



CHILDREN/YOUNG PEOPLE INJURIES IN SOUTH PORTUGAL: EPIDEMIOLOGICAL PROFILE

ACIDENTES COM CRIANÇAS/JOVENS NO SUL DE PORTUGAL: PERFIL EPIDEMIOLÓGICO

ACCIDENTES COM NIÑOS/JOVENES EN EL SUR PORTUGAL: PERFIL EPIDEMIOLOGICO

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ABSTRACT

Objective: to know the epidemiologic profile of children/young people injuries in south Portugal. **Method:** this is a descriptive and exploratory study, with a quantitative approach, analyzing injured children admission data at emergency room by following the starting question: Which is the epidemiologic profile of the accidents involving children/young people in south Portugal? Collected data has been done from SONHO data bases, with ethic commissions and hospitals board rooms permissions, where the study had place between July 2009 to May 2010. **Results:** utilized data comes from analyzed admissions in emergency rooms. The variables in study are: accident type, age group, sex, nationality, residence, accident date, children destiny. **Conclusion:** it was seen that falls are the most usual accidents. The accidents' distribution is the same no matter sex. April, May and June are the months where children had more accidents with precocious medical discharge. **Descriptors:** Nursing; Injuries; Children; Young People.

RESUMO

Objetivo: conhecer o perfil epidemiológico dos acidentes com crianças/jovens no sul de Portugal. **Método:** trata-se de um estudo descritivo, exploratório, de abordagem quantitativa, com análise dos registos das admissões de crianças acidentadas em pronto socorro, a partir da questão norteadora: Qual o perfil epidemiológico dos acidentes em crianças/jovens no sul de Portugal? A coleta de dados foi realizada a partir da base de dados do programa informático SONHO com autorização das comissões de ética/conselhos de administração dos hospitais onde decorreu o estudo entre Julho de 2009 a Maio de 2010. **Resultados:** a efetivação resulta da análise das admissões em pronto socorro, tendo emergido as seguintes variáveis: tipologia do acidente, grupo etário, sexo, nacionalidade, residência, data do acidente, destino da criança. **Conclusão:** verificou-se que o tipo de acidente queda surgiu como o acidente mais comum, a distribuição dos acidentes é idêntica aos dois sexos, encontrou-se maior incidência nos meses de Maio, Junho e Abril, a maioria das crianças acidentadas tiveram como destino alta precoce. **Descritores:** Enfermagem; Acidentes; Criança; Adolescente.

RESUMEN

Objetivo: conocer el perfil epidemiológico de los accidentes con niños/jóvenes en el sur de Portugal. **Método:** Se trata de un estudio descriptivo, exploratorio, de enfoque cuantitativo, con el análisis de los registros de entradas de niños heridos en los servicios de urgencias, a partir de la pregunta orientadora: ¿Cuál es la epidemiología de los accidentes en niños/jóvenes en el sur de Portugal? La recogida de datos se realizó a partir de la base de datos del programa informático SONHO con el permiso de las comisiones de ética/consejos de administración de los hospitales donde se realizó el estudio entre julio de 2009 y mayo de 2010. **Resultados:** la eficacia de estos resulta del análisis de entradas en las urgencias y surgieron las siguientes variables: tipología del accidente, el grupo de edad, sexo, nacionalidad, residencia, fecha del accidente, el destino de los niños. **Conclusión:** se encontró que el tipo de accidente por caída surgió como el accidente más común, la distribución de los accidentes es idéntica a ambos sexos, se encontró una mayor incidencia en los meses de mayo, junio y abril, la mayoría de los niños heridos tuvieron como destino el alta precoz. **Descritores:** Enfermería; Accidentes; Niños; Adolescentes.

