DOI: 10.1590/1413-81232017229.12242017

Self-harm throughout all life cycles: profile of victims using urgent and emergency care services in Brazilian state capitals

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Abstract *The aim of the study was to characterize the profile of victims of self-inflicted injuries, who were attended at urgent and emergency care services in Brazilian state capitals, by using the "Viva Survey" database of 2014. Descriptive statistics of the self-inflicted injuries by gender, as well as logistic regression analysis, were performed. The evaluated characteristics were age, gender, race/skin color, education, area of residence, characteristics of the event, alcohol use and the outcome of the case. The results showed that almost 10% of the surveyed cases that were treated by emergency medical services in relation to violence were due to self-inflicted injuries: of particular note were the cases involving females and adults. Gender differences were found, including some that were related to the method chosen to commit suicide. It was not possible to evaluate some factors that are generally associated with suicide attempts because the necessary information was not within the scope of the instrument used for data collection. It was concluded that emergency medical services are very important in terms of studies regarding suicide because they are the gateway to such cases. However, given its sensitive nature, the information issued by emergency medical services is very restricted. Consequently, patients need appropriate follow-up to prevent further suicide attempts.*
Key words *Suicide attempt, Surveys, Violence, Emergency medical services*

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Introduction

Suicide is an act of self-violence that is defined as an intentional act to end one's life[1,2]. Non-fatal suicidal behaviors are termed suicidal ideation when there are thoughts that foster the desire to end one's existence, and they are aggravated when accompanied by a *suicidal plan* to kill oneself. A *suicide attempt* involves conduct aimed at harming oneself, in which there is intent to kill oneself which could result in injury or death. If the suicide attempt results in death it is defined as suicide. *Suicidal behavior* refers to a type of behavior by a person who seeks to injure or kill themselves. *Self-harm* is self-inflicted violence, which can be subdivided into suicidal behavior and self-injury (the latter includes acts of self-mutilation, which range from milder forms such as scratches, cuts, and bites, to severe forms such as the amputation of limbs)[1]. The International Statistical Classification of Diseases and Related Health Problems (ICD-10) defines self-harm as being intentional self-inflicted injuries and poisonings, as well as suicide attempts[3].

In general, the boundaries between *self-neglect*, *self-harm*, *suicidal ideation*, *suicidal behavior*, and *suicide* are tenuous because on the one hand, a suicide attempt can be interrupted and be established as an idea or an intention, while a thought can erupt due to anguish and overwhelming anxieties and explode as an act against one's own life. On the other hand, not every example of *thinking about death* or the desire to die is evidence of suicidal risk[2,4,5]. According to some studies worldwide, a self-inflicted death is thought out, prepared and preceded by other attempts. There are suicides that are carried out on impulse, but they are rare.

Fatal suicide is among the ten leading causes of death worldwide; it mainly affects young people and young adults, resulting in social, economic, family, community and social consequences[2]. In 2012, 804,000 self-inflicted deaths were recorded by the WHO's 172 member states, representing an annual rate of 11.4/100,000, of which 15/100,000 were males and 8.0/100,000 were females[6]. However, in the richest countries, suicide accounts for 81% of violent deaths among males and females, and in developing countries it accounts for 44% of male deaths and 70% of female deaths. Although the latter countries have lower suicide rates, 75% of self-inflicted deaths occur in developing countries, which contain the largest share of the world's population[7].

Suicide rates are distributed unequally worldwide[2,8]. Brazil has the eighth largest number of suicides among WHO member states, with an average of 24 suicides per day. However, its suicide rates are considered as low: it ranks 73rd (between 4.8/100,000 and 5.5/100,000)[9,10].

Gender, age, culture and ethnicity have important implications in the epidemiology of suicide. Global suicide rates reflect vulnerability for two particular age groups: the age range of 15-35 and that of 75 or over. Suicide rates range from 0.9/100,000 in the 5-14 age group to 66.9/100,000 among people aged over 75[4]. In richer countries males kill themselves at a rate that is three times that of females. In developing countries this proportion is lower: 1.5 males for each female. The exception is the western Pacific region, where the rates are almost equivalent (17.6% and 16.6% respectively). The population aged 15-29 in that region is particularly affected, with suicide being the main cause of death for males and females. In Brazil, this difference is from 3:0 to 4:1, depending on the age group[2]. As for ethnicity, in Brazil the phenomenon of suicide among indigenous people is striking. Another characteristic in Brazil is the higher concentration of self-inflicted deaths in municipalities with low populations[11].

