

## Epidemiological profile of suicidal behavior among nursing students

*Perfil epidemiológico do suicídio entre estudantes de enfermagem*

*Perfil epidemiológico del suicidio entre estudiantes de enfermería*

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### ABSTRACT

**Objective:** to identify the profile of suicidal behavior among nursing students at a private higher education institution in the Federal District, Brazil. **Methods:** descriptive study, through statistical analysis, conducted with 1567 nursing students, in 2017. It was used a sociodemographic and academic questionnaire, Beck's Suicidal Ideation Scale and Mini-Screening of Mental Disorders. The research was approved by the Research Ethics Committee. **Results:** most respondents were young adults, female and night students. One hundred and eighty-one students (11,55%) had already attempted suicide and the highest rates were presented in the first, third and fourth semesters of the course. Among them, 36,5% had depressive thoughts, 33,7% showed signs of depression and hopelessness and 56,4% remained with suicidal ideation. **Conclusion:** suicide attempts have their greatest magnitude among younger students, from the first two years of the course, which revealed expressive rates for depression, hopelessness and suicidal ideation.

**Descriptors:** Epidemiological profile; suicide; nursing students; university.

### RESUMO

**Objetivo:** identificar o perfil do comportamento suicida entre estudantes de enfermagem de instituição privada de ensino superior do Distrito Federal. **Métodos:** estudo descritivo, mediante análise estatística, realizado com 1567 estudantes de enfermagem, em 2017. Foram utilizados um questionário sociodemográfico e acadêmico, a Escala de Ideação Suicida de Beck e Mini-Rastreamento de Transtornos Mentais. A pesquisa foi aprovada por Comitê de Ética em Pesquisa. **Resultados:** a maioria era adulto jovem, do sexo feminino e estudava no período noturno. Verificou-se que 181 (11,55%) estudantes já tinham tentado suicídio e os maiores índices foram apresentados no primeiro, terceiro e quarto semestres do curso. Destes, 36,5% apresentaram pensamentos depressivos, 33,7% sinais de depressão e desesperança e 56,4% permaneciam com ideação suicida. **Conclusão:** as tentativas de suicídio têm sua maior magnitude entre estudantes mais jovens, dos primeiros dois anos do curso, os quais revelaram índices expressivos para depressão, desesperança e ideação suicida.

**Descritores:** Perfil epidemiológico; suicídio; estudantes de enfermagem; universidade.

### RESUMEN

**Objetivo:** identificar el perfil de comportamiento suicida entre estudiantes de enfermería en una institución privada de educación superior en Brasil. **Métodos:** estudio descriptivo, mediante análisis estadístico, realizado con 1567 estudiantes de enfermería, en 2017. Se utilizó cuestionario sociodemográfico y académico, Escala de ideación suicida de Beck y mini-detección de trastornos mentales. La investigación fue aprobada por el Comité de Ética de Investigación. **Resultados:** la mayoría eran adultos jóvenes, mujeres y estudiaban por la noche; 181 (11,55%) estudiantes ya habían intentado suicidarse y las tasas más altas se presentaron en el primer, tercer y cuarto semestre del curso. De estos, 36,5% tenía pensamientos depresivos, 33,7% mostró signos de depresión y desesperanza y 56,4% permaneció con ideación suicida. **Conclusión:** los intentos de suicidio tienen su mayor magnitud entre los estudiantes más jóvenes, desde los primeros años del curso, que revelaron tasas expresivas de depresión, desesperanza e ideación suicida.

**Descritores:** Perfil epidemiológico; suicidio; estudiantes de enfermería; universidad.

## INTRODUCTION

Suicide is a global public health problem<sup>1</sup>. It is estimated that more than 800,000 people die each year for this reason and for each adult who commits suicide, at least 20 more attempt against their life<sup>2</sup>.

According to the World Health Organization (WHO), attempted suicide is defined as any type of non-fatal self-harmful behavior, with evidence, whether implicit or explicit, that the person intended to die. In a report presented by the WHO, suicide among young people aged 15-29 is the second leading cause of death behind only external causes<sup>2</sup>.

