Cogitare Enfermagem

ORIGINAL ARTICLE

SUICIDAL IDEATION AND ASSOCIATED FACTORS AMONG HEALTH SCIENCES STUDENTS IN THE PANDEMIC TIMES*

HIGHLIGHTS

1. Suicidal ideation is associated with symptoms of depression.
2. 30% of students showed low satisfaction with social support.
3. 49% of the students had severe/very severe levels of anxiety.
4. Social support is an ally in the fight against suicide.

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ABSTRACT

Objective: To verify the existence of an association between suicidal ideation, social support, and anxious-depressive symptoms among Health Sciences students. **Method:** Quantitative, cross-sectional study. Data collection took place from November 2020 to July 2021 in Sergipe - Brazil, using the Sociodemographic Questionnaire, Suicidal Ideation Questionnaire, Satisfaction with Social Support Scale, and Anxiety, Depression, and Stress Scale. Simple and multiple linear regression coefficients and odds ratios were estimated. **Results:** Of the 190 interviewees, 57 (30%) had low satisfaction with social support, 66 (34.8%) reported symptoms of severe or very severe depression, 32 (16.8%) had a potential risk of suicide, which can be increased by 18% in people with depression. **Conclusion:** Stress, anxiety, and depression are risk factors for suicidal ideation in health students. Social support becomes an ally in emotional control, in the reduction of psychological suffering, and in the precipitation of mental disorders in students.

KEYWORDS: Students, Health Occupations; Mental Health; Suicidal Ideation; Depression; Social Support.

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INTRODUCTION

Young people's entry into university represents a time of change and possibilities and can be a challenging and distressing process, which makes them susceptible to mental health vulnerability. Existential conflicts, latent psychopathological traits, and, in the extreme, the suicidal process can emerge as a result of the interaction between personal characteristics and social and cultural circumstances[1].

Faced with a scenario of transformations, expectations, anguish, and family estrangement, university students need external support in some contexts to manage the high demands and requirements of the university internally and externally. Social support may or may not be integrated into the family, and should be information that the individual is part of a network based on solidarity, this type of information plays an important role in resisting the exhausting and stressful events of academic life[2].

It is well known that undergraduate studies in the health sciences require a long time to train skills that can lead to chronic suffering and the precipitation of mental disorders[3]. Medical students have been the target of national and international studies, as this is a population with a higher frequency of mental suffering and suicidal ideation[4-5].

Around 16% to 28% of the Brazilian young adult population has mixed emotional states, in which there are changes in sleep, appetite, difficulty concentrating, irritability, and somatic complaints[6]. In university students, the frequency of these states varies from 18.5% to 44.9%[1-7]. Furthermore, the predominant age group of Brazilian university students is between 18 and 29 years old, which is in line with the age group most at risk of suicide[2-8].

The pandemic scenario has made this whole environment even more worrying. The change in the education system to the remote modality, uncertainties about the future, limited resources to attend classes, especially for the poorest students, and social distancing may have negatively affected students' mental health[9].

Faced with the impact of the pandemic on students, higher education institutions had to adopt urgent measures to minimize the psychological suffering caused. Therefore, research into the effects of the pandemic on the emotional conditions of university students has become essential.

With this in mind, this study aimed to verify the existence of an association between suicidal ideation, social support, and anxious-depressive symptoms among Health Sciences students.

METHOD

This is an observational, cross-sectional study with a quantitative approach. It happened digitally through the link https://forms.gle/bjt3aeMXMGj6Mgs78. The form was filled out using Google Forms due to the transition to virtual classes during the first wave of COVID-19. The research was publicized via e-mail and the social networks of the PLENAMENTE - Approaches to Health Mental study group.

The group develops studies on mental health and its implications for care, teaching, quality of life, and understanding the meanings of psychological suffering. It proposes implementing mental health practices for specific populations within the scope of mental health promotion and prevention.

The research participants were Health Sciences students at the Federal University of Sergipe (UFS), which has 4,091 enrolled students. The data collection took place between November 2020 and July 2021.

The sample was non-probabilistic and consisted of 190 students, representing 4.64% of the students enrolled in the following courses: nursing, Medicine, Physiotherapy, Nutrition, Occupational Therapy, Pharmacy, Dentistry, and Speech Therapy, all of which were active at the institution.

Students over the age of 18 and active at the institution took part in the survey. Students with active enrollment who had suspended their course for one term or more were excluded.

