

Epidemiological profile of suicide attempt cases: An integrative review

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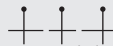
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Objective: to analyze the profile of individuals who attempt suicide, through the analysis of studies published in scientific databases. **Methodology:** this is an integrative review. A total of 31 articles were selected in the English, Portuguese and Spanish languages. Studies published in the *Biblioteca Virtual em Saúde*, Scientific Electronic Library Online and PubMed databases were analyzed. **Results:** predominance of females was evidenced. The data presented dispersion according to the age group, which varied from 12 to 64 years old, and the older adults and the adolescents were vulnerable populations. Women used fewer lethal means, such as exogenous intoxication, while men preferred lethal means such as hanging and firearms. The act took place predominantly in the individuals' home. Depression and other psychiatric disorders are predictors, as well as unemployment and marital, financial or personal problems, variables that were also factors related to recurrence; whereas having a stable relationship can be a protective factor. **Conclusion:** recognition of the epidemiological profile of people who attempt suicide can contribute for health managers to work with the specificities found, through preventive strategies in health and psychosocial care institutions.

Descriptors: Suicide Attempted; Health Profile; Self-Injurious Behavior; Mental Health.

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Perfil epidemiológico dos casos de tentativa de suicídio: revisão integrativa

Objetivo: analisar o perfil epidemiológico dos casos de tentativa de suicídio, por meio de estudos publicados nas bases de dados científicas. **Metodologia:** trata-se de uma revisão integrativa. Foram selecionados 31 artigos em inglês, português e espanhol. Realizou-se análise de estudos publicados nas bases de dados Biblioteca Virtual em Saúde, *Scientific Electronic Library Online* e PubMed. **Resultados:** observou-se predomínio do sexo feminino. Os dados se apresentaram dispersos quanto à faixa etária, que variou entre 12 e 64 anos, os idosos e adolescentes foram populações vulneráveis. Mulheres utilizaram meios menos letais, como intoxicação exógena, enquanto homens preferiram meios letais, como enforcamento e armas de fogo. O ato foi cometido no domicílio predominantemente. A depressão e outros transtornos psiquiátricos foram preditores, assim como o desemprego, problemas conjugais, financeiros ou pessoais, variáveis essas que são também fatores relacionados à reincidência. Ao passo que ter relacionamento estável pode ser um fator protetor. **Conclusão:** o reconhecimento do perfil epidemiológico das pessoas que tentam suicídio pode contribuir para os gestores da área da saúde atuarem nas especificidades encontradas por meio de estratégias preventivas nas redes de atenção à saúde e psicossocial.

Descritores: Tentativa de Suicídio; Perfil Epidemiológico; Perfil de Saúde; Comportamento Autodestrutivo; Saúde Mental.

Perfil epidemiológico de los casos de intento de suicidio: revisión integradora

Objetivo: analizar el perfil de las personas que intentan suicidarse, a través de estudios publicados en las bases de datos científicas. **Metodología:** revisión integradora. Fueron seleccionados 31 artículos en inglés, portugués y español. Se realizaron estudios publicados en las bases de datos de la Biblioteca Virtual en Salud, *Scientific Electronic Library Online* y PubMed. **Resultados:** se detectó el predominio del sexo femenino. Se advirtió dispersión de datos en cuanto al grupo de edad, que varió de 12 a 64 años, personas mayores y adolescentes fueron poblaciones vulnerables. Las mujeres utilizaron medios menos letales como la intoxicación exógena, mientras que los hombres optaron por medios letales, como el ahorcamiento y las armas de fuego. El acto se cometió predominantemente en el domicilio. La depresión y otros trastornos psiquiátricos son factores predictores, así como el desempleo, los problemas conyugales, financieros o personales, variables estas que se encuentran relacionadas con la reincidencia. Por otra parte, tener una relación estable puede ser un factor protector. **Conclusión:** el reconocimiento del perfil epidemiológico de las personas que intentan suicidarse puede contribuir para que los gestores de salud actúen sobre las particularidades encontradas a través de estrategias preventivas en las redes de salud y atención psicosocial.

