# PROFILE OF DEATHS BY SUICIDE IN THE FEDERAL DISTRICT, BE-TWEEN 2010 AND 2012. A STUDY ACCORDING TO THE LEGAL MEDI-CAL INSTITUTE OF THE FEDERAL DISTRICT

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**Abstract:** The objective of the present study was to identify the profile of deaths by suicide in the Federal District, between 2010 to 2012. It is a quantitative, descriptive study, whose data were collected in the Forensic Medicine Institute of the Federal District. The profile of deaths by suicide evidenced in the research was constituted by men, young adults, singles, with consumption of some drugs in 39.6% for both genders, being the most used the hanging, with higher incidence on Monday, day shift. The incidence of deaths was 10/100 thousand inhabitants in the evaluated period. The region showed up with the profile similar to that presented in other studies, national and international levels, drawing attention to the increase in the death rate by suicide in the DF, which almost doubled, requiring detailed analysis of the causes of this increase.

Keywords: mortality, Suicide, drugs

# Introduction

The World Health Organization (WHO) and the Brazilian Ministry of Health (MS) recognize suicide as a public health problem, defining it as an intentional act by an individual to extinguish their own life. The WHO has intensified its actions in relation to suicide, highlighting its prevalence and the urgent need for prevention at the global level (World Health Organization, 2014; Brazil, 2005).

Since the nineteenth century, attempts to understand the causes of suicide have been made, with psychiatrist Philippe Pinel being one of the first to theorize on the subject, followed by his disciple Esquirol, who, in 1927, stated that suicide had the characteristics of mental alienations and



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that, normally, only in a delusional state would the individual commit such an act. For him, suicide should be treated with understanding for prevention, rather than punishment (Barrero et al., 2006). More recently, researchers have discussed suicide as a multifactorial phenomenon that involves not only psychological conditions, but also social and biological factors (Wasserman et al., 2018).

Sociologist Émile Durkheim, in his work Suicide, associated suicide with a social issue, arguing that the loss of traditional values and social identity could affect the individual's self-concept, making them more vulnerable to self-extermination (World Health Organization, 2012). Over time, the understanding of suicide has expanded to include contemporary social dynamics. In Brazil, there is growing concern about the increase in suicide rates, especially among the young population, and the country ranks ninth among the ten countries with the highest suicide rates, with about 25 suicides per day (Vieira et al., 2020).

Suicide continues to be a relevant public health problem, affecting all social classes. Although there are strategies to prevent and treat the phenomenon, the topic is still surrounded by social taboos, which hinders its open discussion and the implementation of effective policies (Ribeiro et al., 2019). Studies indicate that, in 2000, about one million people died by suicide in the world, with a notable prevalence in the age groups of 15 to 44 years. Suicide is the third leading cause of death in several countries, and in some regions, such as in the 10-24 age group, it is the second leading cause of death (Silva et al., 2019).

Factors such as unemployment, poverty, the loss of loved ones, and family problems have been linked to increased risk of suicide. However, other aspects, such as substance abuse, the availability of means to commit the act, social isolation, and mental disorders such as depression, continue to be considered key determinants (Martins et al., 2021; Lopes et al., 2020). Suicide is a complex and multifactorial issue, which prevents the formulation of simple or single explanations for its phenomenon (McAllister et al., 2020).

Suicide rates vary significantly between countries. According to the most recent data, countries such as Lithuania, Russia, and China have some of the highest rates, while Islamic countries,



such as Egypt, have the lowest global rates (Popov et al., 2021). Globally, men have higher suicide rates than women, in a ratio of 3:1 to 7.5:1, with the exception of countries such as China and India, where rates between genders are more balanced (Zhang et al., 2020).

In Brazil, the different regional realities require a specific epidemiological analysis for suicide, with the aim of developing prevention strategies adapted to each socioeconomic context (Santos et al., 2022). In response to this challenge, the Brazilian Ministry of Health implemented the National Strategy for Suicide Prevention in 2005, with the aim of reducing suicide rates in the country. In addition, in 2012, the Health Department of the Federal District (SES/DF) created the District Policy for Suicide Prevention, in line with the WHO guidelines for dealing with the problem (Ministry of Health, 2015; Federal District, 2012).

The Federal District, with a population of approximately 2.5 million inhabitants, has diverse socioeconomic characteristics, which makes the local analysis of suicide rates even more relevant. This study aimed to identify the profile of deaths by suicide in the Federal District between 2010 and 2012, with a view to formulating preventive strategies to reduce this rate. Specifically, the objectives were to analyze the characteristics of suicide victims, such as substance use, age group, gender, marital status and period of death recorded by the IML-DF between the years 2010 and 2012 (Brasil, 2013).