The main risk factors associated with suicidal behavior are as follows: biological, medical, environmental, psychiatric, psychological and existential philosophical problems, as well as social motivations. The most common psychiatric and psychological factors are: depression; problems related to mood and bipolar affective disorder; schizophrenia; anxiety and personality disorders; alcoholism; hopelessness; loneliness; and comorbidities. Poisoning by the use of stimulants such as cocaine, amphetamines or alcohol are frequently predisposing factors for suicide, and they are aggravating when the individual is depressed. Of the aforementioned substances, alcohol is the most significant. Some studies[12] have shown that there are genetic traits that predispose people from the same family to self-destructive behavior. Research on the biological basis of this phenomenon has revealed altered levels of serotonin metabolites in the neurospinal fluid of people who commit suicide[12]. However, WHO studies[2,4] consider that suicidal behavior can be an inherited psychiatric disorder and that suicide may be a response to the suffering associated with serious disabling and painful diseases.

Some of the most important micro-social factors in relation to suicide are personal loss, violence, social isolation, interpersonal conflicts, broken or disturbed relationships, legal problems, and work-related problems. In childhood and adolescence, physical and sexual abuse, as

well as problems related to sexual orientation, are very important. Among young people, difficulties regarding relationships with parents, quarrels with boyfriends and girlfriends, and loneliness are all relevant. Regarding the elderly, Duberstein et al.[13] cite personality traits such as hypochondria, as well as being closed, timid or excessively independent. From a broader social point of view, in his classic study, Durkheim[14] points out that suicide rates are a symptom of social pathology and social disintegration. However, he stresses that this phenomenon occurs in all societies, although it differs from country to country, from era to era, and from urban to rural environments.

Important environmental factors in this respect include: (1) life stressors, such as interpersonal conflicts, separation, rejection, losses, financial and work problems, and shame for something that is disapproved of by society; (2) ease of access to conditions that enable hanging, drowning, falling from heights, using firearms, abuse of drugs and poisons; (3) exposure to shocking events, either by witnessing them first-hand or via the media. Having previously attempted suicide, or having relatives or acquaintances who attempted or committed suicide are strong predictors of suicidal behavior[1,9,15-21].

In general, suicides, suicide attempts and self-harm are under-reported, even in countries with good information systems. According to the WHO[4], there is evidence that only 25% of those who attempt to kill themselves come into contact with hospitals. Only the most serious cases are treated by emergency medical services and even these are usually treated simply as an emergency in relation to the injuries that have been caused.

The Brazilian Hospital Information System reported that suicide attempts were responsible for 153,061 hospitalizations of people aged 10 years or over in the period 1998-2014, which indicates that such events were one of the main causes of hospitalization[9,22,23]. The situation is even more critical when one considers that it is estimated that out of every three suicide attempts, only one received attention from the health services[23].

Emergency health services are the first place where people who have attempted suicide are cared for; consequently, they have strategic importance in terms of secondary prevention, attention to the consequences of such events, and reduction of costs for the health services. However, there has been little research conducted regarding this issue. Thus, this article seeks to contribute to broadening existing knowledge regarding the role of emergency health services in Brazilian state capitals by mapping the occurrences of suicides and the potential risk factors.

Methods

This cross-sectional study was based on data regarding the care for victims of self-inflicted injuries recorded in the Violence and Accident Surveillance System (VIVA), within its survey component. This survey was conducted in 2014, during a period of 30 consecutive days between September and November. The shifts were randomly selected by probabilistic sampling using a single-stage cluster stratified by the type of establishment (general emergency, emergency care units, specialized emergency services) and the shift was the primary sampling unit.

This study involved 86 emergency services of the Unified Health System (SUS), located in 24 state capitals and the Federal District. The sample size was at least 2,000 responses due to external causes: the coefficient of variation was less than 30% and the standard error was less than 3.0.

All the patients interviewed due to external causes in the selected shifts in each establishment were eligible for the interview and the cases where patients returned to the same unit for the same reason were excluded. In cases where the individual that was attended was a child, the answers were provided by those responsible for them or by the health team that attended the case. The cases of self-inflicted injuries detailed in this study arose from the occurrence of the event that resulted in attendance by the studied emergency units.

