

## Original Article

## Prevalence of depressive symptoms in medical students at a university in northeastern Brazil

### *Prevalência da sintomatologia depressiva em estudantes de medicina de uma universidade no nordeste brasileiro*

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**ABSTRACT:** *Introduction:* Depression is a complex disease, and its onset and development are influenced by several factors. Medical students represent a group that is vulnerable to the disease, as they deal with daily stressors throughout their undergraduate studies. *Objective:* To study the prevalence of symptoms of major depressive disorder among medical students at a higher education institution in the state of Alagoas, northeastern Brazil. *Methodology:* Epidemiological study carried out with the participation of 259 medical students from a higher education institution in the northeast region of the country, from August 2019 to July 2020. The data collection instruments were a socio-demographic questionnaire and the Beck Depression Inventory (BDI). *Results:* In this study, the prevalence of depressive symptoms was 51.80%. Regarding psychological and psychiatric treatment, most students answered that they had never sought professional help, although 29.3% were using psychotropic drugs. *Conclusion:* The information collected can contribute to the country's epidemiological data, enabling improvements in the training of undergraduate students, as the identification of the problem and its associated variables may help in the development of new approaches and raise awareness about this pathology and its proper care.

**Keywords:** Depression; Mental health; Medical students.

**RESUMO:** *Introdução:* A depressão é uma doença complexa, em que seu surgimento e desenvolvimento são marcados pela influência de diversos fatores. Os estudantes do curso de medicina tendem a compreender um grupo vulnerável à doença visto que os mesmos lidam diariamente com fatores estressores durante toda a graduação. *Objetivo:* Estudar a prevalência dos sintomas do transtorno depressivo maior nos discentes de medicina de uma instituição de ensino superior no estado de Alagoas, nordeste do Brasil. *Metodologia:* Estudo epidemiológico elaborado com a participação de 259 estudantes do curso de medicina de uma instituição de ensino superior do nordeste do país, no período de agosto de 2019 e julho de 2020. O instrumento de coleta dos dados foi um questionário sociodemográfico e o Inventário de Beck (IDB). *Resultados:* Foi encontrada, no estudo dos sintomas depressivos nessa população, a prevalência de 51,80%. Sobre a realização de tratamento psicológico e psiquiátrico, grande parte respondeu jamais ter procurado ajuda profissional, apesar de 29,3% fazer uso de algum psicofármaco. *Conclusão:* As informações coletadas poderão ser utilizadas para contribuição dos dados epidemiológicos do país, de modo a propiciar melhorias na formação dos estudantes da graduação, uma vez que o reconhecimento do problema e suas variáveis prevalentes poderão determinar novas abordagens, bem como a conscientização acerca dessa patologia e de seu cuidado adequado.

**Palavras-chave:** Depressão; Saúde mental; Estudantes de medicina.

This study is part of a scientific initiation project and, later, of an undergraduate thesis.

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## INTRODUCTION

Depression is considered the leading cause of disability in the world today and is likely to become the second largest and most important disease by 2030<sup>1</sup>. This mood disorder is characterized by sadness, feelings of emptiness and lack of meaning in life, and other cognitive and somatic symptoms that can affect an individual's functioning and capacity<sup>2</sup>.

According to a study published by the World Health Organization in 2017, approximately 450 million people suffer from mental or neurobiological disorders in the world, and depressive disorders affect 4% to 10% of the world's population<sup>3</sup>. The annual incidence of depression is quite high, even though it is significantly underdiagnosed. As most psychiatric disorders, it is two to three times more prevalent in women<sup>4</sup>. In addition, its age of onset has been decreasing<sup>5</sup>. It is a recurrent and disabling disease – the main cause of disability worldwide<sup>6</sup>; therefore, it can be considered a relevant public health problem.

Depression is a complex disease, and its onset and development are influenced by several biological, psychosocial and genetic factors. Given this complexity, university students, especially medical students, represent a group that is vulnerable to the disease<sup>7</sup>, as they deal with stressors, insecurities and internal and external demands throughout their undergraduate studies<sup>8</sup>.

It is estimated that the prevalence of depressive disorders is higher in medical schools when compared to the general population<sup>9-13</sup>. This disease can have direct effects on the different aspects of an undergraduate student's life, such as academic performance, future doctor-patient relationship and social relationships<sup>14</sup>. Students affected by this condition may present a significant decrease in interest or pleasure in almost all daily activities, accompanied by disturbances in appetite and sleep, psychomotor impairment, feelings of worthlessness and guilt and decreased ability to think and make decisions<sup>2</sup>. The presence of these symptoms without the necessary treatment inevitably influences the type of professional they will become.

