38 - PROFILE OF DROWNING IN THE CONTEXT OF EXTERNAL CAUSES OF MORTALITY IN THE STATE OF ALAGOAS-BRAZIL, IN THE PERIOD FRON 2000 TO 2008.

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INTRODUCTION

External causes of morbidity and mortality, according to the international classification of diseases, 10th revision (ICD-10), (WHO, 2003) – represent a large portion of deaths in most countries, getting always between the second and third cause of death in total deaths. In the USA, in 2001, unintentional injuries calls, or external causes of mortality, were the leading cause of deaths in people aged between 1 and 34 years and fifth among all ages (ANDERSON; SMITH, 2003).

In China occur about 800,000 deaths from unintentional injuries (ZHAO; SVANSTROM, 2003). In Europe there is a variance between the countries of the West with the East; while the West can reduce the impact of external causes of deaths, the East, mainly from the former Soviet Union, suffer from the effects of living conditions on health, particularly those relating to external causes (VAN DORP et al, 2002).

In all countries where studies were developed on these fatalities, stand between the external causes murders, traffic accidents, drowning, crashes and burns (PAES; GASPAR, 2005).

Among the causes of death for external reasons, one that comes calling attention due to the increase of its incidence worldwide is the drowning, according to the World Health Organization, this has been posing as a significant cause of death, coming to kill 500,000 people year (WHO, 2003); aged 0 to 14 years is already the second cause of mortality in several countries. In Mexico is the second cause of death in children 1 to 4 years, and in the period from 1979 to 2005 were registered 107,319 deaths among all ages, with the majority being males (CELIS et. Al., 2008). In Portugal die on average 28 children/year by drowning, which represents 43% of accidental deaths involving children in that country (APSI, 2007).

The greatest percentage of occurrences of drowning is in the South Pacific region, with 38% of cases. In Bangladesh the drowning leads the list of accidents violent; by continent, Africa, 14 2/100,000 year leads the ranking of deaths by drowning, followed by Asia, with 8 1/100,000 year. In China, during this period, had 129,000 deaths by drowning, resulting in a death rate of 10 2/100,000; another country that also in this modality of fatality was India, with about 86,000 deaths, which translates into a rate of 8.5/100,000 (WHO, 2003).

External causes mortality in Brazil is characterized by a greater occurrence in metropolitan regions and younger age groups, including deaths by firearm, traffic accidents and drowning; regarding gender, men die by external causes more often than women. Ages 5 to 19 years, the external causes account for 19.5% mortality, being the main cause of death (BARROS 2002).

In Brazil, in recent years the drowning is outlining how important external cause of death, the Ministry of Health (2002) indicates that occur around 1.3 million cases of drowning, of these, nearly eight thousand come to death, a proportion of 5.2/100,000 inhabitants, and about 65% are children aged between 5 and 14 years, being therefore, the second cause of death for external reasons in this age group. Those who survive mostly get lasting sequelae, which cause the greatest economic impact among all types of accidents (SZPILMAN; ORLOWSKI, 2001).

In this context, being Alagoas State a beautiful littoral, one of the pioneers in the exploration of tourism in the Northeast region and with a climate that encourages the activities in the water, the goal of this work was to study the external causes mortality in the State of Alagoas, with emphasis in the cases of death by drowning in the period from 2000 to 2008.

MATERIAL AND METHODS

-TYPE OF STUDY

The survey was a cross-sectional study, with retrospective collection of data obtained from the records of the occurrences of existing external causes deaths in Legal State Medical Institute (Maceió and Arapiraca) for the period 2000-2008.

-CHARACTERISATION OF THE STUDY AREA

The study was conducted in the State of Alagoas, located in the northeastern region of Brazil. The State has an area of 27.767.661 km² and consists of 102 counties and a population of around 3.037.912 inhabitants, capital city of Maceió, with approximately 922,000. Presents a littoral 230 Km, and has also 19 ponds and three main rivers: San Francisco, Mundaú and Paraíba do Meio (IBGE, 2007), being known as "paradise of the waters".