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INTRODUCTION

The OMS defines accident as the physical force that occurs when the body is suddenly subjected to an amount of energy that exceeds the physiological limit, or is deprived of vital elements such as oxygen. The energy may be mechanical, thermal, chemical or radiant.¹⁻²

Worldwide values of infant mortality rates are not identical, these differences are linked to environmental conditions. The regions with better environmental conditions or concerns in the creation of healthy environment for children are those that show sharp declines in rates of infant mortality, as the European region or northern hemisphere.³

Margot Wallstrom European Commissioner in 2003 said "... a healthy environment is not a privilege but a fundamental right ... and ... what's good for kids is good for society as a whole today and tomorrow."⁴

It is in the European region that occur the most significant improvements in infant mortality rates, but on the one hand have reduced deaths in children under one year, the mortality of children under 18 years has increased, with a high contribution of accidents, which are today still considered a serious public health problem.

The countries with the lowest mortality rate from external causes in children under 15 years are Sweden and Italy, with rates of 5.2 and 6.1 per hundred thousand children, respectively.

Denmark, with a coefficient of 8.1 (per 100,000 children), Germany, with a coefficient equal to 8.3 are considered countries with intermediate rates. France, with a coefficient of 9.1 (per 100,000 children), Belgium (coefficient 9.2), Austria (coefficient equal to 9.3), are regarded as countries with high rates of mortality from external causes in children under 15. In Portugal (17.8 per 100,000 children), presents a very high rate of deaths.^{5:345}

In Portugal, according to the National Program for Prevention of Accidents 2009-20166, prepared by the Directorate General of Health from data monitored by the program ADELIA7 (Accidents And Leisure-Adequate information) of the National Health Observatory (ONSA), the deaths of children by accident in 2006 accounted for 6%, distributed as follows by different types: road traffic accidents 66.7%, 12.7% drownings, falls and choking / suffocation 4.5%, 1.4% burns and electrocution 0, 7%

Accidents are the fourth most common cause of death in Europe. In the document on

the Health of Children and Adolescents in Portugal, the High Commissioner of Health, between 2003 and 2005, mortality from external causes, is the highest for the age group between one and nineteen years, with about 32% for the group from 1:00 to 4:00 years, and 60% for the fifteen-nineteen years.⁸

Accidents not only cause deaths, the deaths are the tip of the iceberg, many non-fatal injuries for every death usually occur with severe long-term consequences.^{6,9} These consequences are reflected not only the physical health of children but also in their welfare and families. Cause huge costs on society in treatment, care, sometimes for life.¹⁰

The experience of recent years shows that most of these accidents are preventable provided that they take appropriate measures to do so. We must invest in education as the basis for the prevention and reduction of death / disability caused by accidents with high costs for everyone, but especially for children and their families.

The preparation of this work stems from the interest in deepening the epidemiological knowledge of accidents with children from 0 to 14 years in the geographical area of the Alentejo and Algarve, zone of attraction of the School of Health Beja / Nursing Degree course, work of authors, such as scientific contribution to the development of new training and community intervention strategies of nurses in this problematic.

In this context the following questions emerge:

What are the most common accidents in children / young people in southern Portugal?

What is the distribution of accidents by geographic area and age group?

What route / destination of the child victims of accidents?

Being able to summarize all these questions in one:

What is the epidemiology of accidents in children / young people in southern Portugal?

For the construction of this epidemiological profile, the following variables were considered, the type of accident, age groups, gender, national origin, district of residence and destination for children, emergency room where injured children were admitted, year and month of occurrence.

According to Lamb to reduce the number of deaths, disabilities, hospitalizations and all the consequences that an accident causes, may be the goal to be achieved, with the creation and implementation of preventive

measures covering the different sectors of society and their interconnection.¹⁰

OBJECTIVES

- To know the epidemiology of accidents with children / young people in southern Portugal
- To identify the type of accidents involving children / young people in southern Portugal
- To identify the most common accidents in each age group
- To relate the type of accidents by gender
- To relate the type of accident with the months of the year
- To identify what is the fate of injured children

METHOD

This is a descriptive, exploratory study, quantitative approach. The study population consists of children who were admitted to the pediatric emergency department of three hospitals in the province Alentejo (1) and Algarve (2). The children's age ranges between zero and fourteen months (ages covered by these services).