However, even though the New National Curriculum Guidelines (DCN) of the medical course value the physical and mental health of the student and their well-being as citizens and doctors<sup>15</sup>, the reality of medical courses does not reflect this premise, as the course students commonly deal with an extremely challenging program and lack of adequate monitoring. Thus, this population is exposed to different diseases with poor prognosis, extensive workloads, pressure regarding their responsibility towards society, excessive self-pressure and fear of not being enough, which can make them even more vulnerable<sup>16</sup>. In addition, they also have to deal with unavailability of leisure and social activities, reduced sleep, and inadequate nutrition.

Thus, considering the high prevalence of depressive symptoms among these students, as shown by studies carried out by researchers in different Brazilian states, such as Amaral et al.<sup>17</sup>, which found a prevalence of 26.8%, Porcu et al.<sup>18</sup>, with a prevalence of 49.2% and Moro et al.<sup>19</sup>, with a prevalence of 40.7%, as well as the biopsychosocial factors and issues associated with this prevalence, early diagnosis and adequate follow-up are important and necessary so that preventive measures can be taken to intervene in this reality and provide a comprehensive care to the individual. Therefore, the present study aims to assess the prevalence of depression in medical students of a Higher Education Institution in the Northeast Region of Brazil, more precisely in the state of Alagoas.

## METHODOLOGY

This is an observational cross-sectional study carried out with students regularly enrolled in the medical course of a private university with a Problem-Based Learning (PBL) curriculum in the city of Maceió - Alagoas, a state located in Northeast region of Brazil. The study was conducted after approval by the Ethics and Research Committee – CEP, under opinion number 3,539,489 and CAAE 17703719.6.0000.5641.

The sample of the present study was calculated using a non-probabilistic method (convenience sampling), with a confidence interval of 95% and a sampling error of 5%, resulting in 259 academics from the first to the twelfth period of the medical course of the educational institution studied. The inclusion criteria were being regularly enrolled in the educational institution, living in the country and being over 18 years old. Participants from other institutions in the state, minors and students without internet access were excluded.

Data was collected at two different times, from August to November 2019, and from March to July 2020, through an online form on Google Forms. The link to the questionnaire was shared through official email addresses from each period mentioned above and in the messaging application WhatsApp. The instrument used was divided into three parts, the first containing the Informed Consent Form (TCLE), the second containing a socio-demographic questionnaire and the third containing the Beck's Depression Inventory (BDI).

In the socio-demographic questionnaire, the variables used were gender, age, origin, marital status, religion, aspects related to housing arrangements, course period, paid activities, psychological treatment, psychiatric treatment, use of psychiatric medications, leisure activities and satisfaction with the course.

The BDI is a standardized self-administered questionnaire aimed at screening and self-assessing the

presence of depressive symptoms, with no diagnostic purpose. This questionnaire is composed of 21 items or affirmative sentences that assess the presence of symptoms such as sadness, feelings of failure, loss of pleasure, among others, in the prior week. The items are graded from 0 to 3 and can sum up to a total of 0 to 63 points on the scale.<sup>20</sup>

Among the numerous proposals for the evaluation of scores and the respective levels of depressive symptoms, the present study used the cutoff points suggested by the Center for Cognitive Therapy (CCT), which are divided into the following groups: from 0 to 9, no depressive symptoms or only minimal symptoms; from 10 to 18, mild to moderate depressive symptoms; 19 to 29 points, moderate to severe symptoms; and from 30 to 63, severe depression.

The data was statistically analyzed through quantitative and qualitative or categorical variables, using ANOVA statistical tests to compare the mean age of participants with the groups of symptoms, Tukey's test to evaluate groups with differences between mean values and the Chi-squared test and the T-Student test.

In addition, as an initial intervention proposal for the project, an online health action was carried out through Google Meet, with research collaborators, a psychiatrist and a psychologist. The activity was carried out in May and had the objective of providing guidance and conversation about mental health for students of the institution studied. All research and undergraduate students were invited to participate. At the end of the conversation with the collaborators, the time was open for any questions or reports. This project was developed to provide feedback and ethical care to the research participants and is not an object of analysis in this study.

