REUFPI
Revista de Enfermagem da UFPI
ISSN 2238-7234

ORIGINAL

Mortality by suicide in Piauí, 2010 to 2018

Mortalidade por suicídio no Piauí, 2010 a 2018

Mortalidad por suicidio en Piauí, 2010 a 2018

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ABSTRACT

Objective: To describe suicide mortality characteristics in the state of Piauí, from 2010 to 2018. **Methods:** This is a cross-sectional study, carried out from death records in the Mortality Information System of the Ministry of Health, whose underlying cause was intentional self-harm. Data were analyzed using descriptive statistics. **Results:** 2,261 deaths by suicide were reported in Piauí, most of which occurred in the age group of 20 to 29 years, in the Entre Rios and Guaribas health regions, due to hanging or exogenous intoxication. In men, it went from 9.9/100 thousand inhabitants, in 2010, to 11.7/100 thousand inhabitants, in 2018. In women, the mortality rate was more pronounced, going from 3.1/100 thousand inhabitants, in 2010, to 4.5/100 thousand inhabitants, in 2018. **Conclusion:** Suicide is a public health problem in Piauí, and the adoption of effective measures for prevention and control is necessary.

Descriptors: Suicide. Mortality. Epidemiology.

RESUMO

Objetivo: Descrever as características da mortalidade por suicídio no estado do Piauí, no período de 2010 a 2018. **Métodos:** Estudo transversal, realizado a partir dos registros de óbitos no Sistema de Informação sobre Mortalidade do Ministério da Saúde, cuja causa básica foi lesão autoprovocada intencionalmente. Os dados foram analisados por meio de estatística descritiva. **Resultados:** Foram notificados 2.261 óbitos por suicídio no Piauí, sendo que a maior parte ocorreu na faixa etária de 20 a 29 anos, nas regiões de saúde Entre Rios e Guaribas, por enforcamento ou intoxicação exógena. Nos homens, passou de 9,9/100 mil habitantes, em 2010, para 11,7/100 mil habitantes, em 2018. Em mulheres, a taxa de mortalidade foi mais acentuada, passando de 3,1/100 mil habitantes, em 2010, para 4,5/100 mil habitantes, em 2018. **Conclusão:** O suicídio é um problema de saúde pública no Piauí, sendo necessária a adoção de medidas efetivas para prevenção e controle.

Descritores: Suicídio. Mortalidade. Epidemiologia.

RESUMÉN

Objetivo: Describir las características de la mortalidad por suicidio en el estado de Piauí, de 2010 a 2018. **Métodos:** Estudio transversal, realizado a partir de los registros de defunción en el Sistema de Información de Mortalidad del Ministerio de Salud, cuya causa subyacente fue la autolesión intencional. Los datos fueron analizados utilizando estadística descriptiva. **Resultados:** En Piauí, se reportaron 2.261 muertes por suicidio, la mayoría ocurridas en el grupo de edad de 20 a 29 años, en las regiones sanitarias de Entre Rios y Guaribas, por ahorcamiento o intoxicación exógena. En los hombres, pasó de 9,9/100 mil habitantes, en 2010, a 11,7/100 mil habitantes, en 2018. En las mujeres, la tasa de mortalidad fue más pronunciada, pasando de 3,1/100 mil habitantes, en 2010, a 4,5/100 mil habitantes, en 2018. **Conclusión:** El suicidio es un problema de salud pública en Piauí, siendo la adopción de medidas eficaces para la prevención y el control es necesario.

Descriptores: Suicidio. Mortalidad. Epidemiología.

INTRODUCTION

Suicide, intentionally self-inflicted death, has been extensively studied due to its complexity and the need to develop measures to value life.[1] It is among the top twenty causes of death in the world, which constitutes a serious global public health problem. Approximately 800 thousand people, per year, take their own lives, configuring a tragedy that affects families, communities and countries.[2]

Suicide must be understood as something complex, which is influenced by several factors: psychopathological, social, cultural and economic.[3] Among them, we can highlight the conflicting social relationships, violence, difficulty in accessing health actions and services, inadequate dissemination of information as well as individual conditions related to mental disorders, abuse of harmful substances and financial problems.[4]