Descriptores: Intento de Suicidio; Perfil de Salud; Conducta Autodestructiva; Salud Mental.

Introduction

Suicide is an intentional act of self-annihilation. Non-fatal suicidal behaviors include ideation, when there are ideas that encourage the desire to die, and suicide attempts, which consist of self-inflicted injuries, with the intention of death, either resulting in it or not. It is necessary to differentiate ideas and behaviors associated with the suicide risk, as not all thoughts about death induce self-harm⁽¹⁾.

Suicide is a serious global public health problem that, according to the World Health Organization (WHO), is among the twenty leading causes of death worldwide, corresponding to an annual number of approximately 800,000. In individuals aged between 15 and 29 years old, suicide is the second cause of death among women and the third among men, with 79% of the deaths due to self-annihilation occurring in low- and middle-income countries⁽²⁾.

Self-destructive behavior can exert a considerable financial impact on society. In addition to that, it involves a high psychological cost for the survivors and their family members⁽³⁾. It can also be influenced by personal, social, psychological, cultural, biological and environmental aspects. Poverty, low schooling, marital status and having psychiatric disorders such as depression, anxiety or use of psychoactive substances are considered risk factors⁽⁴⁾.

Two characteristics of suicide attempts are important at a practical level: the lethality degree and the recurrence risk. Lethality is defined as the probability of causing irreversibility. On the other hand, existence of one or more attempts is one of the main predictors of death due to suicide. Therefore, the profile of the individuals who attempt suicide can be a tool for developing strategies to prevent re-attempts and deaths⁽⁵⁻⁶⁾.

According to the WHO, to identify groups at risk of suicide, it is important to analyze rates and indicators stratified by gender, age and method used⁽²⁾, aiming to understand the profile of the individuals and to develop interventions with this population, in order to avoid new attempts that can culminate in death⁽⁶⁾.

Given the above, this study aimed at analyzing the epidemiological profile of the individuals who attempt suicide, through the analysis of studies published from 2015 to 2020.

Methodology

This is a study of the integrative review type, conceptualized as a methodological approach that enables condensation and analysis of the scientific

knowledge produced, up to the research time, on the theme investigated⁽⁷⁾. Through this method, it is possible to generate a consistent and understandable panorama of complex concepts, theories or health problems that are relevant to society⁽⁸⁾.

The data were collected in April 2020, in the following bibliographic databases: *Biblioteca Virtual em Saúde* (BVS), Scientific Electronic Library Online (SciELO) and PubMed. The inclusion criteria established were as follows: articles published between 2015 and 2020, in peer-reviewed scientific journals, available free of charge and in full, in Portuguese, English or Spanish. Files in the form of theses, dissertations and handouts were excluded. The guiding question elaborated was as follows: Which is the epidemiological profile of the individuals who attempt suicide? The descriptors used were the following: Attempted Suicide (*Tentativa de Suicídio*, TS), Epidemiological Profile (*Perfil Epidemiológico*, EP) and Health Profile (*Perfil de Saúde*, PS). The crossings performed in the three languages selected were "TS with PE" and "TS with PS".

For data extraction, an instrument was used, proposed in 2006, which included the article identification information, title, year of publication, language, authors, journal, study locus, objectives, method, results, recommendations, identification of the study limitations and biases⁽⁹⁾. The articles were identified and numbered, and the information extracted was organized through tables.

The intention was to list the factors that predispose individuals to attempt suicide, such as: gender, age, marital status, race/skin color, causal agent, employment status, place of occurrence and recurrence.

Data analysis followed these phases: reading of the abstracts according to the inclusion and exclusion criteria, reading of the full partial sample, detailed reading and exploration of the articles, coding of the emerging and relevant contents, and categorization based on incidence of the content and on the characteristics of the studies⁽¹⁰⁾.

Results

A total of 231 articles were found. After reading the titles, those unrelated to the epidemiological profile of individuals who attempted suicide were excluded, as well as those that were duplicates. The partial sample consisted of 56 (24.24%) articles, whose abstracts were read leading to the exclusion of 25 (44.64%). The final sample was analyzed in full, accounting for 31 articles, 13.41% of the initial total (Table 1).

