

Epidemiological Study of Suicide Cases between Youth and Adults from 2010 to 2018 in Cacoal City, Rondonia, Brazil

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Abstract— Suicide is considered a universal human phenomenon and represents a huge public health problem worldwide. Suicide has been characterized by self-directed behavior ranging from suicidal idealization to fatal aggression, that is, where the victim decides to take his own life to relieve a psychological pain that is often considered unbearable. The objective of this research is to verify the incidence of suicide cases in young people and adults in the city of Cacoal-RO from 2010 to 2018. The methodology used was a form developed by the researchers to collect data, containing 10 questions, based on In the notification form, the research is a retrospective, cross-sectional, documentary, descriptive study with a quantitative approach. In the municipality of Cacoal-RO, 41 cases were reported being male (75.6%) and female (24.4%) in the age group 19-54 corresponding to 70.7%, the race with 53.65% brown, having completed elementary school 39.0% and belonging to the urban area 78.05%, being used in 78.05% of victims hanging as a means of aggression. It is concluded that the incidence of suicide within the municipality of Cacoal-RO can be considered high generating a rate of 0.521 / 1000 / inhabitants with an average annual rate of 4.55 / year (2010-2018). Of great concern, therefore, most deaths occurred among males aged 19-54, thus it is observed that prevention is still the best alternative, however there is no other way to talk and guide the population from which suicide can be prevented, so the mortality rate (0.521 / 1000 / inhabitants) may decrease. As mentioned, the secretary of education, social care, and municipal health secretary must partner with strategies to prevent and bring information to schools, the community, the university, churches, so that they both join the life preservation campaign.

Keywords— Public Health. Suicide. Prevention.

I. INTRODUCTION

Suicide is considered a universal human phenomenon and represents a huge public health problem worldwide. Deaths caused by suicide have been in third place in frequent deaths with ages ranging from 15 to 34 years (BERTOLOTE *et al.*, 2010; VIDAL *et al.*, 2012).

Suicide has been characterized by self-directed behavior ranging from suicidal idealization to fatal aggression, that is, where the victim decides to take his own life to relieve a psychological pain that is often considered unbearable (SCHLÖSSER, 2014; FARIA *et al.*, 2019).

According to Guerreiro (2013) and Coleman (2011) adolescence is a stage of life that body development occurs from maturity from childhood to adulthood, where also occurs hormonal changes, physical development, mood change, identity, consciousness and cognitive decisions.

According to the World Health Organization (WHO), the worldwide death rate caused by suicide is around 16 per 100,000 inhabitants, which represents one death every forty seconds. This number is estimated to increase by 2020 and may reach around one and a half million suicidal people (BERTOLOTE *et al.*, 2010).

With each passing year, mortality among suicide sufferers becomes higher. What is observed in the midst of scientific work on suicide, few are carried out, those that exist focus a lot on the mortality rate, without seeking the associated factors, diagnosis, psychiatric disorder, family affairs and drug use (KARASOULI *et al.*, 2011; BERNARDES *et al.*, 2010).

Rim Chae (2016) In most western countries, including Europe and the United States United States, the main cause of suicide can be explained by psychic disorders like depression.

Suicide is, in most countries, among the top ten causes of mortality, being more common among adolescents and young adults, consisting of a serious public health problem (OLIVEIRA *et al.*, 2016). Brazil is the fourth fastest growing country of suicide cases in Latin America (WHO, 2014; ARAUJO, PINTO-COELHO & LOPES, 2016). Of concern is the Northern Region, where suicides increased considerably: from 390 to 693, an increase of 77.7% between 1980 and 2012, with the states of Amazonas, Roraima, Acre and Tocantins doubling, their numbers (FARIA *et al.*, 2019).

According to Sá *et al.*, (2010) research indicates that with each passing day it is becoming very common in emergency services of hospitals and emergency units throughout Brazil to encounter situations of victims who committed suicide.

Given the reality the objective of this work is to verify the incidence of suicide cases in youth and adults in the city of Cacoal-RO from 2010 to 2018.

II. MATERIAL METHODOLOGY

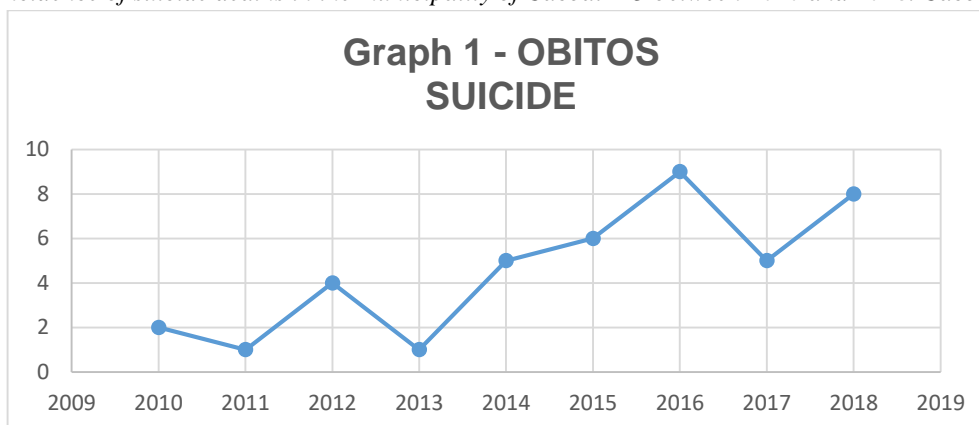
The instrument used was a semi-structured questionnaire of 10 questions prepared by the researchers and advisor. The research project was evaluated by the CEP - Ethics and Research Committee of the Cacoal Education Institution - FACIMED - Cacoal Faculty of Biomedical Sciences and after its approval received the opinion number 2.064.193. Then, the researchers contacted the municipal health department of the municipality of Cacoal -RO which directed us to the Health Surveillance sector of the municipality of Cacoal-RO through the letter of consent requesting their authorization by signature, and only After this, data tabulation was started.