In the last 10 years, Brazil recorded a 43% increase in the number of suicides, according to data from the Health Surveillance Department of the Ministry of Health. Between 2010 and 2019, there were 112,230 deaths by suicide in Brazil.[2] Of this total, men aged 60 and over from northern Brazil were the most affected, and the excess of suicides reached 26%, according to a survey carried out in 2020 by the *Fundação Oswaldo Cruz*.[5] Piauí, for decades, has presented an alarming scenario related to the absolute number of suicide cases and the difficulty of reversing this situation. In 2000, the state already had an alarming gross mortality rate due to suicide, calling for public policies with an impact to value life.[6] In 2017, the State Suicide Prevention Plan was adopted, which represented a historic milestone and generated expectations of changing that reality, however, it is still ranking 4th in the rate of death by suicide among females (0.9/100,000 inhabitants), behind only Roraima, Amapá and the Federal District.[3]

Knowing the characteristics related to suicide mortality is of paramount importance to identify the most appropriate strategies to support evidence-based health decision-making, enabling appreciation of life and optimization of investment. Therefore, this study aimed to describe suicide mortality characteristics in the state of Piauí, from 2010 to 2018.

METHODS

This is a cross-sectional study, carried out from death records of residents of Piauí, whose basic cause was intentional self-harm (X60 to X84), according to the International Classification of Diseases, 10th Revision (ICD-10).

Data collection took place between March and April 2020 in the Mortality Information System (SIM - *Sistema de Informação de Mortalidade*) on the website of the SUS Department of Informatics (DATASUS - *Departamento de Informática do SUS*) of the Ministry of Health.[7] The variables age, sex, means used to commit suicide and health region were investigated. Population size was obtained from the Brazilian Institute of Geography and Statistics (IBGE - *Instituto Brasileiro de Geografia e Estatística*).

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Data were analyzed using descriptive statistics. The relative suicide mortality rate was calculated by dividing the number of deaths by the population in each year of the study by 100,000/inhabitant.

Data were processed using Microsoft Excel Office 2016. As this is an analysis with secondary data, in the public domain and without identification of subjects, there was no need to submit the study to the Research Ethics Committee.

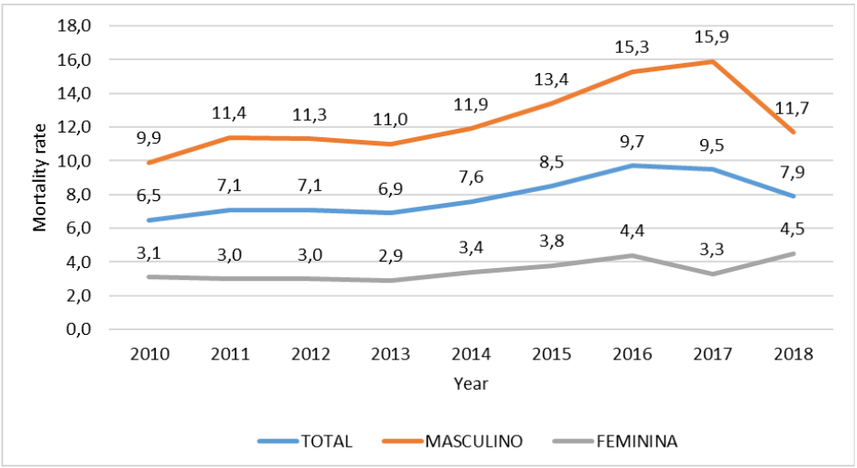
RESULTS

From 2010 to 2018, 2,261 deaths by suicide were reported in Piauí. The relative mortality rate from suicide was lower in 2010 (6.5/100,000 inhabitants) and higher in 2016 (9.7/100,000 inhabitants). Among men, 2017 was the year with the highest rate (15.9/100,000 inhabitants), while, among women, 2016 stood out (9.7/100,000 inhabitants) (Figure 1).

Table 1 shows the distribution of suicide cases by marital status, means used and sex. Among men, suicide deaths were more prevalent among those aged 20-29 years (24.1%), single/widowed/divorced (52.7%), using hanging as a means to commit suicide (78.1%). For females, there was also a predominance of victims aged 20-29 years (22.7%), single/widowed/divorced (55.1%) and who used hanging (71.91%).

Table 2 points out the health regions with the highest proportion of deaths. Information by health region was not available for 2017 and 2018, which made the analysis in this period unfeasible. The Entre Rios region, which includes the capital of Piauí, had the highest proportion in all years investigated. The highest proportion occurred in 2012 (37.8%), while the lowest was observed in 2016 (30.4%). The Alto Parnaíba region was the health region with the lowest proportion of deaths in the analyzed period, ranging from 0.4 to 1.1%.

Figure 1. Suicide-specific mortality rate of residents in Piauí by sex, Piauí, Brazil, 2010 to 2018.