Table 1 - Distribution of the articles found, excluded and selected in the electronic Journal databases. Uberaba, MG, Brazil, 2015-2020

BD*	AF†	AEx‡	PS§	AEx PS	FS¶
BVS	130	101	29	9	20
PubMed	76	51	25	14	11
SciELO	25	23	2	2	0
Total	231	175	56	25	31

*BD = Bibliographic Database; †AF = Articles Found; ‡AEx = Articles Excluded; §PS = Partial Sample; ||AEx PS = Articles Excluded from Partial Sample; ¶FS = Final Sample

The synthesis of the articles selected presents the year of publication, language and title of the journal (Figure 1).

N*	Y†	L‡/C§	TJ
1	2015	Portuguese/Brazil	<i>Ciência & Saúde Coletiva</i>
2	2015	English/India	Industrial Psychiatry Journal
3	2015	Portuguese/Brazil	<i>Revista de Enfermagem UFPE on line</i>
4	2016	Portuguese/Brazil	<i>Revista Brasileira de Enfermagem</i>
5	2016	English/Chile	Western Journal of Emergency Medicine
6	2016	English/Singapore	BMC Psychiatry
7	2016	English/India	Indian Journal of Psychological Medicine
8	2017	Portuguese/Brazil	<i>Revista de Enfermagem UFPE on line</i>
9	2017	Portuguese/Brazil	<i>Revista USP</i>
10	2017	Portuguese/Brazil	<i>Revista Eletrônica Tempus – Actas de Saúde Coletiva</i>
11	2017	Spanish/Uruguay	<i>Revista Médica del Uruguay</i>
12	2017	Portuguese/Brazil	<i>Epidemiologia e Serviços de Saúde</i>
13	2017	Spanish/Uruguay	<i>Revista de Psiquiatría del Uruguay</i>
14	2017	English/Romania	Medicine (Baltimore)
15	2017	English/Morocco	Epidemiology and Health
16	2017	Portuguese/Brazil	<i>Ciência & Saúde Coletiva</i>
17	2017	Spanish/Colombia	Duazary
18	2017	English/China	BMC Psychiatry
19	2017	English/Spain	BMC Psychiatry
20	2018	Portuguese/Brazil	<i>Epidemiologia e Serviços de Saúde</i>
21	2018	English/USA	International Journal of Environmental Research and Public Health
22	2018	Spanish, English/Spain	<i>Ciência & Saúde Coletiva</i>
23	2018	Portuguese/Brazil	<i>Texto & Contexto Enfermagem</i>
24	2018	English/Canada	JAMA Psychiatry
25	2018	English/Canada	PloS One
26	2018	Portuguese/Brazil	<i>Arquivos Catarinenses de Medicina (Impresso)</i>
27	2018	English/Spain	<i>Actas Españolas de Psiquiatría</i>
28	2019	English/Spain	<i>Actas Españolas de Psiquiatría</i>
29	2019	Spanish/Colombia	<i>Revista Ciencia y Cuidado</i>
30	2019	English/Togo	BMC Research Notes
31	2019	English/Spain	<i>Actas Españolas de Psiquiatría</i>

*N = Number of the Paper; †Y = Publication Year; ‡L = Language; §C = Country; ||TJ = Title of the Journal

Figure 1 - Distribution of the articles according to year of publication, title, language, authors and title of the journal. Uberaba, MG, Brazil, 2015-2020

Of the 31 articles selected, 12 (38.7%) were published in 2017, followed by 7 articles (22.6%) in 2018. The years 2015, 2016 and 2019 had 4 articles each. There was predominance of studies published in international journals, with 20 articles (64.5%). As for the papers' methodological approach, they were classified as follows: quantitative, 30 (96.7%) and qualitative, 1 (3.3%).

The studies were conducted in different locations, with hospitals and services for the abuse of psychoactive substances standing out. Researchers from the American continent published 61.29% of the studies analyzed.

