

# Suicidal ideation among health field undergraduates: prevalence and associated factors

*Ideação suicida em universitários da área da saúde: prevalência e fatores associados*  
*Ideación suicida en universitarios del área de la salud: prevalencia y factores asociados*



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## ABSTRACT

**Objective:** To identify the prevalence of suicidal ideation and its associated factors in university students from the health field, in a public higher education institution.

**Method:** Cross-sectional study with 142 university students. Suicide Ideation Scale and a questionnaire for characterization were used. Fischer's exact test, chi-square, Odds-Ratio, Kruskal-Wallis, and Spearman's correlation were performed. A significance level of 0.05 was adopted.

**Results:** The prevalence of suicidal ideation was 22%. It was associated to the use of alcohol, tobacco, and other drugs, bullying, suicide attempts ( $p$ -value = 0.000), and not attending the course desired ( $p$ -value = 0.001). It was observed that the higher the score the lower the academic performance ( $p$ -value = 0.000). There was a difference in the mean score according to course ( $p$ -value = 0.000), and the score was higher among psychology students.

**Conclusion:** The high prevalence of suicidal ideation among university students in the health field reiterates the need to create intervention strategies, especially in the context of universities.

**Keywords:** Suicidal ideation. Students, health occupations. Mental health.

## RESUMO

**Objetivo:** Identificar prevalência e fatores associados da ideação suicida em universitários da área da saúde.

**Método:** Estudo transversal, com 142 universitários da área da saúde de instituição pública de Teresina-Piauí-Brasil. Utilizou-se Escala de Ideação Suicida e questionário para caracterização. Realizou-se teste qui-quadrado, exato de Fisher, cálculo da *Odds-Ratio*, Kruskal-Wallis e correlação de *Spearman*. Adotou-se nível de significância de 0,05.

**Resultados:** A prevalência de ideação suicida foi 22%, sobretudo, entre homens, solteiros e com vínculo empregatício. Uso de álcool, tabaco e outras drogas, histórico de bullying, tentativa de suicídio e não estar no curso desejado estão associados a ideação suicida. Observou-se que quanto maior o escore da escala menor o rendimento acadêmico. Universitários do curso de psicologia possuem maior extensão da motivação e planejamento do comportamento suicida.

**Conclusão:** Alta prevalência de ideação suicida entre universitários da área de saúde e fatores associados reforçam a necessidade de estratégias de intervenção nas universidades.

**Palavras chaves:** Ideação suicida. Estudantes de ciências da saúde. Saúde Mental.

## RESUMEN

**Objetivo:** Identificar prevalencia de la ideación suicida en universitarios, del área de la salud, de institución de enseñanza superior pública y factores asociados.

**Método:** Estudio transversal, con 142 universitarios. Se utilizó Escala de Ideación Suicida y cuestionario para caracterización. Se realizó una prueba Chi-cuadrado, exacta de Fisher, cálculo de la *Odds-Ratio*, Kruskal-Wallis y correlación de *Spearman*. Se adoptó un nivel de significancia de 0,05.

**Resultados:** La prevalencia de ideación suicida fue 22% y estuvo asociada al uso de alcohol, tabaco y otras drogas, ser víctima de bullying, tener historial de intento de suicidio ( $p$ -valor = 0,000) y no frecuentar el curso que desea ( $p$  = 0,001). Se observó que cuanto mayor sea la puntuación de la escala menor rendimiento académico ( $p$ -valor = 0,000). Hay diferencia en el promedio de la puntuación por curso ( $p$ -valor = 0,000), siendo mayores en el curso de psicología.

**Conclusión:** La alta prevalencia de ideación suicida entre universitarios del área de salud refuerza la necesidad de crear estrategias de intervención, principalmente, en el contexto de las universidades.

**Palabras clave:** Idea suicida. Estudiantes del área de la salud. Salud Mental.

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## ■ INTRODUCTION

Entering in a higher education institution is a stage of changes in social experiences and daily activities, giving autonomy and freedom to the undergraduate, but also implying in responsibility towards academic demands, regardless of gender, age, or cultural background. Those whose formation is in the health field experience daily the dilemmas of the profession they chose, involving the dualities health/disease and life/death<sup>(1)</sup>.

This reality may affect their academic performance and lead to negative results, in which their state of unbalance and their feelings of inability to solve conflicts become clear. That may lead to mental health problems, which in turn may result in suicidal behavior<sup>(2)</sup>.