-ACCESSING DATA

The data of the occurrences of external causes and deaths by drowning, and other information in relation to deaths, were obtained from records of legal Medical Institute based in Maceió, Alagoas and Arapiraca, during the period from 2000 to 2008.

The population estimate data for the period 2000-2008 for the State of Alagoas site were obtained from the Brazilian Institute of geography and statistics (IBGE). The population estimate data were Census 2000 and 2007.

-STATISTICAL ANALYSIS

Distribution analyses were carried out at the occurrence of external causes deaths in the State of Alagoas, in the period 2000 – 2008, with the data being processed in the program SPSS 16 0, using tests bivaried and correlation between the variables with values of significance of p<0,05.></0,05.>

It was held in the calculation of the prevalence of deaths and death rates by external causes and by drowning. It was calculated proportional mortality also deaths by drowning in Alagoas per year of occurrence.

-ETHICAL OPINION

This study was approved by opinion 130609, 22/06/2009, issued by Comitê de Ética da Universidade Tiradentes,

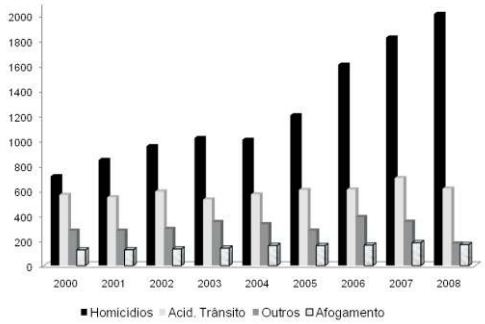
situated in the town of Aracaju, Sergipe.

RESULTS AND DISCUSSION

Considering all causes of death, the external causes are the third leading cause of mortality in the general population, being surpassed by diseases of the circulatory system and by neoplasms (MS, 2008). In the Northeast, the external causes are the second cause of death, second only to diseases of the circulatory apparatus.

In the period 2000-2008 in the State of Alagoas, 20,624 deaths by external causes, distributed in 11,193 homicides, 5,337 traffic accidents, 2,733 deaths caused by various causes and 1,360 by drowning (Figure 1). During the period observed a significant increase, especially between 2004 and 2008, homicides, while the other causes, such as drowning remains stable or showing a slight increase in the period.

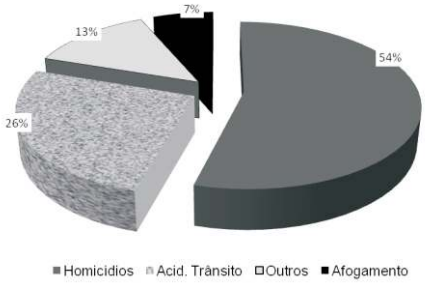
Figure 1. Distribution of external causes of deaths in the State of Alagoas-Brazil, in the period 2000 – 2008.



Source: IML/Alagoas

As to the percentage of deaths by external causes in the period 2000-2008, stand the homicides followed by traffic accidents, on third is the sum of all other causes together appearing on fourth drowning, with 7% of occurrences for the period, as shown in Figure 2.

Figure 2. Prevalence of external causes of deaths in the State of Alagoas-Brazil, in the period 2000 – 2008.



Source: IML/Alagoas

For rates of mortality from external causes, these suffer slight fluctuations between 2000 and 2005, increasing significantly from 2006 (Table 1). For Brazil, in 2002, has already been given a rate of mortality by causes external 69.7/100,000/sq mi, and homicides account for 38% in the distribution of these deaths. Mortality rates by drowning in the period going from 4.41 and 6.03 in 2007 (Table 1), Brazil is estimated a mortality rate of 5.2 by 100,000 (Ministry of health, 2002). In 2000, was estimated to be a global mortality rate by drowning 7.4 by 100,000 inhabitants, with 97% occurred in developing countries, these rates have changed since other factors mortality as infectious diseases has been decreasing.