Through the database software DREAM was a demand made on the module "pediatric emergency room admissions misses" where outputs were taken regarding the number of episodes in the period (January 2007 to June 2009).

We obtained 23,760 episodes due to acidentes. Nessa referenced database was access to the following variables: occurrence date, admission diagnosis, age of child at time of occurrence, sex, county of residence, nationality and destination.

In Microsoft Excel program was built a database with the variables mentioned above (transferred from the database DREAM) relative to the 3 hospitals that subsequently transferred to the Statistical Package for Social Sciences (SPSS 18.0 for Windows).

Data collection took place between July 2009 and May 2010. The delay in the collection, was connected with the approval of applications for authorization made by letter, to query the data of the Dream, by Ethics Committees / Boards of Directors of the three hospitals, with the opinions of 7/31/09 14,459, Centre Hospitalier Alentejo; 492/PCA/sl de03/09/2009, Western Algarve Central Hospital, 88/2009 of 20/10/2009, Faro Hospital.

RESULTS

The statistical treatment of data was performed with the help of the computer program Statistical Package for Social Sciences (SPSS 18.0 for Windows).

The strategy of data analysis was based on descriptive techniques, univariate analysis with frequencies and percentages, so percecionar the importance of the different thematic variables, proceeding, second, the study of its relations with the context variables , using for the calculation of independence and the chi-square association. Admitted as significant statistical results to a rejection level of 5%.

• Types of Accidents to children (0-14 years), occurred between January 2007 to June 2009

23760 children and adolescents in the rough (study group), were featured the variables age and sex, residence, nationality, types of accidents and their distribution by month and year, use of pediatric emergency room the target after the accident.

In general the representation that the accident had on the population under fourteen, the two provinces (Alentejo and Algarve) per year was significant, namely 12.03% and 10.68% respectively in 2007 and in 2008.

With respect to age groups the distribution indicates a greater incidence in the age group 1-4 years 38%, followed by 5-9 years 33.2%, 24.6 10-14% 1 year, and finally 0 4.2 %. In terms of gender there is a predominance in males, with 51.2%, female 36.7% and 12.1% unregistered.

For the typology we found the following types of accidents that goes on to describe: 49.0% falls, other accidents (domestic accidents, personal injury, boat accident) 27.7%, 18.5% school accident, traffic accident 2.3%, 1.3% burns, poisonings, 1.1%, 1% drownings. In the distribution of accidents by year and month of occurrence it appears that the year 2007 with highest incidence was 43%, followed by 2008 with 38.6% and 18.4% in 2009. The incidence of accidents by month of the year shows the following distribution: Maio11, 8%, June 10.9%, 10.5% in April, 9.3% in March, 8.4% in January, 8.1% in August, February 7, 9%, October 7.7%, 7.1% in July, September and November each 6.6% and finally 5.1% in December. There is however to be careful in reading these figures, since the lack of data in half of the year 2009 (July to December) may cause the overall validity is questionable also whether to keep this

caution in reading for the year 2009, whose values relate only to the first six months.

Given the variable nationality of child victims of this group, we chose a distribution by continents, because of the different nationalities does not make a significant distribution, with the exception of Portuguese nationality. The distribution is presented as follows: the highest incidence are the children of Portuguese 93.9%, followed by nationality by continent, Europe 4.1%, South America 1.1%, with no national data 0, 4%, 0.3% Africa, Asia 0.1%, 0.1% North America and Oceania 2 (0.0%).

To characterize the area of residence of the children in the study was chosen as the nationality, given the significant differences between the data for the group by the districts of Portugal, as shown by the following distribution, 76.3% Algarve, Alentejo 15.1%, other districts of Portugal and 6.9% for non-residents in Portugal and / or no data 1.7% of residence.

In the presentation of data on the use of health services, including pediatric emergency room, it appears that the 23,760 children who are victims of accidents, 12,960 (54.5%) resorted to the emergency room of Hospital de Faro, 7108 (29.9%) appealed to the Central Hospital in the western Algarve, Portimão and 3692 (15.5%) resorted to the Hospital Center of the Baixo Alentejo, Hospital José Joaquim Fernandes-Beja.