#### **Materials and Methods**

This is a quantitative, descriptive, retrospective study that aimed to describe the profile of all deaths by suicide examined by the Institute of Forensic Medicine (IML) of the Federal District, which occurred from January 2010 to December 2012, covering all 31 administrative regions.

The information was collected through the IML-DF electronic database. The variables were analyzed, namely, gender, age group, police station/circumscription of death registration (locality), marital status, interval at the time of death, means used for the act, as well as the use of legal and illegal drugs/medicines concomitant with the event. To this end, the information was organized and

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tabulated in the Excel spreadsheet and calculations of the percentage distribution were performed according to the categories mentioned above. To calculate the incidence rates, the populations available from the Brazilian Institute of Geography and Statistics (IBGE) and the Planning Company of the Federal District (CODEPLAN) were used.

The project was submitted to the Ethics Committee of the Educational Association of Brazil-Soebras/Faculdades Unidas do Norte de Minas (Funorte), following the standards of resolution number 196/96 of the National Health Council (CNS). Received a substantiated opinion approved on May 27, 2013, under the number 285.314 and Certificate of Presentation for Ethical Appreciation (CAAE): 11063113.7.0000.5141.

The exclusion criteria were deaths that occurred in the period analyzed, but with a legal cause of death other than suicide, and for toxicological tests, only cases that were positive for some of the drugs/medications or metabolites. Considering that electronic data were used retrospectively and from dead individuals, in addition to the fact that there was no disclosure of personal data, the use of the free and informed consent form was waived.

The risks were minimal to the research participants, as it was an analysis of information extracted from electronic databases. It is ratified that all protective and ethical measures related to the confidentiality of information and the anonymity of the research subjects were fully adopted and respected.

## Findings

A total of 265 cases of suicide were examined at the IML-DF between 2010 and 2012. In the first year, there were 109 (41.13%) deaths, while in the second, 74 (27.93%) and in the third, 82 (30.94%), with an annual average of 88 deaths.

In the distribution by gender, it was observed that 212 cases (80.0%) were male and 53 (20.0%) were female. Although the incidence of suicide among women remained stable in the last two



years, there was a small increase among men in the last year analyzed, as shown in Table 1. The ratio of suicides of men to women was 4:1.

			Ye	ars				
	2	2010 2011 2012		012				
Age range							Tota	l .
	F	M 1	F	M 1	F	M 1	N I º	%
10 – 14	0)	0	0	0	0	1	1	0,4
15 – 19	0	7	2	3	3	8	23	8,7
20 – 24	1	14	3	6	1	8	33	12,5
25 – 29	4	8	2	13	1	6	34	12,8
30 – 34	5	11	0	6	1	10	33	12,5
35 – 39	1	11	1	6	1	10	30	11,3
40 - 44	2	11	2	5	3	5	28	10,6
45 – 49	4	6	3	4	0	4	21	7,9
50 – 54	1	6	0	6	2	5	20	7,5
55 – 59	3	1	1	2	0	4	11	4,1
60 - 64	1	3	0	0	1	1	6	2,3
65 – 69	1	4	0)	3	1	2	11	4,1
≥ 70	0	4	0	5	1	4	14	5,3
Fotal								
By Gender	23	86	15	59	15	67	265	100,0
- + M	1	109 74		74		82	265	100,0
%	41	1,13	27	,93	30,94		100,0	100,0

Table 1 - Distribution by gender, age range and year of deaths by suicide examined at the IML-DF in the period from 2010 to 2012 (n=265).

Source: Forensic Medical Institute-DF/ Section of Informatics, Planning and Statistics/Civil Police of

the Federal District.

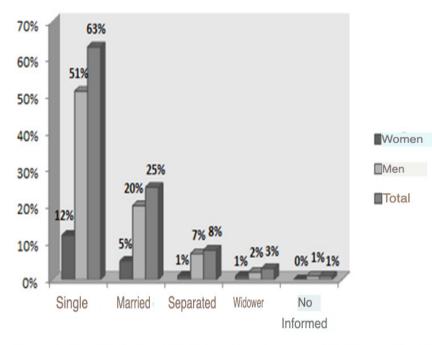
In the three-year period studied, regarding the analysis by age group, there was a predominance of young adults (20-24; 25-29; 30-34; 35-39 and 40-44), representing 59.7% of deaths by suicide, followed by the 50-54 and 55-59 age groups (11.6%).