Firstly, the cases of self-harm were analyzed according to gender by the following sociodemographic variables: age - child (0-9 years), adolescent (10-19), adult (20-59) and elderly (60 and over); self-defined race/skin color; years of education; day of the week that care was provided; place of occurrence; area of residence; method used in the event; if the self-inflicted injury was a suicide attempt (where the interviewee or the person responsible stated whether the injury was intended to be suicidal); the intentionality of the act (a self-declaration whether the injury was intentional or accidental); ingestion of alcoholic beverage in the six hours prior to the event; nature of the injury; part of body affected; and the outcome of the case.

In order to verify the associations between the outcome of interest (self-harm) and the independent variables, bivariate analysis was performed

using the chi-square test with a second-order Rao-Scott correction which incorporated the complex sampling plan with 5% significance.

This was followed by bivariate analysis according to the cases of self-inflicted injury and other cases of violence attended in the studied emergency medical services by the following variables that were pertinent to the statistical modeling: age; gender; race/skin color; years of education, area of residence; and ingestion of alcoholic beverage in the six hours prior to the event. In order to verify the associations, the Rao-Scott test was used with a 5% significance level. After this bivariate analysis, the variables with a value of $p < 0.20$ were selected for inclusion in the multiple model. In the multiple analysis, the values of $p < 0.05$ were considered significant for the factors associated with self-inflicted injuries. All the analyses were performed using the Stata 14 statistical package, utilizing the svy command, which is specific for the analysis of complex sample planes.

The 2014 VIVA Survey project was evaluated and approved by the National Commission for Ethics in Research (CONEP) of the Ministry of Health (opinion No. 735,933/2014). The verbal agreement of the victims was obtained; if they were aged under 18 or if they were unconscious after the event then the agreement of those responsible for them, or their partners, was obtained.

Results

In the 2014 Viva-Inquiry, 4,949 cases related to violence were reported, of which 477 (9.5%) resulted from self-inflicted injuries, of which 18 (2.9%) involved children, 94 (18.8%) adolescents, 348 (74.6%) adults and 16 (3.7%) elderly people.

Table 1 shows that 62.4% of the victims of self-inflicted injury were black or mixed race and that 34.3% were white. In the gender comparison, the percentage of white females was higher (39.8%) than that of males (29.4%), whereas among black/mixed race people the percentage of males was higher (67.8% compared to 56.3% of females). In terms of indigenous people, the percentage of females was higher (1.9% compared to 0.2% of males). There was statistically significant difference in the distribution of the variable of skin color according to gender ($p = 0.0497$). This difference was also observed in relation to the variable of education ($p = 0.027$). It is interesting to note that there was a higher percentage of females in terms of the lowest level of education (45.3% compared to 37.9%) and also the highest level of education (11.0% compared to 3.2%). Independently of gender, a large number of victims had 0-4 years of education (41.2%).

It was found that people within the adult age group were the most frequently attended victims of self-harm. Furthermore, the most frequent days of the week for such incidents were Sunday (18.0%) and Tuesday (16.3%). However, the data analysis did not show a significant difference between these variables according to gender. Most injuries occurred in the home (86.4%) for both males and females, and the individuals mainly resided in urban areas (96.9%). However, there was no statistically significant association in terms of gender (Table 1).

Regarding the methods used for self-harm, 53.6% of the self-inflicted injuries resulted from poisoning (males = 38.9% and females = 69.4%) and 34.5% from using sharp objects (males = 42.6 % and females = 25.8%). Table 1 shows that there was a significant difference in the distribution of this variable according to gender ($p < 0.001$). It is noteworthy that 9.4% of males used hanging to self-harm compared to 0.7% of females. Another question that was different in terms of gender was the issue of the intentionality of the act ($p = 0.015$): it was assumed that it was intentional for 80.0% of females and 66.0% of males. The interviewee (or those responsible for the person in the case of children and adolescents) self-declared that the event was a suicide attempt for 69.4% of females and 48.5% of males ($p = 0.002$). It was found that 30.0% of individuals reported having consumed alcohol in the six hours preceding the attempt, but there was no significant statistical difference.