## RESULTS

The research participants were 259 students enrolled from the first to the twelfth periods and aged between 18 and 41 years. There was a greater participation of females, with 78.80% (n=204) compared to 21.20% of males. Among the participants, 90.30% (n=234) were single, 7.7% (n=20) were married or lived with a partner and 1.9% (n=5) were divorced.

The majority of students, 61.80% (n=160), were from the state of Alagoas, 49.40% (n=128) from the city of Maceió and 12.40% (n=32) from other cities in the state. In addition, 38.20% (n=99) of the participants were from other states in the country. As for religion, the sample fits the country's pattern, with a majority, 57.90% (n=150), of Catholic students, followed by Evangelical/Protestant, 11.60% (n=30), Spiritualist 10% (n=26), agnostic 8.50% (n=22), other unspecified religions, 7.30% (n=19) and atheist 4.60% (n=12).

Regarding housing arrangements, 41.70% (n=108) of the participants lived with their parents, 21.60% (n=56) lived alone, 16.20% (n=42) lived with friends, 13.10% with family members and 7.30% with a spouse. The majority, 92.30% (n=239), did not have a paid job at the time of the research. As for leisure, 49% (n=127) engaged in some type of leisure activity frequently and only 1.20% (n=3) never had moments of rest or entertainment during the day. Regarding the degree of satisfaction with the course, 58.3% (n=151) reported that it was excellent.

As for the question regarding psychological treatment, 44% (n=114) of the students answered that they had never had any type of psychological care, while 40.90% (n=106) had already had it and 15.10% (n=39) were currently in treatment. The results regarding psychiatric treatment were similar, as 67.60% (n=175) of the students reported that they had never consulted with a psychiatrist, 20.80% (n=80) declared that they had already been to a consultation and 11.60% (n=30) were in treatment during the collection period. In addition, 29.3% (n=76) reported using some type of psychotropic drug.

The prevalence of depressive symptoms was 51.80% (n=134); 30.90% of the students (n=80) had mild to moderate symptoms, 14.70% (n=38) had moderate to severe symptoms and 6.20% (n=16) had severe to critical symptoms. Initially, the analysis of the variables comparing the presence or absence of symptoms using the chi-square test showed a significant difference between respondents in psychological treatment, respondents in psychiatric treatment, those who took some medication and satisfaction with the course ( $p<0.05$ ) (Table 1).

In addition to the distribution of students into the categories 'no depressive symptoms' and 'with depressive symptoms', the sample was also divided into four groups according to the BDI score: Group I (Without depressive symptoms), Group II (Mild to moderate symptoms), Group III (Moderate to severe symptoms) and Group IV (Severe symptoms) (Table 2).

Tukey's post hoc test was used to verify which groups presented differences between the means. For those with no symptoms of depression, with a mean age of 24.8 years, and those with moderate to severe symptoms, with a mean age of 22.5 years, the difference was statistically significant ( $p=0.030$ ). There was no significant difference between the other groups ( $p>0.387$ ).

The Chi-squared test was used to compare the proportions between the BDI groups and the categories of variables analyzed. The significance level was set at 5%. There was a significant difference only between respondents in psychological treatment, in psychiatric treatment and those who took some medication ( $p<0.05$ ), as shown in Table 3.

**Table 1.** Frequency distribution of variables by the presence of symptoms. 2019-2020.

VARIABLE	NO DEPRESSIVE SYMPTOMS		WITH DEPRESSIVE SYMPTOMS		P-value
	No	%	No	%	
<b>Gender</b>					
F	94	75.2	110	82.1	0.176
M	31	24.8	24	17.9	
<b>Course period</b>					
1	11	8.8	13	9.7	---
2	2	1.6	5	3.7	
3	10	8.0	5	3.7	
4	11	8.8	14	10.4	
5	12	9.6	16	11.9	
6	11	8.8	23	17.2	
7	14	11.2	13	9.7	
8	33	26.4	28	20.9	
9	9	7.2	9	6.7	
10	2	1.6	4	3.0	
11	8	6.4	2	1.5	
12	2	1.6	2	1.5	
<b>Origin</b>					
Maceió	69	55.2	59	44.0	0.172
Other cities in Alagoas	15	12.0	17	12.7	
Another state	41	32.8	58	43.3	
<b>Marital status</b>					
Single	112	89.6	122	91.0	---
Married	7	5.6	8	6.0	
Divorced	3	2.4	2	1.5	
Living with a partner	3	2.4	2	1.5	
<b>Religion</b>					
Catholic	77	61.6	73	54.5	0.198
Evangelical	14	11.2	16	11.9	
Spiritist	12	9.6	14	10.4	
Agnostic	7	5.6	15	11.2	
Atheist	3	2.4	9	6.7	
Others	12	9.6	7	5.2	
<b>Housing arrangements</b>					
With parents	52	41.6	56	41.8	0.946
With friends	20	16.0	22	16.4	
With family members	18	14.4	16	11.9	
With spouse	10	8.0	9	6.7	
Alone	25	20.0	31	23.1	
<b>Paid job</b>					
No	112	89.6	127	94.8	0.119
Yes	13	10.4	7	5.2	