Source: authors based on data from the Mortality Information System (2022).

Table 1. Distribution of characteristics of suicide deaths according to age, sex and means used, Piauí, Brazil, 2010 to 2018.

Variables	Male		Female		Total	
	n	*%*	*n*	*%*	*N*	*%*
Means used						
Hanging	1,364	78.1	369	71.9	1,733	76.7
Exogenous poisoning	151	8.6	94	18.3	245	10.8
Firearm	160	9.2	15	2.9	175	7.7
Others	71	4.1	35	6.8	106	4.7
Marital status						
Single/widowed/divorced	921	52.7	283	55.1	1,204	53.3
Married/stable union	725	41.5	206	40.1	931	41.2
Ignored	101	5.8	25	4.9	126	5.6
Age group (years)						
10-14	14	0.8	12	2.3	26	1.2
15-19	116	6.6	53	10.4	169	7.5
20-29	420	24.1	116	22.7	536	23.7
30-39	388	22.2	96	18.8	484	21.4
40-49	276	15.8	73	14.3	349	15.5
50-59	211	12.1	69	13.5	280	12.4
60-69	156	8.9	47	9.2	203	9.0
70-79	101	5.8	36	7.0	137	6.1
80 and +	64	3.7	10	2.0	74	3.3
Total	1,746	100.0	512	100.0	2,258	100.0

Source: authors based on data from the Mortality Information System (2022).

Table 2. Proportion of deaths by suicide of residents according to health regions, Piauí, Brazil, 2010 to 2016.

Health regions	2010	2011	2012	2013	2014	2015	2016
Carnaubais	7.4	7.6	10.2	6.8	6.6	5.9	6.7
Mangabeiras	7.4	4.9	4.0	5.5	6.2	3.3	5.1
Cocais	7.4	11.1	12.9	11.0	9.1	15.9	11.2
Entre Rios	35.5	35.1	37.8	34.2	34.7	30.6	30.4
Litorânea	4.4	3.6	3.6	5.5	8.3	6.6	6.7
Capivara	3.4	3.6	4.4	4.6	3.3	4.8	3.8
Alto Parnaíba	0.5	0.9	0.9	0.5	0.4	1.1	1.0
Canindé	5.4	5.8	3.6	3.2	5.0	3.0	6.7
Guaribas	15.8	13.3	13.8	16.0	12.0	13.7	16.0
Sambito	3.4	7.1	3.1	2.3	3.3	3.7	2.2
Piauí/Itaueiras	9.4	7.1	5.8	10.5	11.2	11.4	9.9

Source: authors based on data from the Mortality Information System (2022).

DISCUSSION

The results presented in this study point to a public health problem in Piauí, evidenced by the increase in the mortality rate in the investigated period. Men, young people, single/widowed/divorced and residents of the Entre Rios region were the most frequent victims of suicide.

Piauí has 11 development territories (health regions), and each of them reflects particularities in the scenario and context, being a state marked by social inequalities. In this study, two regions were highlighted regarding suicide mortality, such as Entre Rios and Guaribas. The Entre Rios region, Center-South of Piauí, encompasses the capital, Teresina. In this region, better development rates and greater potential for health service offerings are perceived.

Violence, unemployment and the limitation of leisure scenarios are some of its problems, which may be related to the higher suicide mortality rate. In a study that addressed social well-being in the Guaribas region, it was noticed that life expectancy at birth, rate of households with access to the general water supply network, rate of households with a bathroom or toilet, maternal mortality, mortality from communicable diseases, population coverage of vaccinated susceptible children and mortality rate children were the greatest challenges to be overcome.[8] This context is directly related to the suicide rate demonstrated in some studies.

Regarding sex, there was a predominance of cases among men, with growth in the period under analysis. This last data corroborates a study that analyzed the trend of mortality by suicide in the Brazilian regions from 1996 to 2015, noting a greater predominance of deaths by suicide in the male population with a growing trend of deaths by suicide in the North, Northeast and Southeast.[11]

In a study carried out in Teresina, from 2001 to 2013, on the analysis of suicide mortality sociodemographic profile, it was observed that most suicides occurred in males, aged 60 years or older, followed by the population of young adults, brown, elementary school and single. Hanging was the most used means for the conclusion of suicide, followed by poisoning, with the majority of deaths at home, according to the results of this study.[13] A coping strategy is to restrict access to pesticides, other chemicals and medications.[14]

