observed that, in both genders, falls were uniformly distributed in the week days, but they were more frequent in working days, particularly on Wednesdays and Thursdays.

**DISCUSSION**

Accidents due to external causes in the elderly population are configured as a serious public health problem, because, in most cases, generate injuries that will further aggravate the health status of the elderly subject, affecting both its quality of life and of its family members, in addition to provoke higher costs for the area of social security. Among the external causes involving elderly people, falls are highlighted in this research, accounting for 48% of cases. In a study conducted in the city of Ribeirão Preto, São Paulo State, with 110 elderly subjects, it was identified that 66% had suffered some accident type and, of these, 58% were falls. Just like in a survey conducted in Turkey, where the percentage of falls was of 69.6%.

It is noteworthy to stress that falls occupy 10% of hospital emergencies and 6% of urgent hospital admissions in elderly subjects. In a survey held in 2006, falls are identified as the main causes of injuries (26%), highlighting that these events might be associated with extrinsic factors, such as the topography of the region or the living conditions, but might also be related to mistreatments and aggressions and use of three or more medicinal drugs.

It should be highlighted that the occurrence of falls might even be associated to intrinsic factors, such as increased age, some biological factors intrinsic to the aging process and the presence of chronic diseases, making this group potentially more susceptible, which is an evident fact, given that more a third of people aged 65 and over suffer from falls every year. It should be enlightened that the structural and functional changes, as well as the coexistence of chronic diseases, predispose the elderly subjects to several accidents and these are initially presented in a more critical way, thus requiring hospital admission with greater frequency.

In a study on the characterization of the victims of accidents and violence forms, served in a first-aid service in the Mato Grosso State, it became clear that, in the elderly population, falls accounted for 72.4% of all accidents attended in that institution. A study conducted in China, in 2003, with 16,899 elderly residents in four communities, indicated that the incidence of injuries from accidents and violence forms was of 16% and, of these, 5% were due to falls, being that they were the main causes.

In addition to falls, traffic-related accidents emerge as the second cause in relation to external causes in the First-Aid Service of Pelotas, taking place with greater frequency among males, which is a fact that goes straight to another study, conducted in a first-aid service of the city of Pouso Alegre.

<table>
<thead>
<tr>
<th>Year’s quarter</th>
<th>60-69 years</th>
<th>70-79 years</th>
<th>80 or over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-Mar</td>
<td>130</td>
<td>53</td>
<td>22</td>
</tr>
<tr>
<td>Apr-Jun</td>
<td>22</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Jul-Sep</td>
<td>20</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Oct-Dec</td>
<td>22</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Week days</td>
<td>10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
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<td></td>
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<tr>
<td>Friday</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Saturday</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. Distribution of elderly patients served in the First-Aid Service due to falls, according to gender, age, seasonality and week days, Pelotas/RS, Brazil, in the period from 2008 to 2009.
Minas Gerais State (2007), where traffic-related accidents were the second leading cause of hospital admissions due to external causes among the elderly population served in the above mentioned service. Another point to be highlighted was related to the accidents involving animals, representing 8% of accidents, which was also found in a survey conducted in Porto Alegre/RS, with 1,594 individuals who suffered from external cause, where accidents involving animals accounted for 21% of cases related to elderly people.

The present study showed that the majority of elderly patients who suffered from external cause and received their care procedures in the first-aid service at stake were females (59.32%), which resembles a nationwide study on hospital admissions and deaths from external causes, which has identified women as the main elderly victims who were admitted, representing 54% of cases.

In a study on vulnerability to accidents involving elderly subjects, the data related to age and gender showed that, after the age of 60, women are more vulnerable to accidents, accounting for 64% of occurrences, which was also found in this study, with a percentage of 59%. This finding might be related to the fact that women achieve more advanced ages, use more medicinal drugs, such as psychotropic substances, and present decreased power of seizure.

Concerning the aspects of seasonality, there seems to be a rise of occurrence of falls in the colder months. Moreover, in relation to the distribution of falls among the week days, it became clear that these events took place with greater frequency on working days and, in most cases, on Wednesdays and Thursdays, while in the study conducted in the city of Pouso Alegre, Minas Gerais, in 2007, most injuries took place on Fridays, Saturdays and Sundays.

This study shows as a positive aspect the fact of adding new knowledge about this issue, still little explored in the literature. Furthermore, it becomes more relevant when one thinks of the demographic and epidemiological transition of our country. In this context, this study meets the principles and guidelines of the SUS in relation to the preservation of the autonomy of individuals and the use of epidemiological data in establishing priorities, allocating resources and guiding health care programs.

As a limitation, it should be considered the non-computerization of the Statistical and Medical File System, which might cause loss of information that could be more readily available, besides generating increased wear to the researcher.

CONCLUSION

External causes should be issues of concern to health care professionals, governments, society, families and the elderly itself, in view of the growing number of elderly subject affected by these events, especially by falls, which might cause significant disabilities that can lead them to death. In addition, such events can represent increased financial demand of elderly people and of their relatives, thereby consolidating as another complicating factor mainly for those that have a lower socioeconomic status and still overloading health care services and the State.

By considering that falls were the most common causes of accidents in the elderly people and that it is possible to propose preventive measures for this population group that tends to be increased in coming years, it is believed in the need for better (re) structuring of health services and programs so that they can respond to the emerging demands of this new epidemiological profile of the country. It should be also highlighted the need for the completion of further studies that discuss this issue and contribute to maintenance of the quality of life of elderly patients affected by accidents, or that aim at preventing these events.

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