Full reading of the articles allowed grouping them into three categories by similarity of contents that evidenced the epidemiological profile of the individuals: (1) General population analysis; (2) Specification of method used and (3) Analysis in specific population (Figure 2). The second and third categories were subdivided according to their specificities in attempted suicide among adolescents, drug addicts, older adults and in the rural population.

Categories	Number and Title of the Article
1) General population analysis	6. Profile Differences Between Overdose and Non-Overdose Suicide Attempts in a Multi-Ethnic Asian Society. 9. <i>Perfil de pacientes atendidos por tentativa de suicídio em um Hospital Geral de Emergências do estado de Alagoas, Brasil.</i> 10. <i>Perfil epidemiológico das tentativas de suicídio em Palmas-Tocantins, de 2010 a 2014.</i> 16. <i>Lesão autoprovoçada em todos os ciclos da vida: perfil das vítimas em serviços de urgência e emergência de capitais do Brasil.</i> 18. Personality traits and suicide attempts with and without psychiatric disorders: analysis of impulsivity and neuroticism. 19. Risk of re-attempts and suicide death after a suicide attempt: A survival analysis. 20. <i>Projeto Vida: integração da Vigilância Epidemiológica e setor da Saúde Mental frente às tentativas de suicídio em Fraiburgo, Santa Catarina, 2014-2017.</i> 21. Socio-Demographic and Mental Health Profile of Admitted Cases of Self-Inflicted Harm in the US Population. 22. Variables related to suicide attempt in a Spanish province over a three-year period (2009-2011). 23. <i>Análise da tendência temporal do suicídio e de sistemas de informações em saúde em relação às tentativas de suicídio.</i> 27. Differences between suicide attempts and other psychiatric hospital emergencies 28. Absence of association between the level of lethality and the recidivism of suicide attempts in a Spanish province. 29. <i>Intento suicida y factores asociados en dos instituciones de Cali Colombia.</i> 31. Repeated suicide attempts: a follow-up study.
2) Specification of the means used	<i>Intoxication:</i> 5. Medication Overdoses at a Public Emergency Department in Santiago, Chile. 12. <i>Tentativas de suicídio por exposição a agentes tóxicos registradas em um Centro de Informação e Assistência Toxicológica em Fortaleza, Ceará, 2013.</i> 15. Epidemiology and risk factors of voluntary pesticide poisoning in Morocco (2008-2014). 17. <i>Intentos de suicidio por intoxicación con sustancias químicas en Colombia 2007 – 2013.</i> 26. <i>Intoxicação exógena: casos no estado de Santa Catarina no período de 2011 a 2015.</i> <i>Burns:</i> 11. <i>Queimaduras autoinfligidas en el Centro Nacional de Quemados.</i>
3) Analysis in specific population	<i>Suicide attempt in teenagers:</i> 3. <i>Intoxicações associadas às tentativas de suicídio e suicídio em crianças e adolescentes.</i> 7. Profile of Young Suicide Attempt Survivors in a Tertiary Care Hospital in Puducherry. 8. <i>O adolescente que tenta suicídio: estudo epidemiológico em unidades de referência.</i> 13. <i>Conducta suicida en adolescentes y jóvenes en Uruguay: características de los registros y recursos humanos en emergencias públicas.</i> 14. Epidemiologic profile and triggering factors of voluntary poisoning in teenagers. 24. Association of Childhood Irritability and Depressive/Anxious Mood Profiles With Adolescent Suicidal Ideation and Attempts. 30. Suicidal ideation and suicide attempts in subjects aged 15-19 in Lomé (Togo). <i>Suicide attempt in people with problems arising from the use of alcohol and other drugs:</i> 4. <i>Comportamento suicida entre dependentes químicos.</i> <i>Suicide attempt in individuals with psychiatric disorders:</i> 25. Profile of suicide attempts and risk factors among psychiatric patients: A case-control study. <i>Attempted suicide in older adults:</i> 1. <i>Estudo qualitativo sobre tentativas e ideações suicidas com 60 pessoas idosas brasileiras.</i> <i>Attempted suicide in rural population:</i> 2. Sociodemographic profile of suicide attempters among the rural agrarian community of central India.