III. RESULTS

Based on the tabulation results, they are informed in the search results in the form of tables which are informed all the processing of the data acquired during the search.

Based on Graph 1 below, the incidence of death from suicide between 2010 and 2018 was 4.88% (n = 2) in 2010, 2011 and 2013 with 2.45% (n = 1). , in 2012 with 9.75% (n = 4), 2014 and 2017 with 12.19% (n = 5), 2015 with 14.63% (n = 6), 2016 with 21.95% (n = 9) and 2018 with 19.51% (n = 8).

Graph 1- Incidence of suicide deaths in the municipality of Cacoal-RO between 2010 and 2018. Cacoal-RO, 2019



Source: Carvalho, Romanha, Faria e Lima (2019)

Table 1 reports the results regarding socio-demographic data, related to age, gender, race, education, and area of occurrence. Based on the table below, it is observed that among the 41 patients who committed suicide, 75.6% are male and 24.4% female. The age range of both male and female patients ranged from <18 years with 4.90% of cases, 19 to 59 years with 70.7% of cases, > 60 years with 24.4% of cases. Regarding race, only three

options contained in the notification form were registered, 36.6% corresponding to white and 53.65% corresponding to brown and 9.75% black. The education of these patients was verified that 36.6% have incomplete 5th to 8th grade, 39.0% have completed elementary school, 9.80% have incomplete high school and 14.6% were ignored. Most of the patients who were notified correspond to urban population with 78.05% and rural area with 21.95%.

Table 1: Relative and absolute distribution of suicide cases in the municipality of Cacoal-RO from 2010 to 2018, according to the variables gender, age, race, education and area of occurrence.

Cacoal-RO, 2019.

VARIABLE		N	%
Sex	Male	31	75,6
	Feminine	10	24,4
	TOTAL	41	100
Age	<18	2	4,9
	18 -59	29	70,7
	>60	10	24,4
	TOTAL	41	100
Breed	White	15	36,6
	Black	4	9,75
	Brown	22	53,65
	TOTAL	41	100
Schooling	5th to 8th grade incomplete	15	36,6
	Complete primary education	16	39,0
	Incomplete high school	4	9,8
	Ignored	6	14,6
	TOTAL	41	100
Zone occurrence	Urban	32	78,05
	Rural	9	21,95
	TOTAL	41	100

Source: SINAN/SEMUSA/MS, 2010-2018, Cacoal - RO

Table 2 represents the means of aggression used by victims who committed suicide between 2010 and 2018 in the municipality of Cacoal –RO. Among the means used were hanging (78.05%) and residential use poisoning (17.05%) and farm use poisoning (4.9%).

Table 2 - Means used for suicide in the municipality of Cacoal-RO between the years 2010 - 2018. Cacoal-RO, 2019

VARIABLE		N	%
CAUSES	Hanging	32	78,05
	Intentional Exposure Poisoning - Residential Poison	7	17,05
	Intentional Exposure Poisoning - Farm Poison	2	4,9
	TOTAL	41	100

Source: SINAN/SEMUSA/MS, 2010-2018, Cacoal - RO

IV. DISCUSSION

The municipality of Cacoal-RO is made up of 78,574 people according to the last IBGE census of 2010 (IBGE, 2019). They were informed by the secretary of health of the municipality of Cacoal-RO that between the estimated period of 2010 to 2018 were reported 41 deaths from suicide (SEMUSA, 2019).

Compared to graph 1, it is noted that the highest incidence occurred in 2016 (n = 9) followed by 2018 (n = 8). According to the Ministry of Health in 2016, in Brazil there was a large number of cases that reached an incidence rate of 5.8 / 100,000 inhabitants (n = 11,433 deaths). In 2017, the incidence rate increased fivefold, reaching 36,279 deaths (BRAZIL, 2018).

In the analysis of the obtained data, 75.6% of the cases of death by suicide corresponded to males and 24.4% to females (Table 1). According to Vidal et al., (2012) male gender is a risk factor that has a high probability of death due to it is closer to more harmful methods. According to Faria et al. (2019) he conducted a survey between the period 2015 and 2016 and obtained the information that among the period the female gender was the one with the highest incidence.