In Brazil, between 2011 and 2018, 339,730 cases of self-provoked violence were reported. Among them, 45.4% occurred in the age group between 15 and 29 years. Women accounted for 67.3% (103,881 cases) and men for 32.7% (50,388 cases)<sup>3</sup>.

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So, a careful assessment of the mental health of young people is necessary. In this study, we chose to explore young university students because university life is characterized by a troubled period, marked by challenges and uncertainties that can be at the origin of various mental health problems, including suicidal behavior.

Thus, this study aimed to identify the profile of suicidal behavior among nursing students from a private higher education institution in the Federal District.

## LITERATURE REVIEW

It is common knowledge that entering university marks the beginning of a transition process to the world of work and to the very autonomy of the young adult<sup>4</sup>. When starting a higher education course, the student creates expectations and illusions regarding personal and professional future. However, adaptation to the university context may not be successful. This can lead to mental health vulnerabilities, existential conflicts and, in extreme cases, suicide<sup>5</sup>.

Thus, different factors may be associated with suicidal behavior among young university students, such as the challenges inherent to the process of personal, social and academic development, as well as maturity and autonomy for decision making in the face of academic environment's rigid determinations, among others<sup>6-9</sup>.

Among these young university students, health care students are subject to different factors that contribute to the high-risk development of emotional exhaustion<sup>10</sup>, stress, and suicide. They are more likely to suffer pressure for any failure or lack of preparation due to the possibility of patient death; they may feel guilty for what they do not know and therefore feel paralyzed by the fear of making mistakes; feeling of powerless, which are often responsible for ideas of abandoning the course and depression; the stress accumulated during the course, sleep deprivation and having easy access to methods of committing suicide<sup>11</sup>,

Among nursing students, there is also the burden of dealing with the suffering of others, an inherent act in the process of caring. Often they become early caregivers during their activities in the practice scenarios and sometimes a storage for anguish, pain and yearnings of relatives and patients<sup>12</sup>,

These students need emotional competence to go through the process of enduring the pain and grief of others, in addition to family, personal, academic, social, and professional duties. This requires a high emotional demand and, when not fully met, it results in psychic suffering; consequently, probable suicidal behavior<sup>13,14</sup>.

Thus, identifying trends and factors associated with the presence of suicidal behavior among university students, especially nursing students, can be an important tool for prevention and protection actions to be planned, both by university managers and the health care teams that assist them on and off campus.

## METHODOLOGY

A quantitative, descriptive study was carried out between October and November 2017 at a private university institution in the Federal District.

The inclusion criteria were: students regularly enrolled in the Nursing course at the institution; being over 18 years of age, being present on the day of data collection and agreeing to participate in the research by signing the Informed Consent Form (TCLE). Those who refused to sign the TCLE or felt uncomfortable participating in the research were excluded. Thus, we obtained an initial sample of 1570 students.

Three instruments were applied to obtain the data of the study cutout presented herein. The first was a closed questionnaire aimed at investigating the student's socio-demographic and academic conditions.

The second was about Beck's Suicidal Ideation Scale, which evaluates various moments of suicidal behavior - ideation, planning, and previous attempts<sup>15</sup>. It consists of 21 items, each with three response alternatives (0 to 2), which evaluate three dimensions of suicide ideation: active, passive, and prior suicide attempts. If the total score is equivalent to 6 or more, the suicide ideation is considered clinically significant. The first 19 items reflect gradations of the severity of desire, attitudes, and suicidal plans. The last two items are merely informative and inform the number of previous suicide attempts and the seriousness of the intention to die in the last attempt. It should be noted that this instrument cannot predict eventual suicide, but points to the existence of suicide risk among those who present ideation<sup>16</sup>. Only the twentieth question was used in this article.