This behavior relates to the actions of a person who aims to hurt or kill themselves. Suicidal ideation is a part of the spectrum of suicidal behavior, which also includes suicide planning, suicide attempts, and suicide itself<sup>(3)</sup>.

Data from the World Health Organization (WHO) show that more than 800 thousand suicides take place annually throughout the world. This problem is the second greatest cause of death among people from 15 to 29 years of age<sup>(4)</sup> - the age group of most university students. Suicidal ideation stands out in this context, especially among adolescents and young adults<sup>(5)</sup> since its progression, as evaluated by information regarding clear planning and intent, may suggest that suicide will be actually carried out in the next few hours or days<sup>(6)</sup>.

Suicidal ideation among university students is still a largely unexplored and marginalized theme, indicating how necessary it is to develop new knowledge on the subject<sup>(7)</sup>. In Brazil, specifically, studies on the theme are mostly focused on the South, Southeast, and Midwest regions, places in which the suicide rates are higher<sup>(8)</sup>. In addition, recognizing the prevalence of suicidal ideation and its associated factors is an effective strategy to prevent the most tragic outcome, which is suicide.

Considering this context, the guiding question of this work is: what is the prevalence, including its associated factors, of suicidal ideation among university students in the field of health, in a higher education public institution? To answer it, the aim of this study is identifying the prevalence of suicidal ideation of university students in the field of health, as well as its associated factors.

## ■ METHOD

Cross-sectional study carried out in a public institution of higher education in the state of Piauí - Brazil, including

students from four courses in the field of health: nursing, physical therapy, medicine, and psychology.

The population was made up of 849 undergraduates. To calculate the sample, a confidence level of 95% was used, with a maximum error of 5% and presumed prevalence of suicidal ideation of 12.6%<sup>(9)</sup>, leading to a sample of 142 university students. A simple randomized probability sample was used, since the number of students per course was similar.

Were included in the study: undergraduates from both genders, regularly enrolled in the aforementioned courses, who were 18 y/o or older. Were excluded: undergraduates who were removed from academic activities due to diseases and those who were in institutional exchange programs. There were no losses in the calculated sample.

Data collection took place from January to April 2017. Undergraduates were randomly recruited using the Microsoft Excel 2010 software, using the enrollment registration number in the academic system.

A structured questionnaire was applied, characterizing the sample regarding sociodemographic, economic, and academic variables, in addition to life events such as use of alcohol, tobacco, and other drugs, bullying, and history of suicide attempts.

Data on suicidal ideation were obtained from Beck's Suicidal Ideation scale (BSI), made up of 21 items, the first 19 of which had three possible answers, which referred to the intensification of the suicidal desires, attitudes, and plans. The total score varied from 0 to 38 and was calculated by the sum of the first 19 items. If any score is marked in the BSI, that is already an indication of suicidal behavior especially of ideation. It should be highlighted that the BSI is validated for use in Brazil with the general (non-clinical) adolescent population<sup>(10)</sup>.

To test the questionnaire and evaluate the abilities of the researchers in the use of the scale, a test was conducted with 10% of the sample. The information resulting from this stage was not a part of the analyzed database.

Data collection instruments were delivered inside envelopes to the undergraduates, who delivered them back after filling them. The participants received clarifications about the objective and method of the study and were invited to sign the Free and Informed Consent Form (FICF). This strategy guaranteed that their information would be confidential and private, according to the ethical and legal directives of Resolution nº. 466/2012 e nº. 510/2016. The study was approved by the Research Ethics Committee of the Universidade Estadual do Piauí (Protocol n. 1.861.528), in December 07, 2016.

Data was analyzed using the SPSS software, version 20.0. A descriptive statistic was used (absolute frequency, percentage, mean, and standard deviation). To verify the association between qualitative variables, the chi-squared test was used ( $\chi^2$ ) as well as Fisher's exact test. The strength of the associations between variables was assessed using Odds-Ration (OR) and confidence intervals (CI 95%). The *Kolmogorov-Smirnov* test was applied to numerical variables to verify the parametric distribution of data. To compare mean academic performance between the students from the four courses, the Kruskal-Wallis test was used, and to study the associations between the BSI results and academic performance, Spearman's correlation was used. A significance level of 0.05 was applied to all tests performed.