Em idosos (60-64; 65-69 e  $\geq$  70), houve oscilação ao longo dos três anos, porém com maior prevalência, 11,7%, comparado aos adolescentes (10-14 e 15-19), que representaram 9,1% dos casos,



ou seja, o grupo etário com menor incidência de suicídio, conforme Tabela 1. A média de idade dos casos estudados foi de 38,7 (DP = 16,33).



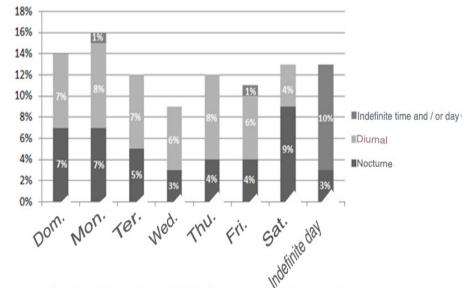


Source: Instituto Médico Legal-DF / Informatics, planning and Statistics section / Police Civil of the Federal District.

When analyzing marital status and gender, according to Graph 1, the cases were grouped as follows: those who did not have a stable union (single, separated/divorced and widowed) were in a group, of which they represent 74% of the cases, with 63% single, 8% separated and 3% widowed. The second group was represented by individuals with a stable union, adding up to 25% of the cases. One per cent of the cases studied did not have information on marital status. Of the singles, 51% were male and 12% female, and women always present themselves in a smaller proportion than men.



'Graph 2-Distribution by day of the week and period of the day of deaths by suicide, occurred in the period from 2010 to 2012 and necropciados in the IML-DF.



Source: Instituto Médico Legal-DF / Informatics, planning and Statistics section / Police Civil of the Federal District.

The distribution of deaths by suicide by day of the week was carried out, as shown in Graph 2, as follows: Monday and Sunday, with 42 (16%) and 37 (14%) respectively, with 1% on Mondays without the defined time. Then Saturday with 13%, Tuesday and Thursday with 12% each, Friday with 11%, Wednesday with 9%. Of the cases analyzed, 13% did not have information about the day of death and/or the time. There is a higher incidence of suicide cases from Saturday to Monday, with the middle of the week, Wednesday, being the period with the lowest incidence of the event.

Regarding the shift in which the suicides occurred, in 33 cases (12%) it was not possible to obtain this information. During the day (from 6:00 a.m. to 6:00 p.m.) there were 122 (46%) of the deaths and during the night, 110 (42%).

In the distribution by gender, in relation to toxicological tests, of the 265 cases, 60.4% (161) individuals were obtained who did not fit the inclusion criteria, that is, they did not have a positive result for any licit or illicit drug/medication, which also within this universe, did not contain any



information, being 47.7% (127) male and 12.7% (34) female, and for cases positive for drugs or medications, The results obtained were 39.6% (104), of which 32.3% (84) were male and 7.3% (19) female.

Regarding the positive toxicological tests, described in Table 2, licit drugs such as amphetamine, barbiturates and opiates were in a percentage below 5%, while ethanol had a prominent consumption of 41.32% in the last three years, while illicit and psychotropic drugs such as cocaine and the compound (cocaine + ethanol) reached the second group, both with a percentage of 18.26%. Benzodiazepines, the third group with 5.76%, according to Table 2, are the most evident in the complementary process of self-extermination.

Table 2 - Distribution by licit or illicit drugs/medicines of positive reports in the period from 20	10 to