And, finally, the Mini Mental Disorder Screening (Rastreo de Transtorno Mental, mini-RTM) which brings together questions that allow the detection of the most common mental disorders, among them anxiety, hopelessness, and depression, as well as issues involving substance abuse and psychotic disorders. Validated in Brazil, the mini-RTM evaluation is as follows: score from 0 to 2 (no disorder); 3 or more points (possibility of some psychological disorder, which can be more than one disorder). It is worth noting that this instrument does not replace the assessment made by psychiatrists and psychologists, being only a way of tracking possibilities of psychological disorder<sup>17</sup>.

In order to make data collection possible, after authorization for the study by the Research Ethics Committee, a contact was established with the coordination of the Nursing Course in order to obtain authorization to enter the classrooms of each semester class in the morning, afternoon and evening. After the authorization was granted, a schedule was elaborated aiming at the control of visits to the existing 45 classes of the Nursing Course, with the caution so that the day of application of the questionnaires did not occur on days of student evaluations. Thus, on the established days, the researcher exposed the objectives of the research to the students, making him/herself available to clarify doubts, presented the TCLE for later signature and, in the sequence, the research questionnaires.

It should be noted that in order to safeguard the physical and psychological integrity of the students throughout the data collection, the researcher was accompanied by academics, students in the last term of the Psychology Course, who under the supervision of a teacher from that course, they were there available to meet any demand for psychological support that might arise. During the entire collection procedure, only three students did not complete the survey, as they expressed discomfort with the topic. They were welcomed and referred to the Psychology Clinic of the institution. Therefore these cases were not part of the final sample, reduced to 1567 participants

The data were submitted to statistical analysis by the *Statistical Package for the Social Sciences* (SPSS) program, version 22.0 and then stored.

The research was approved by the Research Ethics Committee of the institution under no. 73110117.9.0000.5650, following the ethical principles that govern research with human beings determined by Resolution no. 466/2012 of the National Health Council.

## RESULTS AND DISCUSSION

1567 nursing students participated, which corresponded to 70.4% of the total number of students regularly enrolled.

We observed that the majority of students were enrolled at night (45.62%), in the age group between 21 and 25 years (32.48%) and covered both men and women, followed by the group between 16 and 20 to (30.7%); between 31 and 46 years 41 (21.64%); 26 and 30 years (13.52%) and finally the ones over 46 years (1.66%).

In the distribution of students enrolled per term, there was a predominance of enrolments in the second term - 347 (22.14%), followed by the fourth and sixth terms - 253 (16.15%) and 252 (16.08%), respectively. The data are presented in Table 1.

When analyzing the socio-demographic profile of the students, it was found that the majority of the interviewees were female, confirming that the future professionals follow a tradition in which nursing is a profession formed mainly by women. In this study, it was also found that this course is essentially made up of young adults and that most of them study at night; it can be inferred that these are working students. These results are in line with the latest summary report of the National Student Performance Exam (ENADE) of 2016, which portrays that the Nursing Course in Brazil is composed mostly of women (85.9%), aged up to 24 years (42.1%), brown (44.4%), single (64.8%) and working (50.1%)<sup>18</sup>.

It was also found that from the total number of students researched the incidence of suicide attempts was 181 (13.05%). From this total, 156 (86.2%) were women and 25 (13.8%) were men. Regarding the semesters, the students of the first one presented the highest proportion of suicide attempts (16.9%), followed by those of the third (14.7%) and fourth semesters (14.2%), while those of the fifth, sixth, eighth ones presented gradually lower values.

In relation to the age group, the students between 18 and 20 years old were the ones who presented the highest proportion of attempts (15.3%), followed by those between 21 and 25 years old (11.8%), while students above 31 years old showed lower proportions, according to Table 2.

We observed that the majority of suicide attempts were relative to women, reaching a frequency seven times higher when compared to men. Although it may have been influenced by the massive presence of women in the studied sample, this finding is not far from the Brazilian data on suicide that points out the women with a higher risk for suicide<sup>3</sup>.