According to Machado & Santos (2015), women are more likely to attempt suicide several times, but men are able to commit suicide more often, ie research shows that Brazil has more occurrences of male suicide reaching to be three times higher due to the more lethal methods.

Regarding the age group, it is noted that 70.7% of notifications occurred between 19-54 years and 24.4% in those over 60 years (Table 1). Compared to data from Vidal et al. (2012), suicide is common in males over 60 years of age. Suicide in the elderly occurs because they feel incapable and do not realize the basic activities due to age, thus feeding the death wish not to be a hindrance in someone's life (KRÜGER, 2010).

Regarding the research conducted in Cacoal-RO, the incidence regarding race occurred in 53.65% in brown

followed by 36.6% in white and 9.75% in black (Table 1). According to Machado & Santos (2015) in their study the incidences occur in most cases of brown color suicides. According to the Ministry of Health (2018) the proportion of suicide has been happening in the black population (55.4%) and quite exorbitant compared to other races.

Regarding education 39.0% of people who committed suicide in Cacoal-RO had completed elementary school (Table 1). According to Stevović et al. (2011) to a correlation between suicide rate and low level of education, ie, educational level can influence interaction with other people. According to Durkheim (2003) apud Gonçalves *et al.* (2011) it is shown that for males, the higher the educational level, the more susceptible to suicide. According to Mitra and Shroff (2006) the rise of highly educated people become the increase in stress, triggering mental disorders, and having the individual commit suicide.

According to Ficher & Vansan (2008); It is believed that preventive measures can be taken within the school space. The teacher is the educator responsible for passing on knowledge to the students, so it is essential to identify early the first symptoms that may lead a teenager or young person to attempt or complete suicide. Education, social care and health must be united based on prevention.

The survey conducted in the municipality shows that most cases occurred within the urban area of Cacoal-RO, corresponding to 78.05% of the notifications (table 1). According to the research by Machado & Santos (2015); Grubits *et al.*, (2011) when the person has no space in society this can lead him to a psychological disorder, where he can develop thoughts and feelings of worthlessness, belonging, devaluation, decrease, self-esteem and many others. what happens within urban society.

According to Lovisi *et al.* (2009); The high rate of suicide among adolescents, young people and adults within the Brazilian territory is largely associated with

unemployment, increased competitiveness in the labor market, insufficient training, drinking and other drugs causing psychiatric suffering and leading to suicide.

According to Braga & Dell'Aglia (2013); Toro et al. (2009); It is stated that within the American continent, several studies indicate that the higher incidence of suicide is correlated with the population living in urban areas, becoming a large population group at risk of suicide.

Various forms are used to cause pain relief, such as poisons, pesticides, firearms, bladed weapons, ropes, medicines and many others. In this research the ways used and that took the lives of 41 people from 2010 to 2018 were hanging (78.05%) and the use of residential poisons (17.05%) and farm poison (4.9 %) (Table 2) (SEMUSA / CACOAL / RO).

According to Stack, (2000) apud., Levisi et al., (2009); Women use suicide methods that are not as violent as men's. Females generally use the high dosage of medication because it may be considered socially accepted. Thus as mentioned the method used by men is more fatal, being used firearms, or faster acting farm poisons.

According to Souza *et al.*, (2002) apud., Levisi *et al* (2009); It is believed that the use of firearms may be related to the desire of the urban population to protect their families against violence, as well as to the fact that guns are now easily traded within Brazilian territory.

According to Ministry of Health (2018); The use of exogenous poisoning by Paraquat is considered to be the second cause with the highest incidence (18%), ranking first in deaths from hanging that reached 60%.

V. CONCLUSION

It is concluded that the incidence of suicide within the municipality of Cacoal-RO can be considered high generating a rate of 0.521 / 1000 / inhabitants with an average annual rate of 4.55 / year (2010-2018).

Of great concern, therefore, most deaths occurred among males aged 19-54, thus it is observed that prevention is still the best alternative, however there is no other way to talk and guide the population from which suicide can be prevented, so the mortality rate (0.521 / 1000 / inhabitants) may decrease. As mentioned, the secretary of education, social care, and municipal health secretary must partner with strategies to prevent and bring information to schools, the community, the university, churches, so that they both join the life preservation campaign.

The teacher has a fundamental role, because it is he who daily lives with the one who can be a victim. The human mind is very malicious, very often the victim may

be on his side, needing help, but we are unable to diagnose the symptoms, and when we realize it is too late.

It is observed that daily in the yellow september campaigns, however prevention is still a challenge, as many of the victims do not let the symptoms show, being able to live easily in the midst of society, but we are not able to imagine how these people are feeling mentally, and the size of the pain that is going through. However, despite the difficulty, it is a very important step to understand and acknowledge the warning signs in yourself or someone else, offer help, guide people to seek help, and call the life center at 188.

ACKNOWLEDGMENT

To the health surveillance sector of the health department of Cacoal-RO, colleagues and friends.

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