In terms of the event itself, there was a predominance of poisoning/burns/other (45.0%) and cuts/lacerations (33.8%) for both genders. However, in the comparison by gender, cuts/ lacerations were more frequent among males (40.7%), whereas, poisoning/burns/other (54.5%) were more common for females ($p = 0.009$). Regarding the part of the body that was affected, in the female group, 57.2% of the cases involved injuries to multiple organs/regions, and in 27.6% the injuries were to the upper and lower limbs. For males, the upper and lower limbs (44.4%), multiple organs/regions (33.6%) and head/neck (14.6%), respectively, were most common. There was statistically significant difference

Table 1. Profile of the victims of self-inflicted injuries treated at the emergency medical services participating in the VIVA Survey, 2014, Brazil, N = 477.

Variable		Male	Female	Total	p-value
		%	%		
Total		53.2	46.8	100.0	
Age group	Children	4.0	1.6	2.9	0.5515
	Adolescents	20.3	17.2	18.8	
	Adults	71.9	77.7	74.6	
	Elderly	3.9	3.6	3.7	
Race/skin color	White	29.4	39.8	34.3	**0.0497**
	Black/mixed race	67.8	56.3	62.4	
	Asian	2.6	2.0	2.3	
	Indigenous	0.2	1.9	1.0	
Education (years)	0-4	37.9	45.3	41.2	**0.0268**
	9-11	28.3	20.3	24.7	
	12 or more	3.2	11.0	6.7	
Day event occurred	Sunday	16.8	19.3	18.0	0.9740
	Monday	16.7	15.7	16.2	
	Tuesday	18.0	14.4	16.3	
	Wednesday	11.1	10.0	10.5	
	Thursday	8.6	10.7	9.6	
	Friday	14.7	14.9	14.8	
	Saturday	14.2	15.1	14.6	
Location of event	Home	82.2	90.8	86.4	0.0831
	School	2.0	2.9	2.4	
	Recreation area	0.2	0.2	0.2	
	Public road	15.7	6.1	11.0	
Area of residence	Peri-urban/rural	3.2	3.1	3.2	0.9190
	Urban	96.8	96.9	96.9	
Method used	Poisoning	38.9	69.4	53.6	**<0.001**
	Hanging	9.4	0.7	5.2	
	Firearm	2.0	0.0	1.1	
	Sharp object	42.6	25.8	34.5	
	Jumping from high place	7.1	4.1	5.7	
Suicide attempt	Yes	48.5	69.5	58.3	**0.0021**
Intentionality	Intentional	66.0	80.0	72.6	**0.0149**
	Accidental	34.0	20.0	27.4	
Intake of alcoholic beverage	Yes	34.4	24.7	30.0	0.1274
	No injury	7.3	10.0	8.6	
Nature of injury	Bruise/sprain/dislocation	6.9	7.1	7.0	**0.0093**
	Cuts/lacerations	40.7	25.8	33.8	
	Fracture/amputation/trauma	8.5	2.6	5.7	
	Poisoning/burns/other	36.7	54.5	45.0	
Part of the body affected	Head/throat	14.6	9.5	12.4	**0.0183**
	Spine/chest/abdomen	5.7	5.7	5.7	
	Genitals/anus	1.7	0.0	0.9	
	Upper/lower limbs	44.4	27.6	37.0	
	Multiple organs/regions	33.6	57.2	44.0	
Outcome of case	Discharge	60.7	62.0	61.4	0.6295
	Referred to other services	10.1	8.3	9.2	
	Hospitalization	25.1	23.8	24.5	
	Left hospital of own accord	3.2	5.9	4.5	
	Death	0.9	0.0	0.5	

in terms of gender regarding the distribution of this variable (p = 0.018). Finally, the outcome of the majority of the cases was discharge after being attended (61.4%). However, in 24.5% of cases hospitalization was necessary and 9.2% of cases were referred to other services, regardless of the gender of the patient.

Table 2 shows the distribution of the outcome variable "being a victim of self-inflicted violence" in comparison with the other cases of violence attended by the emergency medical services, and in accordance with the variables that were relevant to the statistical modeling. Statistically significant difference was observed for the variables of age group and gender (p < 0.001). In childhood, attendances due to other forms of violence were more frequent than self-harm (11.8% compared to 2.9%). In the adult age group (20-59) self-harm was more prevalent (74.6% compared to 67.4% of cases due to other forms of violence), despite the high frequency of both types of injuries in this age group (p < 0.001). In terms of gender, female vulnerability was more pronounced in cases of self-harm, whereas for males other types of violence were more common (p < 0.001). There was a predominance of black/mixed race individuals for both genders, making up more than 60% of the cases that were attended. Education also showed a significant difference in the bivariate analysis (p = 0.042). There was a higher level of schooling (9-11 years) in relation to the victims of self-harm (41.2%) compared to the group that was attended due to other forms of violence (32.6%). The factors of area of residence and the consumption of alcohol during the previous six hours did not differ among the individuals attended due to self-harm or other types of violence.