**TABLE 1:** Profile of nursing students. Brasília, Brazil, 2017. (N=1567)

Variables	Male f (%)	Female f (%)	Total f (%)
<b>AcademicSemester</b>			
First semester	26 (1.66)	146 (9.32)	172 (10.98)
Second semester	52 (3.32)	295 (18.83)	347 (22.14)
Third semester	28 (1.79)	101 (6.45)	129 (8.23)
Fourth semester	46 (2.94)	207 (13.21)	253 (16.15)
Fifth semester	20 (1.28)	161 (10.27)	181 (11.55)
Sixth semester	39 (2.49)	213 (13.59)	252 (16.08)
Seventh semester	19 (1.21)	59 (3.77)	78 (4.98)
Eighth semester	13 (0.83)	142 (9.06)	155 (9.89)
<b>Age group</b>			
18 - 20 years	67 (4.28)	414 (26.42)	481 (30.7)
21 - 25 years	100 (6.38)	409 (26.1)	509 (32.48)
26 - 30 years	30 (1.91)	182 (11.61)	212 (13.53)
31 - 46 years	41 (2.62)	298 (19.02)	339 (21.63)
Over de 46 years	5 (0.32)	21 (1.34)	26 (1.66)
<b>Period</b>			
Morning	82 (5.24)	546 (34.89)	628 (40.13)
Afternoon	33 (2.11)	190 (12.14)	223 (14.25)
Evening	128 (8.18)	588 (37.44)	716 (45.62)
<b>Total</b>	<b>243 (15.53)</b>	<b>1324 (84.47)</b>	<b>1567(100)</b>

**TABLE 2:** Suicide attempts among nursing students, by gender, semester and age group. Private institution, Brasília, Brazil, 2017.

Variables	Suicide attempts		
	Yes f (%)	No f (%)	Total
<b>Gender</b>			
Male	25 (13.81)	218 (15.93)	243
Female	156 (86.18)	1168 (85.38)	1324
<b>Semester in progress</b>			
Fist	29 (17.0)	143 (83.0)	172
Second	37 (10.6)	310 (89.4)	347
Third	19 (14.7)	110 (85.3)	129
Fourth	36 (14.2)	217 (85.8)	253
Fifth	17 (9.4)	164 (90.6)	181
Sixth	23 (9.1)	229 (90.9)	252
Seventh	10 (2.8)	68 (87.2)	78
Eight	10 (6.4)	145 (93.5)	155
<b>Age Group</b>			
18 - 20 year	73 (40.33)	408 (29.58)	481
21 - 25 years	62 (34.25)	447 (32.10)	509
26 - 30 years	20 (11.04)	192 (13.85)	212
31 - 46 years	24 (13.25)	315 (22.72)	339
Over 46 years	2 (1.10)	24 (1.73)	26
<b>Total</b>	<b>181 (11.55)</b>	<b>1386 (88.45)</b>	<b>1567</b>

One of the aspects highlighted in the research is that 11.55% of all students have ever attempted suicide. This result is much higher than the percentages found in researches conducted in other countries and even in Brazil. In research conducted with 105,000 U.S. university students on suicidal behavior, it was evidenced that 0.8% of students attempted suicide in the past 12 months<sup>19</sup>. In Portugal, research with 1130 nursing students showed that approximately 5.2% of them had suicidal behavior<sup>20</sup>.

A survey conducted in northeastern Brazil showed that 7.5% of the 637 university students selected for the survey had already attempted suicide<sup>21</sup>.

Therefore, the result found in this research is an important predictor for the adoption of urgent preventive measures aimed at reducing the possibilities of further suicide attempts.

It is worth mentioning that the different results found in these studies may have occurred due to different types of instruments used for the understanding of the suicide phenomenon, due to the socio-demographic issues of each region, or due to the different numbers of subjects involved in each research. This reinforces the need to explore the topic in question more consistently.

Another aspect that has caught the attention of this research is the magnitude detected in the number of suicide attempts among students enrolled in the first semester of the course (17%). The scientific literature has indicated a significant percentage of young people, especially from the first year of university life, who bring a number of difficulties and pre-existing problems; and the findings of this research indicate the urgent need for support from specialized professionals as a means of preventing further suicide attempts<sup>22,23</sup>.