The sociodemographic questionnaire aimed to characterize the sample and included the following variables: age, gender, origin, city/state, schooling, course, current period/cycle, repetition of school year, marital status, affective relationship, housing, family income, religion, skin color, profession/occupation, relationship in the work and social environment, physical working conditions, presence of illness, type of therapy, drug use and others.

To identify the potential risk of suicide among the students, the Suicide Ideation Questionnaire (QIS) score was used. This questionnaire consists of 30 items, with seven alternatives for each item on a Likert scale[10].

Regarding internal consistency, the validation study of the QIS for the Portuguese population obtained a Cronbach's alpha value of 0.96. The QIS is used in Brazil in various scientific studies to assess the level of suicidal ideation[11-12].

The Social Support Satisfaction Scale (ESSS) has four dimensions: satisfaction with Friendships (SA), Intimacy (IN), Satisfaction with Family (SF), and Social Activities (AS). It was adapted to Brazilian Portuguese[13] and had good psychometric quality when applied to Brazilian and Portuguese university students[14].

The evaluation of each dimension results from the sum of the scores of the items referring to each specific dimension. The final score on the scale is the sum of all the items. The score can vary between 15 and 75, and the higher the value achieved, the greater the perceived social support. ESSS scores between 0 and 39 were considered low social support, scores between 40 and 57 were considered medium social support, while scores above 58 reflected high social support[14].

The Anxiety, Depression, and Stress Scale (DASS-21) aims to assess depression, anxiety, and stress in the last week. It consists of three sub-scales with seven items each and has been validated for Brazilian Portuguese[15]. Cronbach's alpha was 0.92 for depression, 0.90 for stress, and 0.86 for anxiety, indicating good internal consistency for each subscale[16].

The answers are given on a four-point Likert scale, ranging from zero (strongly disagree) to three (strongly agree). The overall scores for the three constructs are calculated as the sum of the scores for the seven relevant items multiplied by two. The variations in scores correspond to the levels of symptom severity, which range from "normal" to "very severe"[16].

The data was recorded and stored in Microsoft Office Excel®2013. Categorical variables were described using absolute and relative percentage frequencies, while discrete variables were expressed as measures of central tendency and dispersion.

The hypothesis of equality of the measures of central tendency was tested using the Mann-Whitney test. The hypothesis of adherence of the continuous variables to normal distribution was tested using the Shapiro-Wilks test. The hypothesis of independence between categorical variables was tested using the Chi-Square and Pearson tests.

Simple linear regression coefficients were estimated. The crude and adjusted odds ratios were estimated using logistic regression. The significance level adopted was 5%, and the software used was R Core Team 2021 (version 4.1.0).

The UFS Research Ethics Committee approved the study under Opinion No. 4.460.756.

RESULTS

Of the 190 participants, 121 (63.7%) were aged between 20 and 25, 143 (75.3%) were female and 180 (94.7%) were single. Most students lived in urban areas, 171 (90%) of them, 115 (67.2%) in the state capital. The course with the highest participation in the survey was Nursing, which accounted for 106 students (55.8%), followed by Medicine 25 (13.2%) and Nutrition 22 (11.6%), as shown in Table 1.

Table 1 - Sociodemographic profile of Health Sciences students. Aracaju (SE), Brazil, 2021.

Variables	n*	%†
Age		
15 to 20 years	45	23.7
20 to 25 years	121	63.7
25 to 30 years old	17	8.9
>30 years	7	3.7
Sex		
Female	143	75.3
Male	46	24.2
I prefer not to declare	1	0.5
Origin		
Urban	171	90
Rural	19	10
City/State		
Grande Aracaju	115	60.5
Other cities in Sergipe	66	34.7
Other states	9	4.7
Course		
Nursing	106	55.8
Medicine	25	13.2
Nutrition	22	11.6
Physiotherapy	19	10
Other Health Sciences courses	18	9.5
Marital status		
Married	4	2.1
Single	180	94.7
Others	6	3.1
Housing		
Homeownership	142	74.7

Non-owned residence	48	25.3
Type of family		
Conservative	103	54.2
Permissive	70	36.8
I don't live with my family	17	8.9
Total family income		
Up to 1 SM‡	22	11.6
≥ 1 SM‡	56	29.5
≥ 2 SM‡	47	24.7
≥ 3 SM‡	48	25.3
I don't know, I don't want to answer	17	8.9
Religion		
Evangelical	27	14.2
Catholic	103	54.2

*n=Sample size; †%= Relative percentage frequency; ‡SM= Minimum wage.
Source: Prepared by the authors (2021).