Table 2. Bivariate analysis between the group of individuals with self-inflicted injuries and those affected by other types of violence treated at emergency medical services in Brazil.

Variable	Other types of violence n = 4472	Self-inflicted injuries n = 477	Total	p-value
	%	%		
Age group				
0-9 years	11.8	2.9	10.9	< **0.001**
10-19	18.0	18.8	18.1	
20-59	67.4	74.6	68.1	
60 or over	2.7	3.7	2.8	
Gender				
Male	69.6	53.2	68.0	< **0.001**
Female	30.4	46.8	32.0	
Race/skin color				
White	29.3	34.3	29.7	0.081
Black/mixed race	68.9	62.4	68.3	
Asian	1.0	2.3	1.1	
Indigenous	0.9	1.0	0.9	
Education (years)				
0-4	32.8	27.4	32.3	**0.042**
5-8	28.7	24.7	28.3	
9-11	32.6	41.2	33.4	
12 or more	5.9	6.7	6.0	
Area of residence				
Urban	95.9	96.8	96.0	0.293
Peri-urban/Rural	4.1	3.2	4.0	
Intake of alcoholic beverage				
Yes	33.5	29.9	33.2	0.288
No	66.5	70.1	66.8	

After bivariate analysis was performed, the logistic regression model was adjusted: the variables of gender, age group, skin color and education were included because they had a p value of less than 0.2. In the final model, only the variables of gender and education remained. Thus, females were more likely to be treated for self-harm by the emergency medical services compared to those who were attended due to other forms of violence (95%CI = 1.6-2.6) (Table 3). With regard to education, there was a greater chance of self-harm occurring in all the studied groups compared to those with the highest number of years of education (12 years or more).

Discussion

The present study is original in that it uses a single study to address the profile of victims of self-inflicted injuries during all life cycles, using a population-based sample, as well as comparing this with the victims of other types of violence based on information provided by emergency medical services. Using the "Viva Survey" provided a powerful source of data regarding non-fatal, self-inflicted injuries because it supplied information that is usually unregistered and treated. In the case of suicide attempts, this is all the more important because only a minority of people are hospitalized and in those circumstances there is a pre-established form of registration.

It is noteworthy that almost 10% of the surveyed cases that were attended by emergency medical services were due to self-harm; these cases particularly involved females and adults. This corroborates Monteiro's et al.[24] findings regarding hospital admissions in the SUS in Brazil due to intentional self-inflicted injuries. In the present study, the low number of cases involving children (0-9 years) may suggest the rarity of such cases; however, it may also reflect the under-reporting of such events because suicide attempts can be identified as domestic accidents or negligence, both by health professionals and also those responsible for the suicide attempts themselves. Moreover, knowledge about suicide in children is still very limited, firstly due to the commonly held conception of happiness associated with this phase of life, but also due to to the controversial aspect of intentionality associated with suicide, which includes the notion of responsibility. Although global data point to high rates for self-harm among the elderly, in the present study there were few such cases that reached emergency medical services, either because they were more successful in ending their own lives[18] or because such cases were dealt with at home or within institutions.

Table 3. Explanatory model regarding the treatment of self-inflicted injuries by emergency medical services.

Variable	OR	CI
Gender		
Male		*Reference*
Female	2.00	(1.6 - 2.6)
Education (years)		
12 or more		*Reference*
0-4	4.50	(2.3 - 8.9)
5-8	4.80	(2.6- 9.1)
9-11	5.80	(2.2 - 14.9)

The findings of the present study regarding the gender of the victim were in agreement with international data that have been provided worldwide[1,5,6,9,18] related to this phenomenon. It is noteworthy that female vulnerability is a key issue in the profile of victims of self-harm, as well as in comparison with victims of other forms of violence. It is known that females are more likely to attempt suicide, while males are more successful in ending their own lives[5,6,8,18,25]. The trend toward increased frequency of mental health problems among females puts them at a higher risk of suicidal behavior. Moreover, the links between females and suicide are more likely to dialogue with the choice of suicide method rather than the intention to kill oneself[26]. As noted in this study, males tend to opt for more lethal methods to kill themselves, such as sharp objects, while females are more likely to use one of the various forms of poisoning[26,27]. The verification of the difficulty for males in identifying a suicidal episode as intentional raises the hypothesis of the inability to recognize emotional fragility, which is typical of machismo. It is worth noting the significant percentage of indigenous females attended due to attempted suicide in comparison to indigenous males. Indigenous people are one of the groups that are most vulnerable to suicide in Brazil[28] and there is still much to be discovered about the risk factors associated with the worldview, culture and psychopathology that induces suicide in this section of the population.