Figure 2 - Distribution of the articles according to the method used and to general and specific populations. Uberaba, MG, Brazil, 2015-2020

Among the studies included in the review, 11 are national, with surveys carried out in Alagoas, Santa Catarina and Minas Gerais. The other 20 are international, with the largest number of studies conducted in Spain, Canada, India, Colombia and Uruguay.

In 19 (61.29%) studies there was predominance of suicide attempts among women and, in 6 (19.35%), among men. Only one survey found gender equivalence. In relation to the age group of the studies analyzed, there was a discrepancy, with a variation in age range between 12 and 64 years old.

Regarding marital status, in seven (22.58%) studies there was predominance of single people, one did not find relevance in this aspect and the rest did not mention such data. With regard to race/skin color, only four studies cited this information, so that there was predominance of black-skinned/brown-skinned/African descendant individuals.

Intoxication/poisoning was listed as predominant in 22 (70.96%) studies, with use of oral medications being the most frequent method. Regarding occupation, in four studies there was predominance of students; in another study, housewives comprised the main group, one article revealed the relevance of unemployment, a survey carried out in rural areas found prevalence of farmers and the others did not mention this aspect.

In relation to the place of occurrence, seven (22.58%) articles performed this analysis and found urban residence as predominant, with the exception of one study that was carried out in rural areas.

Recurrence was found as a relevant factor for the attempts in 10 (32.25%) articles; the others did not perform this analysis. In relation to mental disorders, 13 (41.93%) mentioned that there was a relationship with suicide, also citing it as a relevant risk factor.

Discussion

There is much debate about the difficulty identifying the profiles of individuals susceptible to suicide attempts. However, when analyzing the group of people who commit such act, it is possible to identify common characteristics that serve as a warning for the development of prevention strategies. Therefore, for these people to be identified early in time, followed-up and have their suffering minimized, it is necessary to observe recurrent patterns and risk factors.

When analyzing suicide attempts in relation to gender, women predominate with incidence rates above 60%^(5,11-15). When compared, men and women are the majority in the suicide rates and in the suicide attempt rates, respectively; this may be due to the fact that the latter tend to choose less aggressive methods^(5,11,13) such as substance use^(11,16-18), since women self-medicate in larger numbers⁽¹²⁾. There is no consensus among the studies analyzed: some authors indicate that female gender can

be associated with relapses⁽⁵⁾, while others state that it is not possible to establish such relationship⁽¹³⁾.

Another point listed for the predominance of women is their greater depression risk⁽¹³⁾. In Brazil, depression affects 11.5 million people⁽¹⁴⁾ and is present in a large percentage of the individuals who attempted suicide^(6,19). According to a study carried out in 2015, with data from the 2013 National Health Survey, reports of depression were present in 7.6% of the population, affecting more women than men⁽¹⁷⁾.

A study carried out in Santa Catarina, Brazil, identified that women represented more than 68% of the notifications, with a mean age of 39 years old. The most used means was intake of medications, in more than 83% of the cases. As for men, approximately 31% of the notifications are concentrated in the age group from 40 to 50 years old, with the most common means being hanging, followed by intake of medications and use of melee weapons⁽¹⁸⁾.

On the other hand, a study carried out between 2007 and 2012 in the United States of America, showed predominance of white-skinned men, aged between 15 and 64 years old, and with firearms as the most used method⁽²⁰⁾. Despite the discrepancy in relation to the gender variable, this study maintains the mean age of prevalence and the consonance that men use more lethal methods.

In relation to the age group, the studies presented variations. Some reviews^(3,11,13) point out that there is predominance of individuals aged over 21 years old. On the other hand, there are reports with adolescents aged 15 years old and over⁽³⁾. Other studies present considerable numbers among people aged from 10 to 30 years old^(11-12,21). A number of research studies show that age between 24 and 53 years old can be considered a risk factor^(11,13,15-16).

This fact can be explained by the vulnerability in these life phases, as problems related to work, relationships and lack of social support predominate, causing high stress levels when compared to other life stages⁽²²⁾. On the other hand, adolescents are subjected to changes and psychosocial fluctuations that are characteristic of their age.

