

Epidemiology of suicide in Brazil (1980 – 2000): characterization of age and gender rates of suicide

Epidemiologia do suicídio no Brasil (1980 – 2000): caracterização das taxas de suicídio por idade e gênero

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Abstract

Objective: To describe the suicide rates in Brazil in recent decades, drawing comparisons with the worldwide epidemiological situation. **Methods:** Descriptive analyses of Brazilian suicide data, relating to the 1980-2000 period and extracted from the DATASUS database. Brazilian suicide trends were examined by age and gender. **Results:** The overall rate of suicide in Brazil increased 21% in 20 years. Men were found to be 2.3 to 4.0 times more likely to commit suicide than were women, and the highest suicide rates were found in the over-65 age group. The greatest increase in suicide rates (1900%) was seen in the 15-24 age range. **Conclusion:** Brazilian suicide rates, although low, are consistent with the global trend toward growth. Although the highest rates are still seen among the elderly, members of the younger population have been killing themselves with ever-increasing frequency.

Keywords: Suicide/statistics & numerical data; Suicide/epidemiology; Epidemiology; Rates, ratios and proportions

Resumo

Objetivos: Descrever as taxas de suicídio do Brasil nas últimas décadas, bem como compará-las com a situação epidemiológica mundial. **Métodos:** Análise descritiva dos dados brasileiros sobre o suicídio, extraídos a partir do banco de dados de DATASUS, cobrindo o período de 1980-2000. Foram examinadas as tendências de suicídio no Brasil quanto à distribuição etária e gênero. **Resultados:** A taxa global de suicídio no Brasil cresceu 21% em 20 anos. Os homens se suicidaram de 2,3 a 4 vezes mais que as mulheres e os idosos acima de 65 anos apresentaram as maiores taxas de suicídio. O estrato de jovens entre 15 a 24 anos foi o grupo de maior crescimento (1.900%). **Conclusão:** A taxa de suicídio no Brasil, embora baixa, segue a tendência mundial de crescimento. Os idosos apresentam as taxas mais altas, mas, em números absolutos, a população jovem está se matando cada vez mais.

Descritores: Suicídio/epidemiologia; Suicídio/estatística & dados numéricos; Epidemiologia; Taxas, razões e proporções

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Introduction

Since its creation, the World Health Organization (WHO) has monitored global data related to mortality by suicide.¹ Many countries have been collecting data on mortality due to suicide since 1950. However, the first Brazilian information supplied to the WHO date from 1980 and the most recent date from the year 2000.² In the global context, the most important finding is the observation that the average age of individuals who commit suicide is decreasing. Although the suicide rate among the elderly is 6 to 8 times higher than among young people, more people between 5 and 44 years of age commit suicide than those aged over 45 years. It is estimated that, between 1950 and 1955, the global suicide rate increased from 10.1 to 16.0/100,000 inhabitants.²

The WHO estimates that, by the year 2020, the worldwide incidence of suicide will reach approximately 1.53 million people, and 10 and 20 times as many individuals will attempt suicide.¹ This global projection indicates, therefore, that suicidal behaviors constitute a significant public health problem. Bearing in mind the scarcity of Brazilian data on the topic, it is imperative to examine the epidemiological situation regarding suicide in Brazil. This study aims to compile Brazilian epidemiological suicide data and compare them with the international data.

Methods

This study consists of the descriptive analysis of Brazilian epidemiological data regarding suicide. The information on the number of deaths caused by suicide were extracted from the database of the *Departamento de Informática do Sistema Único de Saúde* (Information Technology Department of the Brazilian Health System, DATASUS), which is affiliated with the Brazilian Ministry of Health.³ Global suicide rates were calculated by dividing the absolute number of deaths due to

suicide by the total Brazilian population for the corresponding year. The partial rates relating to sex, age and gender ratios were also calculated according to the representative populations for the year in question.

Figure 1 presents the total suicide rate in the Brazilian population for the 1980-2000 period. An increase of 21% occurred, rising from 3.3 to 4.0 deaths/100,000 inhabitants between 1980 and 2000.

In Table 1, suicide rates for the 1980-2000 period are shown by age, sex and gender ratio. Rates increased in parallel with age, especially among males. During this period, the proportion of men committing suicide was consistently higher than that of women committing suicide, regardless of age. Considering the overall rates, approximately 2.3 to 4 times more Brazilian men than Brazilian women committed suicide.

Among males, the suicide rate increased by 40% (from 4.6 in 1980 to 6.4 in 2000), whereas it decreased by 20% among females (from 2.0 in 1980 to 1.6 in 2000).

