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EPIDEMIOLOGICAL ANALYSIS OF SUICIDES IN CAMOCIM

ANÁLISE EPIDEMIOLÓGICA DOS SUICÍDIOS EM CAMOCIM

ANÁLISIS EPIDEMIOLÓGICO DE LOS SUICIDIOS EN CAMOCIM

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ABSTRACT
To analyze the epidemiological aspects of deaths by suicide in a municipality on the northern coast of the state of Ceará. This is an epidemiological, documentary and retro-spective study, carried out in the city of Camocim-Ceará, about deaths by suicide that occurred between 2009 and 2019. It was evidenced that 49 deaths by suicide occurred during the studied period, where the hanging was the most used method. A predominance of male deaths was found in all years, as the majority were single and brown. As for the age group, there was a considerable number of suicides among the economically active population, with 38 cases between 20 and 39 years old. The profile of deaths by suicide in Camocim was composed of brown, young, single men with a low level of education.
Descriptors: *Death; Suicide; Epidemiology.*

RESUMO
Analisar os aspectos epidemiológicos dos óbitos por suicídio em um município do litoral norte do estado do Ceará. Trata-se de um estudo epidemiológico, documental e retrospectivo, realizado no município de Camocim-Ceará, acerca dos óbitos por suicídio ocorridos entre 2009 a 2019. Foi evidenciado que ocorreram 49 óbitos por suicídio durante o período estudado, onde o enforcamento foi o método mais utilizado. Foi encontrado um predomínio de óbitos no sexo masculino em todos os anos, solteiros e pardos. Quanto à faixa etária, evidenciou-se um número considerável de suicídio entre a população economicamente ativa, com 38 casos de 20 a 39 anos. O perfil dos óbitos por suicídio em Camocim foi composto por homens de cor parda, jovens, solteiros e com baixo grau de escolaridade.
Descritores: *Morte; Suicídio; Epidemiologia.*

RESUMEN
Analizar los aspectos epidemiológicos de las muertes por suicidio en un municipio del litoral norte del departamento de Ceará, Brasil. Se realizó un estudio epidemiológico, documental y retrospectivo, en la ciudad de Camocim-Ceará, a respecto de las muertes por suicidio ocurridas entre los años de 2009 y 2019. De los datos recogidos, se eviden-ció que ocurrieron 49 muertes por suicidio en el período estudiado, donde la técnica del ahorcamiento fue el método más utilizado. Se observó el predominio de muertes en in-dividuos del sexo masculino para cada año estudiado, siendo la mayoría solteros y mo-renos. En cuanto al grupo de edad, hubo un número considerable de suicidios entre la población considerada económicamente activa, con 38 casos entre individuos de 20 a 39 años. El perfil de las muertes por suicidio en la ciudad de Camocim estuvo compuesto predominantemente por hombres jóvenes, solteros, morenos y con baja escolaridad.
Descriptores: *Muerte; Suicidio; Epidemiología.*

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INTRODUCTION

Suicide can be defined as any action that leads to deliberate self-extermination; and, suicide intention is any purposeful self-destructive conduct, such as self-inflicted intoxication, injury, or self-mutilation, even if the intention of death is not defined or does not result in its outcome[1]. Thus, suicidal behavior is a set of attitudes that are characterized by the thought, planning, attempt, and final act of suicide, in a context where the victim decides to extinguish his/her own life as a form of relief for a psychic suffering considered unbearable[1,2].

Suicide is a multi-causal phenomenon and it may be the result of several factors, among them: biological, pathological, genetic, psychological, political, socio-cultural, and economic. Studies also highlight other factors such as low income, unemployment, low level of education, gender, age, as well as previous suicide attempts; which are risk factors for the progressive lethality of the method, mental disorders, use of licit or illicit drugs, lack of family or community support, history of suicide in the family and strong suicidal intent[3].