Worldwide, suicide was the third leading cause of death in young people and young adults. One of the strongest predictors of a suicide has been history of previous attempts. Alcohol consumption, substance use, bullying, history of mental illness, family history of suicide, and hopelessness are other risk factors that can also increase the suicide attempt rate.[15]

An epidemiological study with secondary data in Espírito Santo between 2012 and 2016 found an increase in the suicide mortality rate. Most were adult men, and the means used was hanging, followed by poisoning and firearms.[16] From a gender perspective, the female and male categories are influenced by political, economic, and cultural configurations. Moreover, because they are inserted in a patriarchal society, men, by failing with their role, are exposed to stressors that may predispose to suicide.[18]

Unlike the above, a study carried out in Mexico showed results close to Brazilian data, however directed towards females, which claim that women are more likely to die by suicide. In this study, people over 65 years of age, with elementary or high school, increased the chances of dying by suicide. With regard to economic activity, in men, performing some paid activity increased the possibility of suicide, while in women, the opposite was observed. No relationship to marital status was found. The most used way was hanging, followed by poisoning by women, and firearms, by men.[19]

Here, the main means used for suicide were hanging, exogenous intoxication and firearm. An analysis of suicide-related injuries in Costa Rica from 2010 to 2016 found asphyxiation by hanging and poisoning as the main causes of death.[20] A study with people who attempted suicide admitted to an Intensive Care Unit in Santiago, Cuba, had as a profile people aged 20 to 59, prevailing exogenous intoxication due to the use of psychotropic drugs, organophosphates, anti-inflammatories and antihistamines.[21]

Exogenous intoxication stood out (61.6%) in a quantitative and retrospective research carried out in Rio Grande do Sul, in which 344 suicide attempts were reported in a teaching hospital between 2014 and 2016, with a decreasing trend in the period. In this study, 65.1% were women and 67.7% were aged 25 to 59 years.[22]

In the searches of the present research, a study was also found that analyzed the reports of self-inflicted violence due to exogenous intoxication in an urgent and emergency health service in the state of Piauí, from July 2009 to December 2014, totaling 277 victims. A higher prevalence of women (57.0%) and age between 20 and 29 years (34.7%) was found.[23] Thus, it is observed that different studies present disagreements between the most affected sexes: in some, men, in others, women. The differences reported in the variables of all studies described up to this topic suggest that the most affected sex may be related to distinctions between the sociodemographic profile of the investigated population in each country, state or city mentioned.

It is noted, through the survey, that the most aggressive methods of suicide are used by men, such as hanging, while, among women, the intake of psychotropic drugs is more frequent.[25] In a population-based case-control study, carried out in an adult emergency unit of a large hospital in the northwestern mesoregion of the state of Ceará, people who attempted suicide were young adults, and exogenous intoxication prevailed. When asked about the causes, the motivations for love and family conflicts were observed. Previous suicide attempts represented a risk factors as well as having some mental disorder, family history of self-harming behavior and abuse of psychoactive substances.[26]

Thus, the data from this study contribute to reflect on the advances in health practices related to suicide in Piauí, which presents itself as a serious public health problem, requiring investment in actions to promote mental health. The limitation of this study refers to the use of secondary data as well as the probable underreporting of cases of self-inflicted violence. These limitations do not invalidate the results found, but require attention in data interpretation.

CONCLUSION

The variables analyzed in the study and the bibliographic survey carried out do not point to a very detailed scenario regarding the profile of Piauí. However, based on restricted data presented in the research, it is noted that Piauí presents an uncomfortable position regarding the gross and relative quantitative of deaths by suicide in the selected variables. Thus, the need for effective measures aimed at valuing life is evidenced.

State and municipal health managers should develop and strengthen health promotion projects, surveillance and comprehensive health care directed, to prevent suicide within the Brazilian Health System's Psychosocial Care Network. It is necessary to offer training in order to work on care management and improvement, strengthening the follow-up care flow and network care for patients with suicidal ideation, in addition to carrying out educational campaigns and actions aimed at preventing harm.

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Financing source: No
Conflicts of interest: No
Date of submission: 2022/09/08
Accepted: 2022/03/12
Publication: 2023/26/01

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How to cite this article:

Batista FMA, Albuquerque LPA, Dourado GOL, Rodrigues MTP, Tajra FS, Marinelli NP. Mortality by suicide in Piauí, 2010 to 2018. Rev Enferm UFPI [internet]. 2022 [Cited: ano mês abreviado dia]; 11: e2925. Available from: DOI: 10.26694/reufpi.v11i1.2925