It is important to highlight the relevant, strategic and precise role of emergency medical care for victims of self-harm because these services: (1) constitute a gateway to health care and are

the only option for a large part of the population in search of care; (2) they are appropriate in the epidemiological approach to the phenomenon; (3) they respond to suicide attempts, which are the strongest predictor of suicide in children, adolescents, adults and the elderly; and (4) they are often responsible for the immediate treatment of cases or referral to other services within the health system[29].

The emergency medical services have a potentially important role to play in detecting and caring for cases in the early stages of potential suicide, and they can help to prevent more serious harm to possible victims. However, when professionals can only provide limited attention to cases, treating the injuries symptomatically without understanding the circumstances behind the event, the treatment provides little information regarding the identification of the victims, as well as prejudicing the correct recording of such events and failing to possibly prevent further suicide attempts[1,2]. Studies have revealed that 19% of suicide attempts treated by emergency medical services are treated by the same type of service within six months[19] and 39% of such cases kill themselves within twelve months of their first treatment[30,31]. Some studies[32,33] have also pointed out that 3%-12% of adults who have no specific mental health problems, and who are attended to by emergency medical services, present suicidal ideation[32]. Furthermore, 8%-12% of people who are attended by the same services due to other problems have silenced suicidal ideation[33]. In addition, according to Ballard et al[29], a significant number of people who receive emergency medical care due to gastrointestinal problems and severe headaches present self-induced injuries and traumas. Despite the complexity of the situations dealt with by emergency medical services, and the risk of further suicide attempts, most of the people they attend to are discharged after receiving prescriptions, either with or without psychosocial assessment.

Ballard et al.[29] recommend that all patients who are attended by emergency medical services, and who appear to have an association with self-harm, should be screened for the risk of committing suicide. In cases such as these, speedy intervention, together with the design of a safety plan that puts the patient in contact with mental health services, is one of the most beneficial and effective actions[1,34,35]. It is therefore imperative to redouble efforts to find more effective ways and methods to prevent suicide in all the age groups of people attended by emergency medical services.

In relation to suicide and health services in general, one of the limitations of the present study is the strength of the myth and stigma that surrounds the issue of suicide. Family and social conventions, as well as political reasons, lead to the under-reporting and misclassification of suicides. As a consequence, these cultural and institutional problems make elucidation and prevention difficult.

There are further limitations that relate to the nature of this study itself. One of these was the selection bias that was used, because probably only some of the cases of self-harm that occurred in the period in question were attended by emergency medical services. In less serious cases people do not tend to seek care. It is therefore possible that the data were not sufficiently representative of the situation in Brazil. Another limitation was that relevant factors associated with suicide attempts described in the literature could not be evaluated. These included the presence of mental disorders, terminal and degenerative diseases, social and environmental problems, as well as social motivations and the influence of the media. Such information was not within the scope of the data sources that were used. A further limitation was the fact that it was not possible to make comparisons with other studies on this issue, performed by emergency medical services in Brazil, because no specific literature on the subject was found. Finally, the 'Viva Survey' is still a fairly recent method of recording information regarding violence in Brazil, which limited the investigation of this phenomenon to a restricted period of time.

Finally, we consider that, despite all the limitations and shortcomings of the present study, this article can open the way to further studies that can expand upon our work. We also believe that this article helps in reflecting on the importance of the best ways for emergency medical services to act so that they can contribute to preventing suicides in accordance with the message of the World Health Organization: "Preventing suicide: a global imperative"[2].

Collaborations

CA Bahia, JQ Avanci, LW Pinto and MCS Minayo participated in the writing of the article, as well as contributing to its design and delineation, the critical review of the content, and the analysis and interpretation of the results. The authors declare that they are responsible for all aspects of the article and ensure its accuracy and integrity.

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Article submitted 10/3/2017
Approved 18/4/2017
Final version submitted 25/5/2017