In the period from 2009 to 2014, a research study carried out in Spain showed that, in the general population, the age group between 35 and 65 years old can be considered a protective factor, as it is associated with a lower risk of highly lethal attempts, when compared to people aged less than 24 or over 65 years old⁽⁵⁾. These data are related to the research carried out in Minas Gerais, Brazil, where men aged between 70 and 79 years old had higher mortality rates⁽¹¹⁾.

In Colombia, an analysis was conducted with 32,097 cases of attempted suicide by intoxication. It was identified

that the age group from 15 to 24 years old had the highest number of cases throughout a seven-year period in both genders. There was predominance of women, except in 2008⁽²³⁾. In a similar study carried out in Brazil, 17,562 cases of intoxication were analyzed and, among them, the highest frequency occurred between the ages of 20 and 39 years old, with predominance of females⁽¹²⁾.

Some studies analyzed age groups separately. They indicate that, during adolescence, the risk of self-harm is greater than other methods. The use of pharmaceutical drugs is more common among girls, while the use of illegal drugs and alcohol is more prevalent among boys. As triggering factors, family and/or school conflicts and emotional disorders stand out⁽²⁴⁻²⁵⁾. Male adolescents have a higher rate of attempted and consummated suicide, as they use more violent methods. As for the girls, they tend to use less aggressive methods⁽²⁶⁾. In addition to that, the transitions that occur in adolescence are accompanied by numerous physical and psychological changes; therefore, the individuals are considered vulnerable⁽²⁴⁾. In a study carried out in Togo, Africa, it was found that students have a high tendency to suicidal thoughts due to academic and emotional difficulties⁽²⁵⁾.

A Brazilian study showed the profile of older adults who attempted suicide. In both genders, there was predominance of the age group between 60 and 69 years old. Depression was identified as a primary or secondary cause due to abandonment, family and financial losses, limiting, disabling and painful diseases, psychological distress and violence. As a protective factor, the extension of family and social relationships and the stimulation of daily activities can be listed⁽¹⁾.

In a Brazilian research study⁽²⁷⁾, the issue has been raised that there are few records of attempted suicides among children under the age of nine. This fact can be attributed to the rarity of the event, but it can also represent underreporting, as it can be identified as an accident or negligence.

In relation to marital status, some studies indicate that this variable was not relevant to the attempts^(5,13). In contrast, a number of research studies showed that single people who live alone are at greater risk of attempting suicide^(3-5,11,16,28). A stable marital relationship can be considered a protective factor⁽¹⁶⁾.

With regard to the racial analysis, a Brazilian study noticed predominance of black- and brown-skinned individuals. The results showed more white-skinned women, whereas men stand out among the black-/brown-skinned subjects. Among the indigenous people, however, there is predominance of women⁽²²⁾. A study⁽¹¹⁾ carried out in Tocantins, corroborates such data, considering that there was predominance of people who declared themselves brown-skinned, and this fact can be explained

by the profile of the population that predominates in each region.

In relation to the causal agent, intoxication was predominant in attempted suicide cases⁽¹¹⁾. Some studies indicate that use of poisons comes first, followed by medications⁽²⁹⁾. Corroborating these data, a study carried out in Ceará, Brazil, showed that the most frequently involved toxic agents were pesticides⁽²⁸⁾. Other research studies indicate intake of medications as the most used method⁽¹¹⁻¹²⁾, with overdose by medications or other substances as one of the most important means used to attempt self-extermination, especially among women.

A study carried out in Santiago found that, every 24 hours, 2.1 patients were admitted to the hospital due to drug overdose. Commonly used medications were benzodiazepines, followed by selective serotonin reuptake inhibitors. There was drug association in 35% of the cases and low levels of concomitant intake with alcohol or illicit drugs⁽³⁰⁾.

A study carried out from 1995 to 2015 in Uruguay indicates that burns are common among the attempted self-extermination methods, with predominance of men and a mean age of 40 years old⁽³¹⁾.