Research conducted by Mello (1997) reports that the average of deaths due to external causes in Brazil was 69.8/100,000 inhabitants, this same work showed that Maceió, capital of the State of Alagoas excelled in the Northeast with values above other capitals in the region. Table 1 shows that from 2006 onwards, the mortality rate by external causes in Alagoas is above 90 per 100,000/sq mi

Table 1 - mortality rates by external causes and by drowning (x100000 inhabitants) in the State of Alagoas-Brazil, in the period 2000 – 2008.

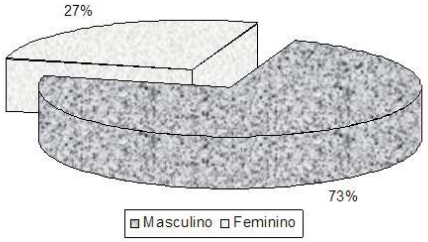
Year	Mortality rate by external causes	Mortality rate by drowning	Proportional Mortality by drowning
2000	61,57	4,57	7,4
2001	62,95	4,41	7,0
2002	68,43	4,61	6,7
2003	69,88	4,80	6,8
2004	69,44	5,40	7,7
2005	74,60	5,31	7,1
2006	90,80	5,38	5,9
2007	100,75	6,03	5,6
2008	95,12	5,37	6,5

Source: IML/Alagoas

Regarding gender, there is a sharp prevalence of deaths for the male genre towards female among all external causes and drowning, as shown in Figure 3. Previous research has demonstrated that men are the main involved in events ending in

deaths by external causes. In Brazil in 2000, 83% of these events happened in the male gender (GAWRYSZEWSKI et al., 2004).

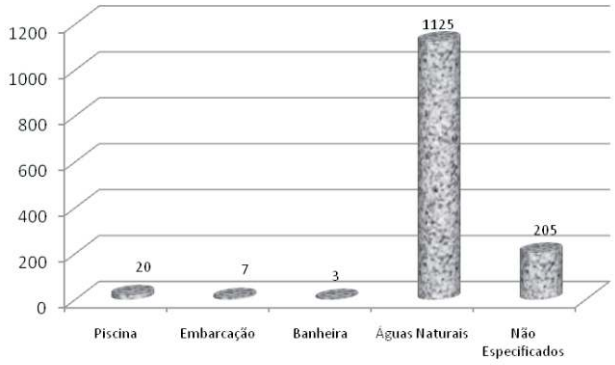
Figure 3: Breakdown by gender of deaths by drowning in the period 2000-2008 State Alagoas- Brazil.



Source: IML/Alagoas

Location of drowning, the data show that 82% of the cases in the State of Alagoas occur in rivers, seas, lakes and ponds, taken as natural water (Figure 4).

Figure 4. Distribution of deaths by drowning second place of occurrence. The State of Alagoas-Brazil, 2000–2008.



Source: IML/Alagoas

According to the Ministry of Health (2006), the ranking of external causes mortality changes according to the human life cycle. So the drowning is the second cause of death in children, the third in teenagers, the fourth in adults and the seventh in the elderly. In children proportional mortality reaches 22.7%.

It is necessary other studies to draw better epidemiological profile of these external causes deaths in the State of Alagoas, since underreporting is considered high in the State.

CONCLUSION

The results of this work show that the number of deaths by external causes in Alagoas in period of study, understood in the years from 2000 to 2008, was 20,652 deaths, being the highest incidence of fatalities murders with 11,193 cases, followed by the transit 5,337 accidents and drowning cases with 1,360 cases in all modes of more frequent occurrences in the male gender, with a prevalence of 54.5% for homicides, 26% for road traffic accidents, 13% for all other methods of occurrences and 6.5% to drowning, being that with respect to safety from the year of 2007 registered the largest number of cases.

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PROFILE OF DROWNING IN THE CONTEXT OF EXTERNAL CAUSES OF MORTALITY IN THE STATE OF ALAGOAS-BRAZIL, IN THE PERIOD FRON 2000 TO 2008.