## ■ RESULTS

It was found that 22% of undergraduates presented suicidal ideation. The BSI mean was 4.08 ( $\pm = 8.10$ ). Among

those who presented with suicidal ideation, 58.1% were male, 71.0% single, 58.1% came from the city Teresina, 74.2% did not live alone (family or friends), 90.3% had a family income greater than a minimum wage, and 67.8% had a work contract. According to the bivariate analysis, these variables were not statistically associated to the presence of suicidal ideation ( $p$ -value > 0.05).

Among the undergraduates that presented suicidal ideation, 90.3% reported to drink alcohol, 54.8% used tobacco, and 54.8% used other drugs. These variables had a significant association to suicidal ideation. The use of alcohol, tobacco, and other drugs increased in 7.11 (IC=2.04-24.78), 9.15 (IC=3.67-22.82) and 11.03 (IC=4.30-28.32), respectively, the likelihood for an undergraduate to present suicidal ideation. Being a victim if bullying increases this likelihood 9.55 times (IC=3.904-23.389) and having a history of suicide attempt increases it 243 times (IC=51.308-1150.874) (Table 1).

**Table 1** – Association between suicidal ideation and the use of alcohol, tobacco, or other drugs, being the victim of bullying, and history of suicide attempts among undergraduates of courses in the health field. Teresina, 2017. (n=142)

	Presence of suicidal ideation				OR	CI	p-value
	Yes		No				
	N	%	N	%			
<b>Use of alcohol</b>					7.11	2.04-24.78	0.000**
Yes	28	90.3	63	56.8			
No	3	9.7	48	43.2			
<b>Use of tobacco</b>					9.15	3.67-22.82	0.000*
Yes	17	54.8	13	11.7			
No	14	45.2	98	88.3			
<b>Use of other drugs</b>					11.03	4.30-28.32	0.000*
Yes	17	54.8	11	9.9			
No	14	45.2	100	90.1			
<b>Bullying victim</b>					9.55	3.904-23.389	0.000*
Yes	21		20	18.0			
No	10	67.8	91	82.0			
<b>Suicide attempt history</b>					243.00	51.308-1150.874	0.000**
Yes	27	87.1	3	2.7			
No	4	12.9	108	97.3			

Source: Research data, 2017.

Caption: \* Chi-square test; \*\* Exact Fischer Test

A statistically significant association was found between suicidal ideation and the desired course ( $p$ -value = 0.001). 80.6% of undergraduates who have suicidal ideation are not in the course they want to be. Not attending the course they desire increases by 4,72 times the chances of suicidal ideation (CI = 1.8-12.4).

There is a negative correlation between the BSI score and the academic performance of the students ( $p$ -value = 0,000), that is, the higher the BSI score, the lower the academic performance.

It was also found that there is a statistically significant difference in the mean BSI score per course. The psychology course presented the highest mean in the BSI score (Mean = 11.48; Standard Deviation = 10.55).

## ■ DISCUSSION

The prevalence of suicidal thoughts among university students is considered high. In this study, the association tests allowed for significant findings, especially regarding the variables use of alcoholic beverages, tobacco and other drugs, history of bullying, and previous attempts of suicide, as well as not being in the course desired. These factors increase the chances of suicidal ideation, showing that these variables are consistently associated to suicidal ideation.

Another relevant finding was that the more intense the suicidal ideation, the lower the academic performance. It is also of note that among the academic courses, the psychology course presented the highest means regarding the presence of suicidal ideation, followed by the course of medicine.

This data raise worrying questions that go from course selection to entering university, and to the relations that are established there, in addition to the demands of the university environment itself.

The access to university represents a challenge for university students, involving personal, academic, and social performance, as well as demanding maturity, time, dedication, and the exercise of autonomy. However, whenever there are difficulties regarding these demands, feelings of preoccupation, uncertainty, sadness, failure and unfamiliarity with one's own life can be observed, later progressing into depressive thoughts and ideas of ending one's own life<sup>(11)</sup>.

Some studies suggest that there are other stressful agents that may contribute for the emergence of depressive symptoms among health field students, such as: loss of personal freedom, high levels of demand and contents, feelings of dehumanization, lack of time for leisure, competition between colleagues, and even the contact with patients, all can be

agents that contribute to the symptoms that will reflect on the academic performance and in social relationships<sup>(12-13)</sup>.