Women are more likely to be involved in drug poisoning or intoxication and use fewer cutting, piercing and anoxic methods or firearms when compared to men^(7,13,15-16,23,32). In addition, in a US study, it was possible to identify that older age groups present more chances of using firearms⁽²⁰⁾.

A study carried out with 485 medical records in Singapore showed that the individuals who already went through psychiatric hospitalizations used intake of medications or substances as method⁽³⁾. Reinforcing these data, a study carried out in Ontario, Canada⁽³³⁾, showed that there was predominance of pill intake. The authors suggest that this fact can be related to greater accessibility to medications in the population with mental disorders.

In contrast, the individuals not undergoing any psychiatric treatment preferred means not related to medications or substances, using highly lethal means, such as pesticide ingestion, hanging, jumping and poisoning. In addition to that, high lethality was significantly higher in those who consumed alcohol and/or had interpersonal conflicts two hours before the suicide attempt⁽¹⁵⁾.

In relation to occupation, some articles reveal that students were the main victims, followed by housewives^(11,28,30). In addition to that, unemployment is an influential factor, especially in countries with high rates of this index^(5,13,31). Furthermore, lack of employment in men is associated with high-lethality suicide attempts⁽⁵⁾.

Regarding the place of occurrence, the residence prevailed, whether because of ease of access to the self-annihilation means or to the possibility of performing the

act without being seen^(3,22,27), with most of the residences located in the urban area^(22,30).

A study conducted in India⁽¹⁶⁾ with a rural population showed that, among the individuals who attempted suicide, the general profile would be that of men, farmers and single people. Most of them presented depressive symptoms and reported that the main reason was financial restriction and quarrels between family members due to economic loss. In this community, pesticides were the most used method, due to the availability of these products.

Recurrence is an important topic to be analyzed. A study carried out in Spain showed that, among the 711 individuals who attempted suicide, 23.9% had more than 2 previous attempts. The predictors of recurrence identified were age between 35 and 65 years old, unemployment, and history of personality disorder or substance use. However, recurrence was not associated with more lethal attempts⁽⁵⁾.

Other analyses show that there is a direct relationship between an attempt and its recurrence^(7,31). A Spanish research study monitored individuals who attempted suicide for six months. It was shown that 50% of them had previously performed self-extermination attempts and, during the study period, 14% repeated the act⁽⁶⁾. Contrasting with these data, another study also carried out in the Spanish territory⁽²⁹⁾ showed that, in 82.4% of the cases, the first attempt was made at the time of the analysis and the remaining 17.6% were recidivists. A Brazilian survey showed that more than half of the cases were the first attempt⁽³⁴⁾. In addition, presence of mental disorder is the predictive variable for the recurrence of suicide attempts⁽⁶⁾.

A research study showed that most of the new suicide attempts occurred within the first two years after the initial act. In addition to that, this study corroborates the predictive factors for recurrence presented in other articles, in which use of alcohol and presence of personality disorders are predominant⁽¹³⁾.

Presence of associated mental disorders was a factor that was also frequently observed. A Spanish study showed that more than half of the patients had a history of psychiatric illness, one out of five cases associated with alcohol use and one third with at least one previous attempt⁽³¹⁾.

It is fundamental to investigate the individuals' clinical aspects. The analyses show that 72%-86.7% of them have some psychiatric disorder, with depressive disorders being more frequent, followed by substance use and personality disorders^(5-7,13,28,31). Another study shows slightly lower statistics, although it revalidates mental disorders⁽³⁴⁾.

Other analyses indicated that 57% to 65.7% of the patients who attempted suicide were undergoing

monitoring in mental health^(7,31). The authors concluded that psychiatric diagnosis is a strong predictor of suicidal ideation and behavior. The situation is more alarming when the individual uses substances such as alcohol and other drugs⁽³⁵⁾. In addition to that, people with psychiatric disorders or substance abuse were more likely to be involved in cuts, punctures and anoxic methods or poisoning, and less likely to use firearms⁽²⁰⁾.