ABSTRACT

External causes of mortality, according to the international classification of diseases, correspond to a large portion of deaths in most countries, getting always between the second and third cause of death in total deaths. Stand out among the external causes murders, traffic accidents, drowning, crashes and burns. In Brazil the external causes of death in occupies the second position in the rating of the leading causes of death. This study aimed to identify the main types of external causes of deaths in the State of Alagoas-Brazil in the period from 2000 to 2008, with emphasis on drowning. The data were obtained in Legal State Medical Institute, and processed in the program SPSS 16.0. Data of IBGE were used for the calculations of mortality rates. In the period of study, 20,624 deaths from external causes, distributed in 11,193 homicides, 5,337 traffic accidents, 2,733 deaths caused by various causes and 1,360 by drowning. The murder as external cause of death, has been increasing steadily over the period, while drowning suffers minor fluctuations, with mortality rates ranging from 4.41 and 6.03 by 100,000 gender male/s (73%) presents the greatest frequency of mortality by drowning, the latter taking place mainly in natural waters. In the last decades, Brazil has gone through a lot of changes in the epidemiological profile of grievances health, both in relation to infectious diseases as non-infectious. This caused the deaths by external causes became one of the leading causes of death among the population. Being the drowning the third cause of death in the State of Alagoas, it is necessary that this fatality is best studied to implement specific policies of prevention.

KEYWORDS: drowning; deaths; external causes.

PROFIL DE LA NOYADE DANS LE CONTEXTE DE LA MORTALITÉ PAR DES CAUSES EXTERNES DANS L'ÉTAT DE ALAGOAS - BRÉSIL, DANS LA PÉRIODE DE 2000 À 2008.

RÉSUMÉ

Causes externes de mortalité, selon classification internationale des maladies, représentent une proportion importante de décès dans la plupart des pays, étant prévu entre la deuxième et troisième rang des décès au total. Tenez-vous entre la mortalité due à des causes externes, homicides, accidents de la circulation, noyades, chutes et les brûlures. Au Brésil, la mortalité due à des causes externes est en deuxième place dans le classement des principales causes de décès. La présente étude visait à identifier les principaux types de décès dus à dês causes externes à l'état d'Alagoas, au Brésil, dans la période 2000-2008, en mettant l'accent sur les noyades. Les données ont été obtenues de l'Institut de médecine légale de l'État, et traitées en utilisant SPSS 16.0. IBGE données ont été utilisées pour calculer les taux de mortalité. Au cours de la période d'étude, il ya eu 20.624 décès dus à des causes externes, répartis sur 11.193 homicides, 5.337 accidents, 2.733 décès de causes diverses noyade et 1360. Homicide comme cause externe de la mort a progressivement augmenté au cours de la période, tandis que les décès par noyade a subi de légères fluctuations, les taux de mortalité allant de 4,41 à 6,03 pour 100.000 habitants. Les hommes (73%) ont le taux de mortalité le plus élevé de noyade, celle-ci est principalement dans les eaux naturelles. Dans les dernières décennies, le Brésil a subi une série de changements dans le profil épidémiologique de la santé en ce qui concerne les maladies infectieuses et non infectieuses. Ces modifications apportées le décès à des causes externes dans l'une des principales causes de mortalité parmi la population. Noyade est la troisième cause de décès à des causes externes à l'état d'Alagoas, étant nécessaire à la cause du décès est mieux étudié pour mettre en ½uvre des politiques de prévention.

MOTS CLÉS: noyade, mort, cause externe.

PERFIL DE AHOGAMIENTO EN EL CONTEXTO DE LA MORTALIDAD PARA LAS CAUSAS DEL EXTERNAL EN EL ESTADO DE ALAGOAS - EL BRASIL, EN EL PERÍODO DE 2000 EL 2008.