Suicide can be committed by lethal means such as the use of cold weapons, firearms, hanging, or the ingestion of lethal drugs and substances. It can also occur through indirect forms of aggression against one's own life, such as the abuse of alcohol and drugs, the practice of sports or leisure activities that put life at risk, the lack of care for one's own health, or even risky sexual behavior[4].

The World Health Organization (WHO) recognizes suicide as an urgent obstacle to public health and provides specific policies for the prevention and promotion of mental health, this being a pioneering WHO program, which seeks to reduce suicide deaths by 10% by 2020 in countries belonging to WHO Member States, including Brazil. Nevertheless, there are still obstacles such as the effectiveness of public policies and the lack of information, and it is essential to promote studies and analyses to collaborate with scientific enrichment and the consummation of preventive and efficient actions[2,5].

Despite the complexity of its etiology, it is possible to act preventively through individual and collective interventions of diagnosis, care, treatment, and prevention of mental disorders, awareness actions, promotion of socio-emotional support, and work with the media and society[2].

On a global scale, about 800,000 people commit suicide annually, which represents one death every 40 seconds, and for each death, 20 individuals attempt suicide. These deaths are fatalities that affect families, communities, and entire countries and have long-lasting effects on survivors. Suicide can occur at any time in life and it was the fourth leading cause of death in the economically active population worldwide in 2019, surpassing malaria, HIV/AIDS, and breast cancer. In Brazil, the numbers follow the global trend, showing a consistent increase in the last decade[2,4].

Low and middle-income countries such as India, Argentina, and Brazil account for about 79% of suicide deaths worldwide in absolute numbers, and countries with this profile are home to about 84% of the world's population. However, high-income countries, such as Japan and England, have the highest rate per share of the population - 11.5 per 100,000 habitants[2].

Ceará has the second highest suicide mortality rate in the Northeast - 7.2 per 100,000 habitants, second only to Piauí, which has the third highest rate in the country - 10.6 per 100,000 habitants. In addition, Ceará has been showing an increasing trend in suicide rates in recent years[4,6].

Camocim is a municipality located on the north coast of the state of Ceará, with an area of 1.120,452 km², with an estimated population of 64 thousand inhabitants. It stands out for being a health hub of its microregion, acting as a reference in public policies for the cities that make up its Decentralized Health Area (DHA). According to the Epidemiological Report of the Secretary of Health of Ceará, the Camocim DHA has a suicide mortality rate of 14.5 per 100,000 habitants, being the highest in Ceará[7]. This rate is three times higher than the one presented by the state capital, Fortaleza, which in 2021 had a suicide mortality rate of 4.1

per 100,000 habitants. Despite being considered a city with a large area and population, so far it has not been possible to locate studies in the literature that analyze and describe the epidemiology of suicide in this city.

Therefore, this study presents the following research question: "What is the epidemiological situation of deaths in the city of Camocim, Ceará?". Based on what was presented, this study aims to analyze the epidemiological profile and the trend of suicide cases in a city located in the countryside of Ceará.

METHODS

This is a retrospective documentary study with a quantitative approach. Documentary research is a method that uses documents from primary sources that have not yet been analyzed, that is, data in its rawest form, and this characteristic makes it different from bibliographic research. Authors use it in an attempt to solve a problem or acquire knowledge from the information coming from the materials under study, whether they are written documents, sound records, or computerized data[8].

Data collection was carried out in November and December 2021, by electronic means, which contemplated the following aspects (gender, race, age group, educational level, marital status, place of death, ICD-10 causes). The data collection followed the steps below on the website of the Health Portal (DataSUS), whose address is (www.datasus.gov.br): Select the tab Access to Information/ Health Information (TABNET)/ Vital Statistics/ Mortality - 1996 to 2019, by ICD-10/ Deaths from external causes.