*continue*

**Table 1.** Frequency distribution of variables by the presence of symptoms, 2019-2020.*Continuation*

VARIABLE	NO DEPRESSIVE SYMPTOMS		WITH DEPRESSIVE SYMPTOMS		P-Value
	No	%	No	%	
<b>Psychological treatment</b>					
No	62	49.6	52	38.8	0.018
Yes	52	41.6	54	40.3	
In progress	11	8.8	28	20.9	
<b>Psychiatric treatment</b>					
No	99	79.2	76	56.7	<0.001
Yes	23	18.4	31	23.1	
In progress	3	2.4	27	20.1	
<b>Use of psychotropic drugs</b>					
No	101	80.8	82	61.2	0.001
Yes	24	19.2	52	38.8	
<b>Leisure time</b>					
Always	71	56.8	56	41.8	0.060
Rarely	9	7.2	20	14.9	
Sometimes	44	35.2	56	41.8	
Never	1	0.8	2	1.5	
<b>Satisfaction</b>					
Great	89	71.2	62	46.3	<0.001
Good	34	27.2	56	41.8	
Reasonable	1	0.8	15	11.2	
Bad	1	0.8	1	0.7	

Source: Elaborated by the authors.

**Table 2.** Distribution in relation to the classification of the Beck inventory among respondents from, 2019-2020.

VARIABLE	No	%
<b>GROUP</b>		
Group I - Without Depressive Symptoms	125	48.30
Group II - Mild to Moderate Symptoms	80	30.90
Group III - Moderate to Severe Symptoms	38	14.70
Group IV - Severe Symptoms	16	6.20

Source: Elaborated by the authors.

**Table 3.** Frequency distribution of variables by selected group, 2019–2020.

VARIABLE	Group I		Group II		Group III		Group IV		P VALUE
	No	%	No	%	No	%	No	%	
Psychological treatment									
No	62	49.6	38	47.5	12	31.6	2	12.5	0.003
Yes	52	41.6	31	38.8	15	39.5	8	50	
In progress	11	8.8	11	13.8	11	28.9	6	37.5	
Psychiatric treatment									
No	99	79.2	56	70	15	39.5	5	31.3	< 0.001
Yes	23	18.4	12	15	13	34.2	6	37.5	
In progress	3	2.4	12	15	10	26.3	5	31.3	
Use of medication									
No	101	80.8	56	70	20	52.6	6	37.5	< 0.001
Yes	24	19.2	24	30	18	47.4	10	62.5	

Source: Elaborated by the authors.

In the other variables, there were no statistically significant differences between the groups ( $p>0.05$ ).

The Spearman (Rho) correlation coefficient was used to measure the correlation between symptoms of depression and the variables age, period, leisure and satisfaction. There was a weak negative correlation between

depression and age, leisure and satisfaction. There was no significant correlation between depressive symptoms and course period ( $p=0.057$ ).

In addition to these relationships, the presence of suicidal ideation was also evaluated through the responses of the BDI, as shown in Table 4.

**Table 4 .** Answers to the BDI affirmative on suicide 2019-2020

VARIABLE	No	%
<b>Group</b>		
I don't have any thoughts of killing myself	214	82.60%
I have thoughts of killing myself, but I would not carry them out	42	16.10%
I would like to kill myself	2	0.78%
I would kill myself if I had the chance	1	0.38%

Source: Elaborated by the authors.

## DISCUSSION

Medical students commonly start university life after years of dedication and effort, with altruistic ideals and the desire to become instruments of care and hospitality<sup>12,21</sup>. However, after entering college and during the course, the mental health of these students tends to decline, leading to the loss of these humanitarian and empathetic qualities<sup>12,13,21</sup>.