In addition, the university environment enables new discoveries, affective bonds and relations, as well as the participation in social circles through parties. However, it is common for young adults in university to adopt vulnerable postures in order to be accepted in these groups, such as using alcohol, tobacco and other drugs. The findings of this study show an association between the use of these substances and the presence of suicidal thoughts.

There is evidence associating the use of licit drugs and its relations with suicidal behavior. While alcohol is frequently associated with suicidal ideation, abusive use of tobacco is related to suicide attempts<sup>(14)</sup>.

In this study, the findings showed a relation between suicidal ideation and bullying. To this end, some studies point out that bullying has an indirect effect on suicidal behavior, as it can provoke depressive symptoms and favor the use of alcohol, tobacco, and other drugs, leading to psychological distress, social and professional damage, in addition to affecting other important dimensions of life. These traumatic situations have a negative impact in the mental health of the person and increase the chances of suicidal behavior six times when compared to the general population<sup>(15-16)</sup>.

Regarding the association of this variable with suicidal ideation, a research has shown that a history of suicide attempts has a predictive value in the evaluation of the risk of suicide, since the recurrence of suicidal behavior is usually accompanied by recurring thoughts of death<sup>(1)</sup>.

From this perspective, identifying and accompanying undergraduate students with a history of suicide attempts must be a priority within the university, so that the attention and actions of professors, servers, and other students can be offered, aiming at strengthening bonds and offering qualified listening.

This study has shown that when the student does not go to the graduation course they want, that can lead to suicidal ideation. Oftentimes, students who did not enter university to study the course they wanted, but started a different career to attend family expectations to the detriment of their own, or who did the same due to social impositions related to which careers are considered to be on the rise, that is, which ones offer status and fast financial returns, these students are often the victims of feelings of frustration and lack of capacity.

In addition, the way in which undergraduates see the world and deal with stressful factors in university, such as the feeling of not being accepted in the course they chose, exhaustive course loads, and insecurities regarding

their professional future, all influence their mental health, and one of the more serious consequences of this is the suicidal ideation<sup>(9,17)</sup>.

In turn, this study points out that thoughts about taking one's life reflect negatively on the academic performance of college students. Students with this type of thought, usually triggered by mental health problems, have trouble dealing with their academic demands, including: arriving late or missing classes and abandoning the course, as well as trouble concentrating, which reflect poorly in the teaching-learning process, and, as a result, in the academic performance.

Some studies state that there are deficits in the academic performance of university students with psychiatric problems, for instance, in the cases of Major Depression (10.3%), and suicidal behavior (10.3%)<sup>(18-19)</sup>. Therefore, this data suggests the existence of complex relations between the variables and reiterate the need for adequately articulating the different domains of a person's life during the elaboration of intervention strategies.

It stands out in the data this study brought forth that the frequency of thoughts about ending one's own life is different when students from the four courses described are compared. The BSI was the highest among psychology students.

Data regarding the psychology course were similar to a study carried out in Universidade da Colômbia with 1265 psychology students, in which 3.6% of participants presented high risk of suicide, 9.1% had self-mutilated at least once, and for each student who had a minimal risk of self-mutilation, six students severely hurt themselves, reiterating the idea of ending one's own life<sup>(20)</sup>.

In general, students from the field of health undergo intense emotional experiences, especially regarding the duality life/death, experiences that are common in the process of caring for people, in addition to the numerous demands that, despite not being mandatory, are currently seen as important in the professional formation process. These situations tend to contribute to the appearance of interpersonal problems, and to the emergence of symptoms of distress, sadness, lack of capacity, anxiety, feelings of non-belonging, all of which, in turn, may lead to suicidal ideas.

## ■ CONCLUSION

The prevalence of suicidal ideation among university students was of 22%, and its associated factors were: use of alcohol, tobacco, and other drugs, being a victim of

bullying, having a history of suicide attempts, and not going to the course desired.

The students with the highest BSI score were the ones with the lowest academic performance. In addition, there is a difference in the mean scores per course, since the undergraduate psychology students had the highest BSI scores.

The limitations of this study were the facts that it was carried out with a non-clinical sample, it used self-report assessment tools, in addition to its very design, which makes it impossible to define causal relationships.

Considering the factors associated to suicidal ideation among university students, this study is expected to contribute to the creation of integral healthcare system, in the context of universities, including actions of physical, mental, and academic health support, for instance, qualified listening by nurses and professors, in order to offer solutions for the university students.

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