External causes based on ICD-10 are divided into Major Groups: used to name the Groupings. They are: V01-X59 Transport accidents; X60-X84 Intentional self-harm (suicides); X85-Y09 Assaults (homicides); Y10- Y34 Events (facts) with undetermined intent; Y35- Y36 Legal interventions and war operations; Y40-Y84 Complications from medical and surgical care; Y85- Y89 Sequelae of external causes of morbidity and mortality. According to ICD-10, suicides are deaths caused by self-inflicted injuries or poisonings with the intention of death. They are divided according to codes X60 to X84 and Y87.0 (sequelae of intentional self-harm), and these are the deaths that are analyzed in this work[9].

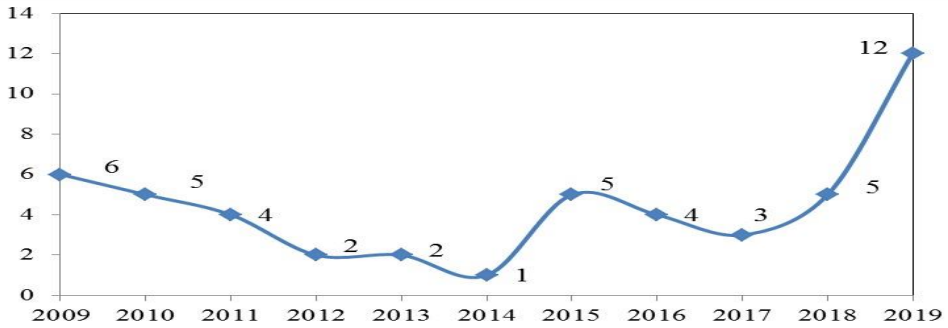
The epidemiological data studied were suicide mortality rates classified by type of assault, year of notification, gender, race/color, age group, marital status, and educational level. Once collected, the data were organized and transformed into graphs using Excel 2019.

Data analysis was performed using descriptive statistics, with frequency and cross-tabulation of variables, and discussed according to the relevant literature.

RESULTS

During the historical period studied, 49 people died by suicide. Graph 1 shows consecutive decreases from 2011 to 2014, with a drastic increase in 2015. However, in 2019 this rate doubles when compared to the first year of this historical sequence.

Graph 1: Number of deaths by suicide per year between 2009 and 2019. Camocim - Ceará, 2022



Source: DATASUS/Mortality Information System (SIM), 2021.

Table 1: Number and percentage of deaths by suicide according to the variables: sex, race, age group, educational level, marital status, and place of occurrence in the period 2009-2019. Camocim - Ceará, 2022.

Variables	N	%
Gender		
Male	37	75,51%
Female	12	24,49%
Race		
White	9	18,36%
Brown	40	81,64%
Age group		
10-14 years old	2	4,08%
15-19 years old	8	16,32%
20-29 years old	12	24,49%
30-39 years old	18	36,73%
40-49 years old	5	10,20%
50-59 years old	2	4,08%
60-79 years old	2	4,08%
Educational level		
None	6	12,24%
1-3 years	7	14,28%
4-7 years	5	10,20%
8-11 years	10	20,40%
12 years or more	1	2,04%
Ignored	20	40,80%
Marital status		
Married	4	8,16%
Single	32	65,30%
Widower	1	2,04%
Separated	1	2,04%
Other	4	8,16%
Ignored	7	14,28%
Place of occurrence		
Hospital	5	10,20%
Home	29	59,18%
Public road	3	6,12%
Other	12	24,49%
Total deaths	49	100%

Source: DATASUS/Mortality Information System (SIM), 2021.

According to data in Table 2, when related to gender and cause, there is a significant representation of suicides in males with a preference for hanging. Out of the 37 cases identified, 28 (57.11%) were men who died by hanging.

Table 2: Number of deaths by suicide by sex according to cause between 2009 and 2019. Camocim - CE, 2022.

