

“EPIDEMIOLOGICAL ANALYSIS OF REPORTS OF SELF-INFLICTED INJURIES IN THE CITY OF ANÁPOLIS (GO), FROM 2018 TO 2022”

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ABSTRACT

Introduction: Self-inflicted injuries have been increasing in numbers over recent years, posing a challenge for the development of public health policies
Objectives: Identify the epidemiological scenario of notifications of self-inflicted injuries and their variables, in the city of Anápolis-GO, between the years from 2018 to 2022

Methods: This is a cross-sectional, retrospective study, referring to data on notifications of self-inflicted injuries obtained through access to the Notifiable Diseases Information System (SINAN) platform, in DATASUS

Results: It was observed that the scenario of notifications of self-inflicted injuries in the city of Anápolis (GO) showed a statistical increase between 2018 and 2022. There was a predominance of notifications in females, in the mixed-race population, between the ages of 10-14 years and in educational levels of incomplete grades 5 to 8. When it comes to the means used, there was a predominance of less lethal means (poisoning and use of sharp objects). An association between alcohol consumption and self-inflicted injuries was verified.

Conclusions: Based on the epidemiological study, it was observed that the city of Anápolis presented increasing statistics of notifications. It is expected that the municipal pregnancy in the city of Anápolis (GO), observing the epidemiology of the variables involved, can maintain the basic conditions for mental health care, through Primary Care and with the support of Psychosocial Care Centers (CAPS), outpatient clinics of mental health and reference hospitals for the care of patients requiring psychiatric hospitalizations.

KEYWORDS: SELF-HARM, ANÁPOLIS, DATASUS, SINAN.

INTRODUCTION

Suicidal ideation is characterized as a thought of self-destruction, encompassing planning to end one's life. Self-injury, on the other hand, is defined as a type of violence in which the person inflicts harm on themselves, including acts of self-mutilation, scratching, biting, cutting, amputation, which can lead to mild to severe consequences.¹ Suicide attempt is considered the behavior taken with the purpose of harming oneself, intending to commit suicide. If the act is completed, the suicide attempt is defined as suicide. The difference between suicidal ideation, suicidal behavior, self-injury, and completed suicide appears to be subtle.²

The factors that lead an individual to commit self-injury are diverse³, complex, and intimately related to each other. Among the variables that generate self-harm are genetics, environmental factors, psychiatric illnesses, use of alcohol and illicit drugs, loneliness, social motivations, family and social factors, as well as environmental, religious, and political elements.

In Brazil, reports of self-inflicted injuries are made

through the individual notification form (interpersonal/self-inflicted violence), the information from which is incorporated into the Ministry of Health's (MS) database and subsequently tabulated in DATASUS, specifically in the Notification of Injury Information System (SINAN). This is a fundamental document for the development of public policies at all levels of health care for the prevention of suicide. However, studies² have shown that only 25% of self-inflicted injuries are treated in hospital settings.

METHODS

This is a cross-sectional, retrospective study regarding notifications of self-inflicted injuries in the city of Anápolis (GO), based on data obtained through access to the Notification of Injury Information System (SINAN) on the DATASUS platform. These data originate from individual notification forms for interpersonal/self-inflicted violence issued in the municipality between 2018 and 2022, which are available for public consultation. To calculate notification statistics, access was made to the SINAN website, under the "notifiable diseases and injuries - from 2007

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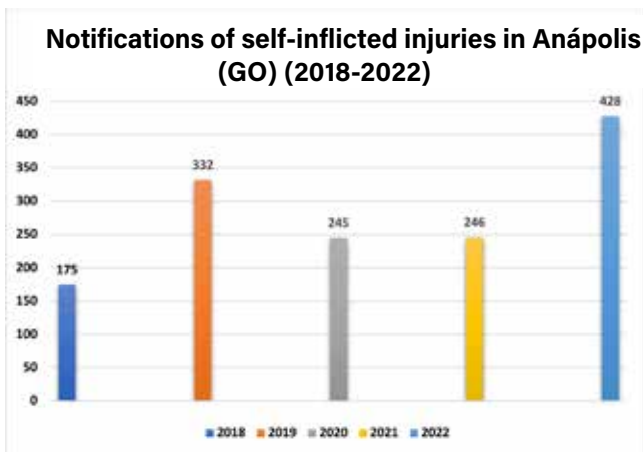
onwards" tab. Within DATASUS, the "year of notification" option was selected under "line," the "self-inflicted injuries" option was marked in the column, "frequency" was selected under content, the available periods were set to "2018-2022," and under "available selections," the municipality of "Anápolis" was selected, with age groups ranging from "10-14 to 60 years or more," with the option "self-inflicted injury". These filters were selected as basic for all searches.