It is known that impulsiveness and neuroticism are personality traits associated with suicidal behavior. A research study⁽¹⁵⁾ showed that people who have attempted suicide and suffer from mental disorders have significantly higher levels of neuroticism.

In addition, aggressive behavior and/or impulsiveness can be considered an important factor in individuals with and without mental disorders^(6,36). A longitudinal study carried out in Québec, Canada, showed the relationship between types of behavior and psychological disorders with suicidal tendency in children. This indicated that, in the case of high irritability and high depressive/anxious mood profile, the risk was clinically more relevant for girls. Furthermore, children with irritability and depressive/anxious mood were up to twice as likely to attempt suicide⁽³⁶⁾.

An important profile of patients with suicide attempts are people with problems arising from the use of alcohol and other drugs. In a study carried out at the Psychosocial Care Center III (*Centro de Atenção Psicossocial III, CAPS III*), users who present suicidal behavior are mostly young, with psychiatric comorbidities and a concomitant history of family conflicts and mothers with a psychiatric history. In addition to that, important dates for the individual coincide with the suicide attempt⁽³⁷⁾.

The attempts can also be associated with other events, such as a personal problem and separation from spouses⁽³⁵⁾. Some are the result of acute stress reactions⁽³⁾. Other triggering factors can be end of relationships, family dysfunction, low self-esteem and financial problems⁽²⁹⁾. However, there are data that showed most of the events as unrelated to relationship, family or work problems⁽³⁾.

Some studies even explore time variations and show that different periods of the week or year can lead to variations in the number of suicide attempts due to different environmental conditions and stressors. Fridays correspond to the days with the least stress and, therefore, lead to a reduction in the numbers, which increase on Sundays, with a peak between Monday and Thursday, when there is accumulation of stress levels⁽³⁾. A Brazilian study pointed to Tuesday as the key day⁽²⁷⁾.

In hot months there is an increase in stress levels and, consequently, in the number of attempts. In months with holidays, these numbers decrease⁽³⁾. An Indian study evidenced that suicide attempts increase from April to June because they are related to the end of the High

School period and to the entry into higher education institutions⁽³⁸⁾. A Brazilian study carried out between 2014 and 2017 indicated prevalence in the months of March, August and October⁽¹⁸⁾.

As for lethality, according to a Spanish study⁽⁵⁾, hospitalization time can be used as a parameter; those who needed more than 24 hours of hospital care used more lethal means. Men needed longer hospitalization times, even though they represented a lower percentage in the number of attempts.

Conclusion

The studies selected showed that there are recurrent characteristics that can be used to identify at-risk populations or groups and help plan policies for the prevention of suicide. Despite some discrepant points, most of the articles concur that the attempts occur predominantly among women.

The sample presents higher incidence among individuals aged 30-50 years old. Adolescence and advance age deserve to be highlighted, as they are life cycles accompanied by changes in the body and in social and occupational roles, depression and, in the case of old age, abandonment or financial precariousness.

Some studies assert that marital status is not directly related to suicide attempts. In contrast, others show that having a stable relationship is a protective factor.

In general, women use less lethal means, such as intoxication by medications, pesticides or other substances. In contrast, men use more lethal means such as hanging, jumping or firearms. This can be a justification for the female gender to predominate in the statistics related to suicide attempts, and for men to prevail in lethality.

Within the general profile, students, housewives, farmers and unemployed individuals stand out. Lack of employment and financial, personal or marital problems can be the triggers for an episode of attempted self-extermination.

Recurrence can be related to unemployment, presence of mental or personality disorders and use of psychoactive substances. The new attempt usually takes place within an interval of up to two years and this can guide prevention actions.

Mental disorders are present in most of the individuals who attempt self-extermination, especially depression, followed by personality disorders and those caused by the use of psychoactive substances. In addition to that, impulsiveness, neuroticism, irritability and aggression increase the chance of committing suicide.

Thus, it can be concluded that the recent national and international literature describes the profile of the individuals who attempt suicide, highlighting their similarities and divergences according to the target

population studied. This resource should be used by health managers and the community to guide the development and improvement of projects that accompany the most vulnerable individuals, in order to prevent avoidable deaths.

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