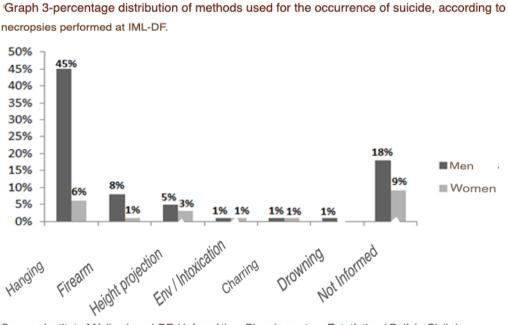
2012,	(n	=	104).
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Druge/ Medicines	201	10	2011		2012		Triênio	
Drugs/ Medicines	мı	F	M	F	M	F	menio	
Opiate		1 (0,96%)					1 (0,96%)	
Barbiturates	1 (0,96%)						1 (0,96%)	
Maconha		1 (0,96%)					1 (0,96%)	
Insecticide	1 (0,96%)	3 (2,88%)					4 (3,84%)	
Benzoadizepinics	3 (2,88%)	1 (0,96%)			1 (0,96%)	1 (0,96%)	6 (5,76%)	
Cocaine	13(12,50%)	1 (0,96%)	3 (2,88%)		2 (1,92%)		19 (18,26%)	
Ethanol	6 ( 5,76%)	2 (1,92%)	13 (12,50%)	3 (2,88%)	16(15,38%)	3 (2,88%)	43 (41,32%)	
Barbiturate + Maconha		1 (0,96%)					1 (0,96%)	
Cocaine + Ethanol	3 (2,88%)	1 (0,96%)	6 (5,76%)		8 (7,69%)	1 (0,96%)	19 (18,25%)	
Cocaine + Maconha	1 (0,96%)				4 (3,84%)		5 (4,80%)	
Benzodiazepine + Cocaine			1 (0,96%)				1 (0,96%)	
Amphetamine + Cocaine			1 (0,96%)				1 (0,96%)	
Cocaine + Ethanol + Maconha			2 (1,92%)				2 (1,92%)	
Drugs/Medicines	28 (26,90%)	11 (9,6%)	26 (24,98%)	3 (2,88%)	31(29,77%)	5 (4,80% )	104 (99.91%)	
Gênero F+ M %,	39 (36,50%)		29 (27,86%)		36 (34,57%)		104 (98,95%)	



Source: Forensic Medical Institute – DF/ Informatics, Planning and Statistics Section/Civil Police of the Federal District.

Of the means used to commit suicide described in Graph 3, the most prevalent was hanging with 135 (51%) of the cases, 118 (45%) of which were committed by men and 17 (6%) women, followed by firearms with 25 (9%) cases, 23 (8%) men and 2 (1%) women, then height projection with 22 (8%), with 15 (5%) men and 7 (3%) women. With fewer occurrences, poisoning/intoxication, charring and drowning were found, all with 1% for both genders, except drowning, which did not have deaths in women using this method. In 27% of the cases, it was not possible to obtain such data.



Source: Instituto Médico Legal-DF / Informática, Planejamento e Estatística / Polícia Civil do Federal District.

According to the legislation in force in Brazil (Law No. 015, of 12/31/73, with amendments introduced by Law No. 6,216, of 06/30/75), it is determined that the death must always be registered at the place of death (BRASIL, 1975).

In this context, we sought to distribute the analyzed cases within the 31 (thirty-one)



Administrative Regions (RA). However, it was observed that not all Administrative Regions had police stations, while others had more than one, making it difficult to distribute suicide cases by AR.

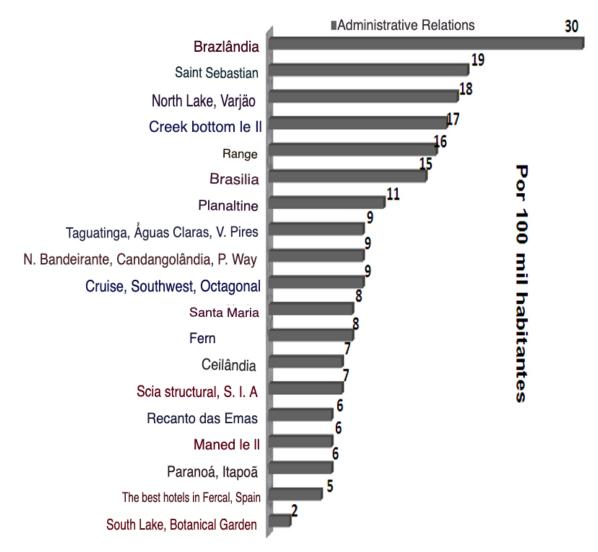
As a way to overcome this difficulty, it was adopted that regions with more than one police station would be analyzed with the sum of the cases of each police station and, in regions where there was no police station, the responsible police station was researched. Therefore, the deaths and the respective fraction of the population estimate of the region analyzed were added to another region with a police station, with the regions mentioned in Graph 4.

The Mortality from External Causes/Suicide rate was obtained through the quotient between suicide deaths that occurred in a given geographic region, the time period, and the population of the same unit estimated at the middle of the period.

Calculating the mortality coefficient due to External Causes/Suicide, which provides the number of suicides per 100 thousand inhabitants over the three years, and considering the total population of the Federal District of 2,654,922 inhabitants, according to data from CODEPLAN (2013) in the same period, the results shown in Graph 4 were obtained. The coefficient averaged 10 suicides per 100,000 inhabitants over three years, but proportionally to each year, the following results were obtained: in 2010 (4.11), 2011 (2.79) and 2012 (3.09).