The prevalence of depressive symptoms has been well documented worldwide, but the percentages vary significantly, from 1.4% to 73.5%. Therefore, the present study aimed to evaluate the presence of depression and analyze associated factors in students from a university in the state of Alagoas<sup>11</sup>.

The prevalence of these symptoms in this study (51.8%) is similar to that found in a private university

in the state of Paraíba<sup>22</sup> (52.8%), in a systematic review of 22 studies carried out in Saudi Arabia<sup>23</sup> (51.46%), in Vienna<sup>24</sup> (52.4%) and in Pakistan<sup>25</sup> (57.8%). However, it was higher than that found in a state university in the state of Bahia<sup>16</sup> (46.2%), in a multicenter study<sup>25</sup> in 22 Brazilian universities (41.3%), and in a systematic review<sup>11</sup> of 195 studies of different countries (27.2). In addition, Mayer<sup>26</sup> emphasizes that the prevalence of depression in Brazilian students is higher than the global prevalence (28%), which corroborates the results found in the study. The strength of this study is the analysis of possible causes for this high prevalence in the country, among which we can highlight lower access to psychological support, social stigma, gender inequality, and stressful lifestyles.

The mean age of students with depressive symptoms was 23.37 years, which was lower than the age of students with no symptoms. The Spearman (Rho) correlation



coefficient showed a negative correlation between depression and age, that is, the younger the age, the greater the prevalence of depressive symptoms. This result is similar to those found by Coutinho<sup>5</sup> and other studies<sup>27,28</sup>. In addition, corroborating the relationship between lower age and depressive symptoms, a significant difference was found when comparing a group without symptoms, with a mean age of 24.8 years, and a group with mild to moderate symptoms, with a mean age of 22.5 years.

Depression is more common in females, both in the general population and among medical students<sup>13,26,28,29</sup>. Thus, the higher prevalence (82.1%) found among female students is in agreement with Brazilian and world literature. Sexism is present in all social relationships, as well as in the medical course, which is frequently based on practices that reinforce patriarchal patterns, even though women are currently the majority in medical courses<sup>26,30</sup>. Thus, several neurobiological and environmental factors, such as salary differences, fewer opportunities, vulnerability to moral and sexual abuse, and a slower progression and extra obstacles faced in their medical career can account for the greater susceptibility to psychiatric disorders<sup>13,29</sup>. However, despite the high prevalence found in this study, there were no significant differences in the presence of depressive symptoms when associated to the gender reported in the questionnaire.

Despite the fact that there were also no significant differences in depressive symptoms in relation to housing arrangements, living alone, without family members or social relationships, is considered a risk factor for depression<sup>23</sup>. However, high parental expectations and poor academic performance due to family reasons may be possible stressors associated with depressive symptoms<sup>30</sup>. Considering this divergence and the fact that it was not possible to find a relationship between these factors in the present study, studies with more detailed analysis are warranted.

Rotenstein et al.<sup>11</sup> reported that only 15.7% of students with depression seek treatment, a result lower than that found in the present study with regard to psychiatric (20.1%) and psychological treatment in progress (20.8%). Despite being higher than the aforementioned value, this prevalence is still extremely low and concerning, given that depression is associated with an increased risk of suicide, as well as a greater risk of future depressive episodes and morbidity<sup>11</sup>. According to Dyrbye et al.<sup>13</sup>, this low rate of seeking treatment and professional help can be associated with fear and shame of being exposed due to the stigma of the disease, disbelief regarding the treatment and even financial difficulties. In addition, many students tend to believe that it is normal to feel stressed and have conflicting feelings, so they decide to handle it alone<sup>14,31,32</sup>.

It is estimated that 8.3% of young people use antidepressants<sup>33</sup>. In this study, the prevalence of medical students who use psychotropic drugs was higher than in the

general population, as 29.3% of the students surveyed had already used or were using these drugs at the time of the research and, of these, 38.8% had a BDI score indicating the presence of depressive symptoms and 19.2% were using psychotropic drugs but did not obtain a score indicating the disorder under study. In this context, it can be inferred that psychotropic drugs were being used for the treatment of other psychiatric disorders, such as anxiety or insomnia, which were not assessed in this study. In a medical course at the *Universidade Estadual de Ponta Grossa*, 29.15% of the students surveyed were using or had already used antidepressants<sup>14</sup>, and in a systematic review from Nigeria, 40.4% to 58.4% of medical students used psychotropic drugs, a prevalence higher than that found in the current study. In addition, it is important to highlight that some of the most used substances are alcohol, anxiolytics and tobacco, which were not assessed in this study.<sup>33</sup>