Given the above, the results of this research show that the student, upon entering university, already brings with them important issues of psychic suffering and previous stories of suicide. Thus, admission to the university does not seem to be a risk factor for self-extermination.

In this scenario, it turns necessary that the university adopts early measures for the prevention, detection, and management of suicide ideation from the first semester of the course, such as training teachers to detect suicide ideation early, creating centers to welcome students in mental suffering, encouraging support groups for students and family members who have already experienced suicide attempts or ideation, as well as lectures and events in which suicide can be perennially discussed. In this way, the university can become a protective factor for new cases of self-extermination.

Although first semester students showed the highest percentage of suicide attempts, there was also a high risk of suicide attempts among third, fourth, and seventh-semester students. When analyzing the curriculum of this institution, we can observe that the students of the Nursing Course start their clinical practices in hospitals and health centers exactly in the third semester. The seventh semester corresponds to the first supervised curricular internship, developed daily in a hospital environment. This fact requires greater attention from the teachers, tutors, and coordinators of the nursing course, due to the evidence that feelings such as anxiety, dissatisfaction, uncertainty, fear, and frustration are observed in nursing students in their supervised internship/practice periods, which can trigger a suicidal behavior<sup>24</sup>.

Another important piece of the research shows that among the 181 students who have already attempted suicide, 56.4% of them continue with suicidal ideation, that is, they have scored more than six on the Beck Suicide Ideation Scale. This data becomes relevant because it shows that suicidal thinking is still present in these students.

Also, these students indicated significant traces of hopelessness and depression. The little interest or pleasure in doing things has been seen almost every day in 36.5% of students who have attempted self-extermination. Also, the feeling of sadness, depression, and hopelessness was presented by 33.7% of these students. Esses são dados importantes para uma avaliação mais criteriosa de casos de depressão e desesperança entre esses alunos que já tentaram o suicídio, pois são fatores de risco para novas tentativas de autoextermínio. These data are presented in Table 3.

Depression affects people of different age groups, becoming a serious public health issue. It is estimated that by 2030, depression will be the world's main reason for disability. Depression, along with hopelessness - characterized as a negative mode of beliefs and expectations about one's own life and future - are relevant factors for detecting people who exhibit suicidal behavior<sup>25</sup>.

Depression at university causes the student difficulties in following the course, increases the number of abandonments and increases the risk of developing chemical dependency and may lead to suicide<sup>26</sup>.

Research shows health undergraduate students are more prone to depression than other students.<sup>27,28</sup> The results suggest that the prevalence of depressive symptoms and suicidal ideation are relevant. The correlation between depression and suicidal ideation is a relevant and worrying finding since these future professionals have the knowledge to succeed in suicide. Early identification of these symptoms at the university environment is necessary to provide adequate support and treatment to prevent further suicide attempts.

**TABLE 3:** Suicidal ideation and mental disorder screening among nursing students who have attempted suicide. Private institution. Brasília, Brazil, 2017.

<b>Variables</b>	<b>f (%)</b>
<b>Suicidal ideation</b>	
Score on <i>Beck Scale</i> < 6	79 (43.6)
Score on <i>Beck Scale</i> > 6	102 (56.4)
<b>Screening mental disorders - depression (little interest or pleasure in doing things)</b>	
Not once	20 (11.0)
Several days	53 (29.3)
More than half the days	42 (23.2)
Almost every day	66 (36.5)
<b>Screening for mental disorders - hopelessness (feeling sad, depressed or hopeless)</b>	
Not once	15 (8.3)
Several days	75 (41.1)
More than half the days	30 (16.6)
Almost every day	61 (33.7)
<b>Total</b>	<b>181 (100)</b>

The results of this study are in line with research conducted in Spain<sup>25</sup>, Chile<sup>29</sup>, and Brazil<sup>30</sup>, which have shown that there is a strong correlation between depression, hopelessness, and suicidal behavior. In all studies, depression has become a central element in the risk of suicide.