Graph 4-suicide mortality coefficient, population estimated relationship in the regions Federal District-2010 to 2012 / n = 265 deaths by suicide.



Source: Instituto Médico Legal-DF / Informatics, planning and Statistics section / Civil Police of the DF and Codeplan-Compania de Planning of the federal district PDAD-2010/2012.

# Discussion

Analyzing the entire population of the Federal District, the suicide numbers presented an average of 3.3/100,000 for each year studied, which is below the Brazilian average, which is 4.5/100,000 inhabitants, which, on a global scale, can be considered low (BARROS; OLIVE TREE;



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#### MARÍN-LEON, 2004).

In general, suicide mortality rates in the Federal District showed a considerable decrease between 2010 and 2011, but with a slight increase in the following year, 2012. In the study by Viana (2008), whose analysis took place from 2001 to 2005, in the region of Amurel, Rio Grande do Sul, with data from the Forensic Medical Institute (IML), 19 cases of suicide were observed in 2001 and 14 cases in 2002. However, in consecutive years, there was a gradual increase in these values, as well as in the population, with 16 cases in 2003, 23 in 2004 and 26 in 2005.

With regard to gender, it was shown that there were many more male suicides (80%) than women (20%). In another study, it was described that they predominated in the five years studied, with 78 cases (79.6%) of the 98 suicides analyzed (VIANA et al., 2008). Other studies also show that rates are higher in males in all Latin American countries, ranging from 6 to 10 per 100,000 men and 2 to 4 per 100,000 women (MINAYO; SOUZA, 2003; MINAYO, 2005; SILVA et al., 2021).

Some factors may explain the lower occurrence of suicide among women, such as greater involvement in religious and social issues, less dependence on alcohol, or even the performance of roles during life, such as mother and wife. In addition, women recognize earlier signs that can lead to depression, suicide and mental illness, often seeking help in times of crisis. On the other hand, men are more sensitive to economic problems such as impoverishment and unemployment, for example, in addition to predisposing behaviors, such as competitiveness and precipitation, in addition to greater access to violent forms of lethality (OLIVEIRA et al., 2022; MENEGHEL et al., 2004).

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On the other hand, women make more suicide attempts than men, who are more effective in their acts because they use more radical methods, while the former use medication, which often does not lead to death (SILVA et al., 2021).

When the age group is evaluated, it was shown that between 20 and 44 years old there were 59.7% of the 265 deaths, verifying that young adults were the ones who committed suicide the most. Another study showed that, in São Paulo, the age group of young adults (25-44 years of age) is responsible for 45% of all deaths by suicide (VIANA et al., 2008), showing a higher prevalence, as in the present study.

Regarding marital status, cases that did not have a stable union (single, separated/divorced and widowed) represent 74% of the cases; married, 25% and not informed, 1%. This fact was confirmed in Fortaleza, by a study on the epidemiology of suicide, in the period from 1999 to 2008 (n=1299), where



it showed the highest incidence in singles (66.7%), followed by married people (27.4%) and widowed (3.1%) (OLIVEIRA et al., 2022).

The days with the highest prevalence were Monday (16%) and Sunday (14%). It is verified in the literature that the days of the week with the highest number of occurrences for suicide attempts are Sunday and Monday, although, for completed cases of suicide, it was observed that Monday presents about 21%, followed by Wednesday and Friday, with about 18% for both (MINAYO, 2005).

The most observed shift was the daytime shift, with 46% of the cases. The night shift presented 42%, in 2% there was no information on the shift and 10% did not obtain information on the shift and day. In Costa Rica, from 1980 to 1996, 26 deaths by suicide were identified in children up to 13 years old, of these, 17 (65%) were recorded from 7:00 a.m. to 6:00 p.m. and 9 (35%) were recorded from 7:00 p.m. to 6:00 a.m. (SILVA et al., 2021), corroborating this work.

It is also clarified that the drugs commonly researched in the IML-DF are cocaine, marijuana, benzodiazepines, amphetamines, barbiturates and opiates, whose analysis takes place in the urine; ethanol, from a blood sample; and, eventually, when there is a previous suspicion, the medico-legal expertise proceeds to the search for poisoning, carried out from the gastric contents or viscera. Thus, a positive result for the drugs analyzed in the urine matrix may correspond to consumption carried out not only on the day of death, but also in the last 3 to 5 days prior to the event. On the other hand, the ethanol and poisoning surveys correspond to consumption very close to the time of death.