Regarding the variable criteria in the searches on the SINAN platform, specific searches were conducted for each age group between 10-14 to 60 years, by male and female sex, skin color/race, education level, location of occurrence, marital status, with details on hanging, blunt object, sharp object, poisoning, and firearm, as well as the association with alcohol use.

The simple frequency data was tabulated in Excel and Tabwin, using a basic statistical methodology, with graphical representation in the form of tables and figures.

RESULTS

In terms of notification to the SINAN system, through the individual notification form on the DATASUS platform, it was demonstrated that over the years from 2018 to 2022, in the population aged 10-14 to 60 years or more, in both sexes, there was an increase of 59.12% in the reported cases (Figure 1).



Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Figure 1. Absolute numbers of notifications of self-inflicted injuries in Anápolis (GO), between 2018 and 2022.

Regarding the notifications based on age groups, including ages equal to or above 10 years old, between the years 2018 and 2022, the following statistics were observed (Table 1), where the age group of 10 to 14 years old showed the highest increase in notifications (92.4%).

| Year | Age group | | | | | | |
|------|-----------|---------|---------|---------|---------|---------|------------|
| | 10 a 14 | 15 a 19 | 20 a 29 | 30 a 39 | 40 a 49 | 50 a 59 | 60 ou mais |
| 2018 | 10 | 45 | 56 | 28 | 20 | 12 | 04 |
| 2019 | 28 | 58 | 103 | 59 | 51 | 16 | 17 |
| 2020 | 15 | 62 | 72 | 36 | 30 | 22 | 08 |
| 2021 | 30 | 60 | 74 | 38 | 27 | 07 | 10 |
| 2022 | 130 | 130 | 75 | 38 | 36 | 09 | 10 |

Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Table 1. Prevalence of notifications by age groups between 2018 and 2022.

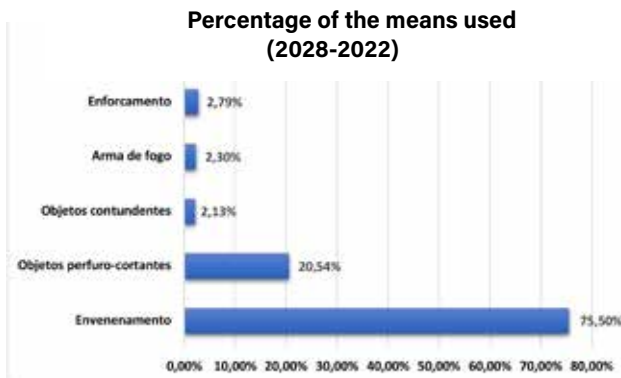
In the data regarding the level of education, the following statistics were noted (Table 2). The education levels that showed the highest increases in notifications during the observed period were between 5 and 8 incomplete elementary school grades, with an increase of 71.1%.

| Education | Year | | | | |
|--|------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| Illiterate | 2 | 2 | 0 | 0 | 1 |
| 1 to 4 incomplete elementary school grades | 7 | 15 | 11 | 11 | 11 |
| Complete 4th grade | 13 | 5 | 4 | 6 | 20 |
| 5 to 8 incomplete elementary school grades | 31 | 58 | 39 | 50 | 107 |
| Complete elementary school education | 21 | 66 | 41 | 31 | 63 |
| Incomplete high school education | 43 | 75 | 58 | 51 | 104 |
| Complete high school education | 34 | 77 | 63 | 72 | 99 |
| Incomplete higher education | 9 | 19 | 17 | 10 | 7 |
| Complete higher education | 15 | 15 | 12 | 14 | 16 |

Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Table 2. Prevalence of notifications according to education levels between 2018 and 2022.

It is essential to understand the mechanisms through which self-injury occurred. An analysis of the objects and means by which self-injury was carried out was conducted (Figure 2). It was observed that the most commonly used objects/means were those considered less violent, such as poisoning (75.7%) and sharp objects (20.54%), while the more violent means, with greater force, accounted for only 2.3% (firearm) and 2.79% (hanging).



Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Figure 2. Prevalence of notifications according to the means used for self-injury between 2018 and 2022.

Regarding the locations where the injuries occurred, there was a predominance of the "Residence" location (Table 3), representing a percentage of 87.14% of the total notifications in 2022.

| Location of injury | Year | | | | |
|--------------------------|------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| Home | 147 | 294 | 217 | 219 | 373 |
| Public road | 11 | 13 | 13 | 12 | 19 |
| School | 1 | 4 | 2 | 0 | 9 |
| Collective housing | 1 | 2 | 2 | 3 | 2 |
| Commerce | 3 | 1 | 2 | 0 | 6 |
| Industry | 1 | 0 | 0 | 0 | 0 |
| Sports practice location | 0 | 0 | 0 | 0 | 0 |
| Bars | 2 | 2 | 1 | 4 | 2 |
| Others | 4 | 3 | 4 | 4 | 10 |
| Unknown | 5 | 13 | 4 | 4 | 5 |

Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Table 3. Prevalence of notifications according to the locations of injury occurrence between 2018 and 2022.

Based on sex, the following distribution was observed between 2018 and 2022 (Table 4). The female sex predominated in the notifications, representing 69.4% of the sample, while the male population represented 30.6%.

| Gender | Year | | | | |
|--------|------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| Male | 50 | 105 | 76 | 82 | 122 |
| Female | 125 | 227 | 169 | 164 | 306 |

Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Table 4. Prevalence of notifications by gender between 2018 and 2022.

When correlating race/color, a predominance of the "brown" race was observed, with an increase of 61.8% from 2018 to 2022, representing 22.5% of the notifications in 2022 (Table 5).

| Race | Year | | | | |
|------------|------|------|------|------|------|
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| White | 37 | 85 | 50 | 56 | 78 |
| Black | 8 | 5 | 5 | 5 | 10 |
| Brown | 127 | 240 | 184 | 182 | 332 |
| Asian | 2 | 1 | 3 | 1 | 4 |
| Indigenous | 0 | 0 | 1 | 0 | 3 |
| Ignored | 1 | 1 | 2 | 2 | 1 |

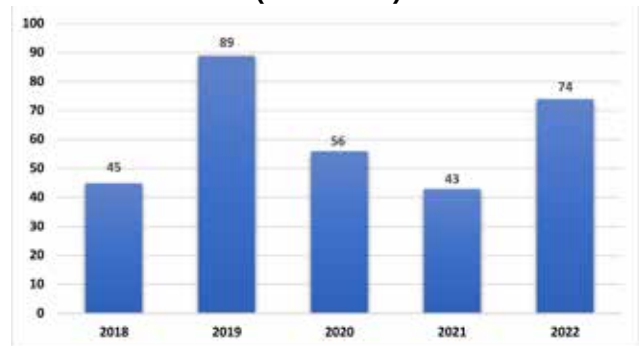
Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Table 5. Prevalence of notifications by race between 2018 and 2022.

An important factor to be correlated with the practice of self-injury was the verification of the association with alcohol consumption for the practice of self-inflicted injury.

It was observed that between the years 2018 and 2022, there was an increase of 39.2% in notifications of self-injuries associated with alcohol consumption (Figure 3).

Prevalence of association with alcohol use (2018-2022)



Source: SINAN/VIVA/GVE/SUVISA/SES-GO - Data extracted on November 17, 2023.

Figure 3. Prevalence of notifications by association with alcohol use between 2018 and 2022.

DISCUSSION

According to the latest demographic census from the Brazilian Institute of Geography and Statistics (IBGE) in 2022, the state of Goiás had an estimated population of 7,055,228 inhabitants. The city of Anápolis had a population of 398,869 people, with a population density of 426.29 inhabitants per square kilometer.

Anápolis (GO) is part of the health region called Pirineus, which includes a total of 10 municipalities. The city has 47 basic health units, divided between Basic Health Units (UBS) and Family Health Strategy (ESF). Regarding Psychosocial Care Centers (CAPS), the city has the CAPS Alcohol and Drugs Living (AD), CAPS Crescer (Child), and CAPS Vida Ativa, with support from the Mental Health Outpatient Clinic (Espaço Florescer). In terms of hospital care, Anápolis has services at the Emergency Care Unit (UPA 24H) of Vila Esperança, with support for hospitalization at the Eurípedes Barsanulfo Institute of Behavioral Medicine (INMCEB).