ICD-10 Category	Gender			
	Male	Female	N	%
X-64 Intentional Self-Intoxication by Drugs, Medicines and Biological Substances	2	1	3	6,12%
X-68 Intentional Self-Intoxication with Pesticide	1	1	2	4,08%
X-69 Intentional Self-Intoxication caused by Exposure to Other Chemicals and Harmful Substances	1	0	1	2,04%
X-70 Intentional self-harm by hanging, strangulation or suffocation	28	10	38	77,55%
X-71 Intentional self-harm by drowning	1	0	1	2,04%
X-72 Intentional self-harm caused by firearm discharge	2	0	2	4,08%
X-74 Intentional self-harm caused by the discharge of other firearms and unspecified	1	0	1	2,04%
X-84 Intentional self-harm caused by unspecified means	1	0	1	2,04%
Total	37	12	49	100%

Source: DATASUS/Mortality Information System (SIM), 2021.

DISCUSSION

The results of this study show an increase in suicide deaths among young men. These findings were also described in studies developed in other municipalities of the state[10,11], suggesting a high level of vulnerability in this group and the need for specific prevention actions.

It is also worth noting that the significant increase in notifications of these deaths in 2019 may be associated with the inauguration of the Emergency Care Unit (UPA) in the municipality, in which notification flows for suicide attempts and deaths were established in that region. According to Ministry of Health definitions, the UPA operates as a Sentinel Notification Unit, playing an important role in feeding data into DataSUS[12].

The inequality between men and women has already been exposed by other authors in which, for each female death, approximately three males died, considering the more aggressive and risky behavior as a possible reason for this higher occurrence[13]. Other issues related to masculinity, virility, and the social role of men may also be related to the higher risk of suicide[13].

When self-harm is analyzed, it is observed that women attempt almost 3 times more than men, but by less lethal means, indicating the choice for means with greater life-saving possibility, such as intoxication by medication. However, the data from Camocim go against this information, since the predominant cause identified among women was hanging[4,13].

In Table 1, the high rate of deaths of brown people is a fact that has already been confirmed and debated in other studies[14,15]. The authors Lima and Paz[16] shed light on an extensive reflection on the connection between suicide and color/race and they also highlight the vulnerabilities to predisposing and precipitating factors related to the act[4].

It is important to mention that, according to data from the Brazilian Institute of Geography and Statistics (IBGE), Camocim has a predominantly brown or black population, which is an important piece of information for planning policies and practices to promote health and prevent suicide among these citizens[17].

The high number of suicides among young adults in Camocim is revealing, as this is a portion of the economically active population and the city's large workforce. According to WHO data (2021), the beginning of adulthood is a milestone in the development of suicidal behavior, as it is a time of transition marked by stressful events, conflicts, and social activities.

Low education level was also presented as a risk factor for suicide, considering that people who commit suicide usually have an extreme socioeconomic factor, either poverty or excess wealth[18]. Low level of education is commonly associated with a situation of poverty or violence, which is a risk factor for the occurrence of self-harm[18].

Table 1 shows that suicide cases occurred to a lesser extent among married people. Interpersonal bonds are considered preventive factors, given that single people are more prone to social isolation, making it a risk factor in this scenario[19,20].

The highest percentage of deaths occurred at home, followed by the hospital environment. When associated with the most common cause, which is hanging, this fact justifies the fact that the place of greatest occurrence is the home, since it is where the means to do so are available. This aspect about households is common in all regions of Brazil[4].

Despite the relevance of this survey for the planning of prevention actions and public policies on suicide, the possible flaws and gaps in the completion of notification forms and death certificates are considered limitations. In addition, it is worth noting that data involving suicide cases may be underestimated, due to prejudice and omission of information that permeate its occurrence.

CONCLUSION

The increasing number of deaths by suicide among young, single brown men with low educational levels was evident. Hanging is the main means of suicide in Camocim, accounting for more than two-thirds of deaths in the period studied. The importance of filling in Death Certificates correctly and completely is emphasized in order to reduce possible information gaps and improve data quality.

Epidemiological analyses of suicide cases in Brazil may be fragile due to deficiencies in the notification process, especially in cities farther from large urban centers. Therefore, future studies are needed to monitor the tendencies and patterns of suicidal behavior. Based on this understanding by health managers, preventive measures can be implemented with a focus on the public most exposed to risk factors.

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