Ethanol, despite being considered a legal drug, contains substances that can cause damage to health, just like illicit drugs, but in a late way. According to Zhou et al. (2003) and Schuckit (2005), alcohol consumption has an impact on different organ systems, such as the central nervous system, the gastrointestinal tract, hematopoietic organs and the immune system.

Ethanol use has been associated with more than 30% of suicides, attempts, and violent behaviors (Minayo and Deslandes, 1998; CEBRID, 2010). The use of ethanol by people who committed self-extermination in the last three years reached the percentage of 16.2% within the total group of autopsied suicides. As for illicit and psychotropic drugs, cocaine reached the second group along



with the compound (cocaine + ethanol), both with a percentage of 7.2%, benzodiazepines as the third group, with 2.3% of the drugs most used in the complementary process of self-extermination.

Cocaine is a compound that induces tolerance. Users require progressively higher doses to present the same initial effects, thus increasing consumption and toxic effects, such as irritability, aggressive behavior, tremors, psychotic behaviors, as well as musculoskeletal damage (irreversible degeneration), mydriasis, tachycardia, chest pain, seizures and, in more extreme cases, coma and death (Carlini et al., 2001).

Few scientific studies report the possible contribution of the use of drugs or medications in individuals who actually died.

The highest incidence of drug association was observed with the concomitant use of cocaine and ethanol, with 18 individuals (6.8%). Other associations were observed, but with lower prevalence, as described below: five cases (1.9%) of associated use of cocaine and marijuana, two (0.8%) of amphetamine and cocaine, and one (0.4%) of benzodiazepines and cocaine. There were also two cases (0.8%) of association of three different types of drugs, namely, cocaine, ethanol and marijuana, as shown in Table 2.

According to Vasconcelos et al. (2001), the use of alcohol in combination with the use of cocaine is considered the most frequent association, which results not only in an increase and prolongation of euphoria, but also in great toxicity. The associated consumption of these two drugs generates a great loss of control of consumption, social problems and violent behaviors that lead to risky behaviors, being the basis of more severe clinical conditions observed (Prior et al., 2006).

Regarding the methods, the most used was hanging (51%), followed by firearms (9%). Analyzing by gender, men used hanging (45%) and firearms (8%) more, while women, hanging (6%) and height projection (3%). In Amurel (RS), the most used method to commit suicide in the period from 2001 to 2005 was hanging (68.4%), then firearms (12.2%) (Meneghel et al., 2004).

Correlating gender with the method used, hanging was the most used, both by men and women, with 70.5% of the cases, and the latter with 60%. The use of firearms was in second place for



men, with a percentage of 12.8%. On the other hand, in second place for women, drowning appeared, with 20% (Meneghel et al., 2004).

In a regionalized way, that is, by Administrative Regions, some variations were found, among them, 12 cities with rates below average, with Lago Sul having the lowest suicide rate. Seven other cities presented values above the average of the Federal District. One piece of data, however, drew a lot of attention: all the ARs, with the exception of Lago Sul/Jardim Botânico, presented values above the national average of suicide, which is 4.8 per 100 thousand inhabitants, with Brazlândia having the highest and most expressive suicide rate.

In a report recently presented by the World Health Organization (WHO), with the objective of preventing suicide and encouraging the adoption of new guidelines and strategic programs, it was emphasized that each country should treat suicide as a public health problem. The report points out that about one million people die by suicide annually, a number higher than the total number of victims of wars and homicides, and that rates have grown in recent years (WHO, 2012).

In Brazil, suicide ranks third among violent deaths, behind only traffic accidents and homicides, with a rate of 4.8 per 100,000 inhabitants in 2008 (D'Oliveira, 2004). When compared to countries such as Lithuania and Russia, whose suicide rates are 34 and 30 per 100,000 inhabitants, respectively, in data from 2009 and 2006, Brazil has a lower suicide rate, but in absolute terms, the number of cases is high due to its large population (Popov et al., 2021; Zhang et al., 2020).

An epidemiological study conducted between 1980 and 2006 indicated that the southern region of Brazil had the highest suicide rates, with 9.3 deaths per 100,000 inhabitants, followed by the Midwest region, with an average of 6.1 deaths per 100,000 inhabitants. Individually, the Federal District, in the three-year period from 2004 to 2006, had a rate of 5.3 deaths per 100,000 inhabitants (Rouquayrol et al., 2009). However, when analyzing the period from 2010 to 2012, the suicide rate in the Federal District rose to 10 deaths per 100,000 inhabitants, which places this region in a prominent position in the national scenario (Silva et al., 2021).