According to age range, individuals over the age of 65 represent the stratum with the highest suicide rates over the 20 years studied. The age effect tends to increase from the 45-54 age range onward, increasing rapidly until reaching the over-75 stratum. In this age range, global suicide rate remained stable, varying between 7.2 and 7.4. However, the gender effect was notable. We observed that, in 1980, approximately 4.1 times more men than women committed suicide, whereas, in the year 2000, the proportion was 6.8 times higher. Among males, rates in the 65-74 age range and the over-75 age range increased by 23.4% and 14%, respectively, whereas rates among females in the same age ranges decreased by 20% and 30%.

Suicide among individuals in the 5-14 age range was infrequent, although there was a considerable increase in

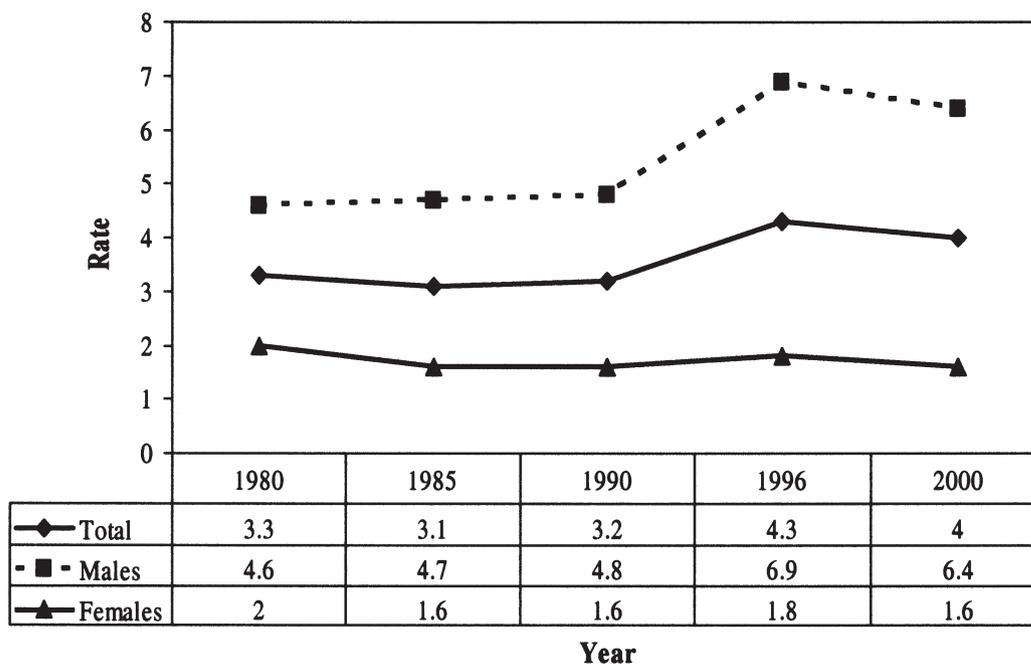


Figure 1 – Suicide rates (per 100,000) by gender, Brazil, 1980-2000

Source: DATASUS-MS

Table 1 – Total suicide rates among the Brazilian population for the 1980-2000 period, by gender and age range

Age range	Total					Males					Females					Male/Female Ratio				
	1980	1985	1990	1996	2000	1980	1985	1990	1996	2000	1980	1985	1990	1996	2000	1980	1985	1990	1996	2000
5-14	0	0.2	0.2	0.4	0.2	0	0.2	0.2	0.4	0.2	0	0.2	0.2	0.2	0.2	0.0	1.0	1.0	2.0	1.0
15-24	0.4	3.4	3.6	4.9	4.0	0.3	4.8	5.1	7.5	6.0	0.5	2.0	1.1	2.2	2.0	0.6	2.4	4.6	3.4	3.0
25-34	3.1	4.9	4.8	6.2	5.5	3.1	7.4	7.6	10.2	9.1	3.1	2.5	2.0	2.3	2.0	1.0	2.9	3.8	4.4	4.5
35-44	5.3	5.0	5.0	6.7	6.2	7.5	7.8	7.5	11.0	10.3	3.1	2.2	2.6	2.5	2.3	2.4	3.5	2.9	4.4	4.5
45-54	5.2	5.9	5.8	6.9	6.6	7.7	9.1	8.5	11.4	11.1	2.8	2.7	2.9	2.7	2.3	2.7	3.4	2.9	4.2	4.8
55-64	5.6	6.0	6.1	6.9	6.8	8.0	9.7	9.2	11.7	11.7	3.2	2.6	3.2	2.5	2.5	2.5	3.7	2.9	4.7	4.7
65-74	6.4	7.2	6.6	7.1	6.9	9.8	12.0	10.8	12.0	12.1	3.1	2.9	2.9	2.9	2.5	3.2	4.1	3.7	6.7	4.8
> 75	7.4	7.8	8.2	7.8	7.2	12.4	14.2	14.3	14.2	14.2	3.0	3.0	3.0	3.1	2.1	4.1	4.7	4.8	4.6	6.8
Total	3.1	3.0	3.2	4.3	4.0	4.6	4.7	4.8	6.9	6.4	2.0	1.6	1.6	1.8	1.6	2.3	2.9	3.0	3.8	4.0

*Suicide rates are expressed as numbers of deaths/100,000 inhabitants
Source: DATASUS – MS

the 15-24 age range. In this 20-year period, the suicide rate in this age range increased ten-fold, from 0.4 to 4.0. Again, the greatest increase was seen among males, in whom it increased approximately 20 times (0.3 to 6.0). The increase in suicide among women aged 15-24 was less than the global rate for the same stratum, but was nevertheless approximately 4 times higher (0.5 to 2.0). In the year 2000, the proportion of suicide in this age range was 3 men for every woman.