In a survey conducted in São Paulo, 19% of the Nursing Course students showed a tendency to depression compared among the courses<sup>31</sup>. Depression can be related to several factors such as: fear and insecurity in the face of academic contact with the patient; fear of causing some damage or harm to the patient, due to the reduced practical knowledge they still have; knowing how to deal with pain and suffering of patients; dealing with body intimacy, caring for terminal patients, dealing with questioning patients, who often do not accept treatment. Once the student cannot adapt to such situations they may develop periods of anxiety, depression, other psychic disorders and, consequently, suicidal ideation<sup>31,32</sup>.

Suicidal ideation becomes an important factor in the process called suicidal behavior. The presence of this ideation can trigger suicide attempts<sup>5</sup>. In university students, suicidal ideation may be present, either due to leaving adolescence and entering the young adult phase and/or through adversities experienced in academic life<sup>33</sup>.

Individuals living with depression can live with suicidal ideation. The negative aspects that arise when the individual presents the depressive symptoms can promote the lack of meaning in life and the feeling of impotence, and the appearance of this sensation fortifies this context predisposing the student to suicidal ideation<sup>34</sup>.

Thus, the presence of depression traces, hopelessness, and the maintenance of suicidal ideation among students who have already attempted suicide reveal worrying data to trigger new suicide attempts.

Suicidal behavior was present in the younger age groups, called generation Z. This letter represents a generational profile associated with the act of *zapear*, which reflects the habit of performing many tasks simultaneously, under technological mediation. The excessive use of technologies is a worrying factor regarding cognitive development, which can lead to loneliness feeling, lack of interest in studies and anxiety, influencing their educational development<sup>35</sup>.

Thus, this generation is more prone to manifest obsessive anxiety disorders, depression, language and communication problems which directly affect cognitive learning, impairing the training of new skills and competences for the development of nursing practices<sup>36</sup>.

In this perspective, it can be said that the profile of the generation z's young individual presents a certain distance from the profile required for the provision of nursing care, which requires the use of interpersonal and communication skills, in addition to patience, dedication, empathy, and co-responsibility. This possible mismatch can negatively impact students during their training period, triggering serious psychic problems, including suicidal behavior.

Knowing the situations that act as risk factors for suicide can help health professionals to identify risk and crisis situations. Among the risk factors for suicide are depression, hopelessness, and previous suicide attempts<sup>37</sup>.

We hope that the results of this study, besides contributing to the understanding of the suicide phenomenon among nursing students, will also assist nurses in the qualification of work teams, whether in the educational environment, urgency and emergency services, guidance, and welcoming the families of young people who show suicidal behavior.

We recommend that strategies for detection, reception and prevention of suicide be applied by university managers and linked to the family and psychosocial care network of these young people from the first semester of the course. This is necessary because it has been found that many students enter higher education with psychic suffering and previous stories of suicide attempts.

It is essential that managers and professors of public and private universities recognize these factors associated with the suicide of nursing students, as they will be able to carry out measures to prevent and combat suicide, improving the academic, social and healthy environment as a whole.

## CONCLUSION

It is concluded that suicidal behavior among nursing academics has its greatest magnitude among younger students, women during the first two years of the course. However, the risk detected also in the period relative to the start of the continuous practical activities cannot be disregarded. In addition, the risk of further suicide attempts among students who have already been victims of self-extermination remains high, as they have presented significant evidence of depression traces and suicidal ideation.

The limitation of the study lies in the methodology used, that is, a cross-sectional cutout in which only the studied period is known, therefore it is not possible to know in advance the evolution of suicidal behavior. We also understand that conducting the study in only one private institution is not enough to demonstrate the trend of the phenomenon among young nursing students. Therefore, in the agenda of future studies, it is necessary to carry out research in other scenarios, as well as, deepening other variables that help to better understand this complex problem.

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