Cities such as São Sebastião and Brazlândia had suicide rates above the average of the Federal



District, with 20 and 30 deaths per 100,000 inhabitants, respectively. Brazlândia's rate, in particular, is alarming when compared to other cities, suggesting that more studies are needed to investigate the specific causes of this high number of suicides (Oliveira, 2022)

## Conclusion

The results of this research showed that, from 2010 to 2012, 265 cases of suicide were examined in the IML-DF. Of these cases, 80% were male and 20% female, which shows that the frequency of deaths from this underlying cause is four times higher in men.

The profile of suicide victims reveals the dimension of this problem. It was shown that most occurred among men, in general, young adults, single, at the beginning of the week, Monday, during the day. Less than half used some type of drug, but of the positive tests 82% were men. In general, they mainly used ethanol and cocaine. Regarding the means used, hanging and firearms were the most expressive in both genders. Regarding the analysis by administrative region of the Federal District, Brazlândia had the highest suicide rate. Within this context, the Federal District has become a highlight in the national scenario in terms of the high number of suicides per inhabitant.

It is evident that there is a need for discussion on the subject throughout society, including schools, municipal councils, churches, and residents' associations, emphasizing the appreciation of life, the recovery of self-esteem, in addition to offering perspectives to the population that has been vulnerable to suicidal practice5.

That is why such importance is attached to the facts studied, suggesting that studies similar to this one be repeated in order to create a timeline on the frequency of the suicide event.

## References

Organização Mundial da Saúde. Preventing suicide: A global imperative. Geneva: World Health



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Organization; 2014.

Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Impacto da violência na saúde dos brasileiros. Brasília: Ministério da Saúde; 2005.

Barrero SP, Corrêa H, ED. Suicídio: uma morte evitável. São Paulo: Atheneu; 2006.

Wasserman D, et al. Suicide and mental disorders: A global review. In: Suicide prevention: A global perspective. Geneva: World Health Organization; 2018.

World Health Organization – WHO. Public health action for the prevention of suicide. Editors: Geneva: World Health Organization; 2012.

Vieira LJ, et al. Suicídio no Brasil: Dados e tendências. Rev Bras Psiquiatr. 2020;42(1):45-50.

Ribeiro B, et al. Suicídio e tabus sociais: O estigma por trás do autoextermínio. Saúde Mental. 2019;22(3):150-155.

Silva RS, et al. Suicídio no século XXI: Análise das principais causas e consequências. J Public Health. 2019;43(4):324-330.

Martins A, et al. Fatores de risco e proteção para o suicídio: Estudo transversal. Psicol Estud. 2021;26:e41001.

Lopes F, et al. Uso de substâncias e suicídio: Uma revisão da literatura. J Psychiatry Clin Neurosci. 2020;10(1):1-9.

McAllister M, et al. Suicide prevention strategies: A review. Psychol Health Med. 2020;25(3):285-297.

Popov D, et al. Suicide rates and social factors: A global comparison. Lancet Psychiatry. 2021;8(5):432-439.

Zhang L, et al. Gender differences in suicide rates in Asia: A systematic review. Asian J Psychiatry. 2020;53:102128.



Santos T, et al. Epidemiologia do suicídio no Brasil: Desafios para a política pública. Rev Saúde Pública. 2022;56:39-44.

Ministério da Saúde (Brasil). Diretrizes Nacionais para Prevenção do Suicídio. Brasília: Ministério da Saúde; 2015.

Distrito Federal. Secretaria do Estado de Saúde do DF. Política Distrital de Prevenção do Suicídio. Portaria nº 184 de 12 de Setembro de 2012. Diário Oficial do DF, Seção I, Distrito Federal, p. 09 – 11 set. 13 de 2012. Legislação Distrital do DF.

Brasil. Ministério do Planejamento, Orçamento e Gestão. Instituto Brasileiro de Geografia e Estatística. IBGE cidades. Brasília- DF. Março 2013 (acessado 2013 mar 30). Disponível em: http://www.ibge.gov. br/cidadesat/topwindow.htm1.

Brasil. Presidência da República. Lei no 6.216, de 30 de junho de 1975. Brasília: Congresso Nacional; 1975.

CODEPLAN - Companhia de Planejamento do Distrito Federal. PDAD – Pesquisa Distrital por amostra de Domicílios 2011-2013. Maio 2013 (acessado 2013 maio 25). Disponível em: http://www. codeplan.df.gov.br/component/content/article/261-pesquisas- socioeconomicas/294-pdad-2013.html. 25/05/2013 15h25.