As for the fate of these injured children, most after the use of the emergency room was discharged early, 81.9%, followed by those who though they had returned to home with follow-up continued in later queries for surveillance, 3.9% required hospitalization hospital, 1.2% are "others" which include situations such as abandonment of the hospital or without medical care, 0.7% needed to be transferred to other hospitals and four (0.0%) deaths.

At the level of the variable type of accident-related age groups applying the chi-square with a significance level of 0.05, there was significant statistical differences, since the degree of relationship between the type of accident and age group is $p = 0.000$, so there is a relationship between accident type and age group.

In the search for associations between the type of accident and sex by applying the chi-square test with a significance level of 0.05, there is no statistically significant differences, as $p = 0.483$.

Regarding the distribution by type of accident of the year, there is a significant

relationship between two variables, with $p = 0.00$, and the months with the highest incidence was in May, June and April.

Finally the relationship between the type of accident and fate there is a significant association with $p = 0.000$, where the highest value, 19,456 (81.9%) children were discharged home.

DISCUSSION

Accidents occur when the epidemiological triad of players interact under certain circumstances in a given period of time.

In this population the highest incidence of injuries occurred in the age group 1-4 years (38%), which differs from some authors who claim that groups with higher incidence are less than one year, followed by the group between 15 -19 years,^{1-3,9} however, is in accordance with information on the study of accidents in Portugal in 2006 when they were the main cause of death among 1-19 years of study Unglert.^{6,11}

In the analysis of the variables type of accident / sex in this study did not find significant differences, which happens not to agree with the bibliography shows that a greater emphasis on all types of accidents in males.^{1,6,9}

Regarding the goals set for this study-identifying the types of accidents in the study group, the data obtained allow the following statements: the most frequent type of accident was falls (49%), which does not differ from the various studies referenced the global report on prevention of accidents are falls which states the main type of accident is not fatal, closely related to the child's stage of development.^{1-2,6,11-2}

Baracat presents similar conclusions regarding the type of accidents.³ The school accidents, type referenced in Portugal as the second place of the accident, this study appears as the third most common type (18.5%) corresponding to 4396 individuals logically distributed by age groups 5-9 years and 10-14 years, also referred to study Unglert.¹¹

There are few references that relate to the accident a month of the year, however, in studying the months of May, June and April to highlight the negative in the occurrence of most accidents, for which no response was obtained in the design of this study. On the one hand most of the injured children were sold to the early discharge to home (81.9%) 19 456 children, we must also highlight the concern for the children to the grave events were transferred to other hospitals 165 (0, 7%)

children who require more differentiated care hospital in 936 (3.9%), and even children with ambulatory care / primary health care and secondary) in 2912 (12.3%). These values do not differ studies conducted in developed countries show that the greatest evidence of accidents involving children can be assessed by hospital admissions and emergency room admissions.^{9,13}

In the study in view of the universe of 23,760 injured children, four died. Not having a statistical significance (0.0%), presents a dimension of human loss and suffering to family and community, especially given that could have been preventable, as reported in the report on accidents in Europe, summary statistics, the noted that accidents are preventable today, over 90% with appropriate measures.^{2-3,5,9-10}

CONCLUSION

In this study traced the epidemiological profile of accidents with children and young people from zero to fourteen years in the geographical area of the Alentejo and Algarve. Having regard to the objectives outlined some aspects must be highlighted that its importance is left on completion.

It was found in the study as the most common type of accident falls to 49.0%, a similar distribution of accidents for both sexes, with highest incidence occurred in May, June and April. Most injured children had early discharge to home.

It is considered a limitation of the study due to poor quality of records on admission of children injured in the emergency room, the fact that the second most referenced being "other accidents". (27.7%) corresponding to 6579 children, over which it was possible to obtain more specific data.

This study aims to contribute to the scientific development of new training strategies and intervention on this issue. It is considered essential in the training of nurses knowledge about the epidemiology of accidents with the objective of greater intervention in the clarification and implementation of preventive measures.

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