Although the global suicide rate in Brazil has increased, significant gender-related differences were responsible for these rates (Figure 1). Evaluating year-2000 rates for males by age range (Table 1), the highest rate (14.2) was seen among those over the age of 75 and the lowest rate was seen among those from 5 to 14 years of age. However, an increase in the suicide rate was observed among males of all ages between 1980 and 2000. Whereas the increase in the over-75 age range was relatively low (14%), the 15-24 group presented an impressive increase of 1900% over the 20-year period. Comparing the various age ranges, the rate increased more in the younger group than in any other.

Among females, the lowest absolute suicide rate was in the 5-14 age range, and while the other age strata presented a certain reduction over the period studied, the 15-24 group presented a four-fold greater increase (300%), higher than that presented during the same period by females in any other age range.

Discussion

When the Brazilian numbers were compared to the worldwide suicide rates, Brazil was found to have one of the lowest suicide rates (3.0 to 4.0/100,000 inhabitants), especially in comparison to some European countries, whose rates reach over 40/100,000 inhabitants. However, in absolute numbers of deaths due to suicide, Brazil is among the 10 countries with the highest number of deaths, slightly more than 6000 per year.²

Diekstra and Gulbinat (1993)⁴ warned that there will be a dramatic increase in mortality due to suicide in the coming decades, especially in developing countries, stating that, in these regions, socioeconomic and behavioral aspects such as higher divorce rates, greater unemployment and decreased involvement in religious activities will result in an increase in the risk of individuals engaging in self-destructive behaviors. Another factor mentioned is the increased life expectancy in most countries,⁵ since this has been shown to correlate positively with suicide.

In relation to the gender, Brazilian studies confirm the tendency for a higher suicide rate among Brazilian men than among Brazilian women, at a ratio of 3:1 and in agreement with international studies.⁵⁻⁹ As for age range, there have been no studies focusing specifically on suicide among the elderly in Brazil. Therefore, any conclusion would be pure conjecture. Although the suicide rate among the elderly is stable or declining in developed countries, it has remained the same or increased in Latin countries, including Brazil.¹⁰⁻¹² International studies have identified various risk factors for suicide, including being male, having a mental disorders (such as depression, alcoholism or schizophrenia) and suffering from certain physical illnesses, especially those that are chronic, incurable, painful or terminal.¹³⁻¹⁵

The average age of individuals committing suicide in Brazil has been decreasing in recent years, which is in keeping with the global tendency. In 1950, 56% of all suicides occurred among individuals over the age of 45, compared with 1995, when 53% occurred in those between the ages of 5 and 44.^{1,6,16} Data obtained from the city of São Paulo *Aprimoramento das Informações da Mortalidade* (Mortality Database) indicate that, between 1996 and 2000, 66% of all suicides occurred among individuals between the ages of 5 and 44.¹⁷

In the United States, suicide is the third leading cause of death among young adults and adolescents, and the same can be observed in various European and Asian countries, as well as in other Latin American nations.¹⁸ In nine Brazilian capitals studied, an increase of 27.6% between 1979-1998 in deaths from external causes was observed among individuals in the 15-24 age range, and suicide was sixth among such the causes of such deaths.¹⁶ Although suicide rates among young people are still relatively low, the accelerated rhythm of increase has become a reason for great concern.

Comments

The collection of epidemiological data regarding mortality due to suicide in Brazil represents a significant advancement in determining the magnitude of the problem in the country. It allows the identification of high-risk groups in the general population, thereby furthering the development of targeted intervention strategies. It should be emphasized that the information obtained on suicidal behavior in Brazil is still scarce, hindering in-depth study of the subject. Knowledge of suicide attempt rates in Brazil is virtually nil, as in most countries. It is estimated, however, that the numbers of suicide attempts in most European countries are from 10 to 40 times higher than those of actual deaths from suicide.

Despite the difficulties involved in collecting information about mortality due to suicide in Brazil, descriptive epidemiological studies regarding suicide and conducted in various social, economic and geographic milieus are extremely important for the public health, are needed to increase knowledge on peculiarities of social conditions and are essential for the development of effective programs designed to prevent suicidal behavior.

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