Barros MBA, Oliveira HB, Marín-Leon L. Epidemiologia no Brasil. In: Werlang BG, Botega NJ, editores. Comportamento suicida. Porto Alegre: Artmed; 2004. p. 45-58.

Barros MBA, Oliveira HB, Marín-Leon L. Epidemiologia no Brasil. In: Werlang BG, Botega NJ, editores. Comportamento suicida. Porto Alegre: Artmed; 2004. p. 45-58.

Viana GN, Zenkner FM, Sakae TM, Escobar BT. Prevalência de suicídio no Sul do Brasil, 2001-2005. Jornal Brasileiro de Psiquiatria. 2008; 57(1): 38-43.

Minayo MCS. Suicídio: violência auto infligida. In: Brasil. Impacto da violência na saúde dos brasileiros. Anexo VII. Brasília: Ministério da Saúde; 2005. p.206-234.

Silva RS, et al. Suicídio no Distrito Federal: Análise das taxas entre 2010 e 2012. J Bras Psiquiatr.

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2021;70(4):212-218.

Oliveira AM, et al. Suicídio no Brasil: Análise das taxas por município no Distrito Federal. Saúde Coletiva. 2022;29(4):112-118.

Meneghel SN, Victora CG, Faria NMX, Carvalho LA, Falk JW. Características epidemiológicas do suicídio no Rio Grande do Sul. Revista de Saúde Pública [online]. 2004; 38(6): 804-10.

World Health Organization – WHO. Public Heal th action for the prevention of suicide. Editors: Geneva: World Health Organization; 2012.

D'Oliveira CF. Atenção a jovens que tentam suicídio: é possível prevenir. In: Lima CA, organizadora. Violência faz mal à saúde. Brasília: Ministério da Saúde; 2004. p. 177-184.

Rouquayrol MZ, Pinheiro AC, Lima JRC. Bol. Saúde Fortaleza, v: 13, n.1, Jan-Jun/2009.

MacMahon, B.: Ipsen, J. & Pugh, T.F. Métodos de Epidemiologia. Prensa Médica Mexicana, 1965. 126p.

Reyes G, Alma; Escobar Y, José Lempira; Valerio H, Mayela. Suicidio en niños. Med. leg. Costa Rica, Heredia, v. 15, n. 1-2, dez. 1998.

Zhou F.C; Sari Y; Powrozek T; Goodlett CR; Li Tk. Moderate Alcohol exposure compromises neural tube midline development in the prenatal brain. Developmental Brain Research. V. 144, N.1 P. 43-55, 2003. National Institute.

Schuckit, M.A. Alcohol y Alcoholismo. In: Kasper DL; Fauci AS.; Longo DL Harrison. Princípios de Medicina Interna. 16º edición. México: McGraw Hill; 2005.

Minayo, Maria Cecília de Souza; Deslandes, Suely Ferreira. A complexidade das relações entre drogas, álcool e violência. Cad. Saúde Pública, Rio de Janeiro, v. 14, n. 1, jan. 1998

CEBRID – Centro Brasileiro de Informação sobre Drogas Psicotrópicas, Departamento de Psicologia da Unifesp/Universidade Federal de São Paulo – Escola Paulista de Medicina. Livreto Informativo Sobre Drogas Psicotrópicas. 5 ed. Brasília: CEBRID/ UFSP; 2010.

ISSN: 2763-5724 / Vol. 05 - n 02 - ano 2025



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Carlini EA, Nappo SA, Galduróz JCF, & Noto AR. Drogas psicotrópicas: o que são e como agem. Revista IMESC, (2001) 3, 9-35.

Vasconcelos SMM, Macedo DS, Lima ISP, Sousa FCF, Fonteles MMF, Viana GSB. Cocaetileno: um metabólito da associação cocaína e etanol. Revista de Psiquiatria Clínica, 28 (4): 207-210, 2001.

Prior NM, Payá JM, Company ES, et al. Transcendencia del cocaetileno en el consumo combinado de etanol y cocaine. Revista Española de Drogodependencias. 31 (3 y 4) 254-270. 2006.

Popov D, et al. Suicide rates and social factors: A global comparison. Lancet Psychiatry. 2021;8(5):432-439.

Zhang L, et al. Gender differences in suicide rates in Asia: A systematic review. Asian J Psychiatry. 2020;53:102128.