The preferential care is provided through the entry points of the Unified Health System (SUS), represented by Primary Care and CAPS. The first contact with the primary care level is essential to address a large part of the population's mental health demand, as mild, moderate, and severe (non-life-threatening) cases of mental disorders can be managed by trained teams on an outpatient basis. More severe cases, involving self-injury, suicidal ideation, planning, and suicide attempts, should be referred to other levels of care (secondary and tertiary). Primary care aims to provide prevention and promotion of mental health.⁴

Analyzing the results presented in the epidemiological review of self-inflicted injury notifications in the municipality of Anápolis (GO), the scenario of an increase in the number of cases follows the same pattern as the rest of the state of Goiás⁵, as well as the national and international scenarios.

Regarding the age groups studied, the ages that showed the highest increase in notifications were the 10 to 14 age group, with an increase of 92.4% compared to the 2018 data. Similar data were found in a 2014 World Health Organization⁶ study titled "Preventing suicide: A global imperative," where suicide was the second leading cause of death in the 15 to 29 age group.

Regarding gender, the female population in the city of Anápolis (GO) was the most affected by self-inflicted injuries, with a predominance of 69.4% compared to males. National statistics corroborate these findings, as a national study from 2016⁷ observed that the prevalence of females in suicide attempts is an important health indicator for the development of public intervention policies.

Among the analysis of the race/color variable, the study observed that the most affected race by self-inflicted injuries was brown, with an increase of 61.8% compared to 2018. A study conducted by the Ministry of Health in 2014, published in 2015, found that race/ethnicity is a factor influencing the suicide rate in the population². The factor of education level was also verified in the same study, with lower levels of education being correlated with a higher risk of suicidal behavior. In the present study, the main affected education levels were those between 5 and 8 incomplete elementary school grades, with an increase in incidence of 71.1%.

Given the notifications of self-inflicted injuries, it is imperative to observe how the act of self-harm occurred.⁸ In a national study from 2018⁹ it was observed that the act of suicide can be carried out by less or more lethal/violent means. The most lethal means, such as firearm use and hanging, are preferred by men, as they tend to attempt suicide in a definitive manner, while women opt for less lethal/violent means, such as poisoning and the use of sharp objects. In the present study, this statistic correlated with the study⁹, where self-harm occurred by poisoning in 75.5% of cases, and in 20.54% by the use of sharp objects.

It is important to consider that suicide acts or attempts, as well as suicidal ideations and planning, are closely related to mental disorders, such as depression, anxiety disorders, bipolar disorder, and the use of alcohol and psychoactive drugs.^{10,11} In the present study, the association between alcohol and notifications of self-inflicted injuries increased by 39.2% in 2022 compared to 2018. Alcohol is a depressant of the central nervous system, and its association is harmful in the context of mental disorders.¹²

CONCLUSION

The present epidemiological study of the scenario of compulsory notifications of self-inflicted injuries in the municipality of Anápolis (GO), in the time frame from 2018 to 2022, showed that the city of Anápolis (GO), with its increasing population growth and expanding development, has increasing statistics of self-harm notifications, follow-

ing the state, national, and global scenarios. Individuals who commit self-inflicted injuries are in a progressive process of severe mental crisis, and early intervention is potentially able to interrupt the sequence of events that can lead to completed suicide.² The act of welcoming is essential for the user to be treated in a humane, welcoming, and effective manner, focusing on a horizontal approach, with a focus on health promotion. Nowadays, in the 21st century, self-inflicted injuries are seen as a taboo.¹³ Such individuals are stigmatized not only by society but also by health professionals who provide initial care, as patients are seen as suffering from some mental disorder, not deserving of the proper seriousness at the time of care.¹⁴

Based on the epidemiological variables presented in the study, it is expected that the municipal management of the city of Anápolis (GO), especially through the Municipal Health Department (SEMUSA), can allocate financial and human resources to meet the basic needs for mental health care, focusing on prevention and promotion of mental health through Primary Care, with support from Psychosocial Care Centers (CAPS), increasing the number of available slots for mental health outpatient consultations (Espaço Florescer), strengthening reception mechanisms and professional training in hospitals for receiving patients who self-harm, and increasing the number of slots through the National Regulation System (SISREG) in reference hospitals for psychiatric hospitalizations in the city of Anápolis (GO).

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