RESUMEN

Las causas externas de mortalidad, según la clasificación internacional de enfermedades, representan una proporción importante de muertes en la mayoría de los países, estando siempre entre la segunda y tercera causa dentro del total de muertes. Se destacan entre las causas externas de mortalidade, los homicidios, accidentes de tráfico, ahogamientos, caídas y quemaduras. En Brasil la mortalidad por causas externas está en el segundo lugar en la clasificación de las principales causas de muerte. El presente estudio tuvo como objetivo identificar los principales tipos de muertes por causas externas en el estado de Alagoas, Brasil, en el período 2000-2008, con énfasis en el ahogamiento. Los datos se obtuvieron del Instituto de Medicina Legal del Estado, y procesados con el programa SPSS 16.0. Datos del IBGE fueron utilizados para el cálculo de las tasas de mortalidad. Durante período de estudio, se registraron 20.624 muertes por causas externas, distribuidos en 11.193 homicidios, 5.337 accidentes de tráfico, 2.733 muertes por causas diversas y 1360 por ahogamiento. El homicidio como causa externa de muerte ha ido aumentando gradualmente durante el período, mientras que lãs muertes por ahogamiento sufre ligeras fluctuaciones, con tasas de mortalidad que van desde 4,41 a 6,03 por cada 100.000 habitantes. Los hombres (73%) presentan el mayor índice de mortalidad por ahogamiento, este último se produce principalmente en aguas naturales. Las últimas décadas, Brasil ha sufrido una serie de cambios en el perfil epidemiológico de la salud, tanto en relación con las enfermedades infecciosas como no infecciosas. Estos câmbios convirtieron a las muertes por causas externas en una de las principales causas de mortalidade entre la población. El ahogamiento es la tercera causa de muerte por causas externas en el estado de Alagoas, siendo necesario que esta causa de muerte sea mejor estudiada para poner en práctica políticas específicas de prevención.

PALABRAS CLAVE: ahogamiento, mortalidad, causas externas

PERFIL DO AFOGAMENTO NO CONTEXTO DA MORTALIDADE POR CAUSAS EXTERNAS NO ESTADO DE ALAGOAS – BRASIL, NO PERIODO DE 2000 A 2008.

RESUMO

Causas externas de mortalidade, de acordo com a classificação internacional de doenças, correspondem a uma grande parcela dos óbitos na maioria dos países, ficando sempre entre a segunda e terceira causa de morte no total de óbitos. Se destacam entre as causas externas os homicídios, acidentes de trânsito, afogamentos, quedas e queimaduras. No Brasil as causas externas de óbito ocupam a segunda posição na classificação das principais causas de óbito. O presente estudo visou identificar os principais tipos de óbitos por causas externas no estado de Alagoas-Brasil no período de 2000 a 2008, com ênfase no afogamento. Os dados foram obtidos no Instituto Médico Legal do Estado, e processados no programa SPSS 16.0. Dados do IBGE foram utilizados para os cálculos de taxas de mortalidade. No período de estudo, foram registradas 20.624 mortes por causas externas, distribuídas em 11.193 homicídios, 5.337 acidentes de trânsito, 2.733 óbitos provocados por causas diversas e 1.360 por afogamento. O homicídio como causa externa de morte, vem aumentando de forma gradual ao longo do período, enquanto que o afogamento sofre ligeiras flutuações, com taxas de mortalidade que variam de 4,41 e 6,03 por 100000 hab. O gênero masculino (73%) apresenta a maior freqüência de mortalidade por afogamento, este último acontecendo principalmente em águas naturais. Nas ultimas décadas o Brasil passou por uma série de mudanças no perfil epidemiológico dos agravos a saúde, tanto em relação às doenças infecciosas quanto as não infecciosas. Isto fez com que os óbitos por causas externas se tornassem uma das principais causas de óbito entre a população. Sendo o afogamento a terceira causa de morte por causa externa no estado de Alagoas, é necessário que esta fatalidade seja melhor estudada para implementar políticas específicas de prevenção.

PALAVRAS CHAVE: afogamento; óbitos; causas externas.