It was also noted that there is a significant divergence between the number of individuals who use some type of psychiatric medication and those who receive psychiatric care. A similar study found that the prevalence of self-medication among medical students at the University of Ribeirão Preto (UNAERP) was 92.0%<sup>34</sup>. In other words, this fact may indicate a tendency for self-medication, which is an important risk factor for drug abuse and chemical dependence. Furthermore, lack of psychiatric care in cases of moderate to severe depressive symptoms is also associated with less favorable outcomes. In this context, it is worth noting that not only medications and legal substances tend to be used as self-medication for depressive symptoms, as the use of illegal substances is also associated with attempts to reduce the stress experienced by students<sup>27</sup>.

In view of the high prevalence of self-medication reported in the literature<sup>34</sup> and in the present study, it is important to know the main factors that influence this lack of adequate professional follow-up and indiscriminate use of psychiatric drugs. However, there is an important gap in data and analysis on predisposing factors in this population in the country, such as the association between indiscriminate use of medication and the knowledge acquired during college, the ease of access to medication, and the confidence and apparent self-sufficiency in their knowledge of these mechanisms and pathologies<sup>35,36,37</sup>. Thus, in line with what was found in the evaluated institution, further investigations and research should be conducted.

It is important to mention that most of the interviewees reported being satisfied with the course, but it is not possible to describe the reasons and details. The problem-based teaching method can be pointed out as a stressful factor associated with depression. A study<sup>6</sup> points out that medical courses that adopted the PBL method had a higher prevalence of depressive symptoms when compared to traditional courses, as the prevalence of depression was 29.73% with PBL and 22.12% with traditional methods.<sup>38</sup>

In addition, as it is an active methodology, in which students are responsible for their own learning and are exposed to real situations at an early stage of their course<sup>16</sup>. However, more studies should be carried out to identify and understand which curriculum components influence student satisfaction.

Furthermore, the prevalence of suicidal ideation among the respondents was above 11.1%, a very high and concerning percentage<sup>11</sup>. It is important to emphasize that major depressive disorder is one of the main factors associated with suicidal ideation, plans and attempts. Therefore, this high prevalence found in the study suggests a lack of monitoring and adequate treatment of students' psychological and psychiatric symptoms. Considering that the prevalence of suicidal ideation in students and physicians is higher than that found in the general population and that suicide is considered a serious public health problem, it is urgent and indispensable to identify possible risks and prevent the next stages in order to avoid the outcome<sup>27</sup>.

Therefore, considering the limitations of this study, its results can not be generalized to a universal reality, but can certainly be useful for understanding and planning local policies. Furthermore, some of the findings are similar and corroborate most of the articles on the subject, reiterating the severity of the problem and the need for effective interventions and planning to cope with mental illness and depression.

As an intervention project, so that the present study can go beyond the field of research and effectively intervene in the practical context through an extension project, the authors held an online conversation group on the subject of mental health for students, with the presence of a psychologist and a psychiatrist. In this context, with information, dialogue and exchange of knowledge between the participants, it was possible to share knowledge, reach

important results and enable individual and collective growth for all those involved<sup>39</sup>.

## CONCLUSION

The prevalence of depressive symptoms among the students of the educational institution evaluated was higher than in the general population.

Therefore, the information collected can be incorporated into Brazilian epidemiological data and used to enable improvements in the training of students, through psychological and pedagogical support, as the identification of the problem, the profile of these students, and the variables relevant to this scenario may help in the development of new approaches to face this problem.

The high prevalence identified may be a consequence of several factors, such as an extensive workload and the responsibility of these professionals to society. In addition, it is important to highlight the high rate of students with moderate and severe depressive symptoms who do not receive psychological and psychiatric care.

While all international protocols regarding the treatment of depression state that mild symptoms can be treated with psychotherapy, moderate and severe symptoms require the use of medication and psychiatric care. Thus, the results obtained in the higher education institution contradict the guidelines regarding the monitoring and treatment of depressive symptoms.

Therefore, identifying the problem, understanding the students' perspectives, and detecting symptoms associated with any type of mental distress at an early stage are essential steps for managing this condition. In addition, the educational institution, through the course coordination, should develop and implement preventive measures, such as healthcare actions, lectures with guests, dynamic moments such as events that stimulate physical activity and socialization, and actions that seek to support and care for these students through the Institution and the psychiatric and psychological teams.

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