As for the measure of satisfaction with social support, 57 (30%) showed low satisfaction, 82 (43%) medium satisfaction and 51 (26.9%) high satisfaction. The levels of severity of depressive symptoms were classified as normal, minimal, moderate, severe, and very severe. 84 (44.2%) reported normal and minimal symptoms, 40 (21.1%) moderate, 21 (11%) severe, and 45 (23.7%) very severe.

Regarding stress levels, 77 (40.4%) had normal and minimal symptoms, 34 (17.8%) had moderate symptoms, and 79 (41.5%) had severe and very severe levels. About anxiety, 65 (34.2%) had normal and minimal symptoms, 32 (16.8%) had moderate symptoms, and 93 (49%) had severe or very severe symptoms.

The potential risk of suicide among the students showed that 32 (16.8%) had a potential risk of suicide and latent psychopathology. Table 2 shows the sociodemographic variables associated with potential risk and the odds ratios for each associated variable; those without Odds Ratio (OR) values were not included in the final modeling.

Table 2 - Logistic regression and association of sociodemographic variables with the potential risk of suicide obtained by the QIS*, for Health Sciences students. Aracaju (SE), Brazil, 2021.

Variables	Present	Absent	p-value	OR† (CI‡95%)
	n§ (%)‖	n§ (%)‖		
Age				
<20 years	13 (40.6)	32 (20.3)	0.047	1
20 to 30 years	18 (56.3)	120 (75.9)		0.37 (0.16-0.84)
>30 years	1 (3.1)	6 (3.8)		0.41 (0.04-3.75)
Origin				
Urban	26 (81.3)	145 (91.8)	<0.001	1
Rural	6 (18.8)	13 (8.2)		20.78 (3.79-113.89)
Course				
Nursing	13 (40.6)	93 (58.9)	0.001	1
Physiotherapy	9 (28.1)	10 (6.3)		6.37 (2.18-18.60)
Other	10 (31.3)	55 (34.8)		1.29 (0.53-3.13)

Period				
1st to 5th	13 (86.6)	59 (51.8)	0.033	
6th to 10th	2 (13.4)	55 (48.2)		
Type of family				
Conservative	22 (68.8)	81 (51.3)	0.065	
Permissive	10 (31.3)	60 (38)		
I don't live with my family	0 (0)	17 (10.8)		
Religion				
Catholic	12 (37.5)	91 (57.6)	<0.001	1
Evangelical	3 (9.4)	24 (15.2)		0.94 (0.24-3.59)
Spiritist	6 (18.8)	3 (1.9)		15.00 (3.31-67.98)
Other	1 (3.1)	10 (6.3)		0.75 (0.09-6.39)
No religion	10 (31.3)	30 (19)		2.50 (0.98-6.37)
Relationship with religion				
Non-practicing	8 (36.4)	46 (35.9)	0.013	
Participant	11 (50.0)	80 (62.5)		
Militant	3 (13.6)	2 (1.6)		
Previous health problem				
Yes	17 (53.1)	44 (27.8)	0.007	2.91 (1.34-6.33)
No	15 (46.9)	114 (72.2)		1
Classification of the health problem				
Psychiatric	10 (58.8)	8 (18.2)	0.004	
Non-psychiatric	7 (41.2)	36 (81.8)		
Type of drug				
Alcohol	11 (34.4)	33 (20.9)	0.047	
Cigarettes	0 (0)	2 (1.3)		
Others	2 (6.3)	1 (0.6)		
I've never used drugs	19 (59.4)	122 (77.2)		
Length of drug use				
<5 years	8 (25)	17 (10.8)	0.128	2.69 (1.03-7.02)
Between 5 and 10 years	2 (6.3)	18 (11.4)		0.65 (0.14-2.94)
>10 years	1 (3.1)	2 (1.3)		2.86 (0.25-32.94)
I've never used drugs	21 (65.6)	121 (76.6)		1

*QIS= Suicidal Ideation Questionnaire; †OR= Odds Ratio; ‡IC= Confidence Interval; §n= Sample size; ‖%= Percentage relative frequency.
Source: Prepared by the authors (2021).

Table 3 shows the association between the results of the scales used in this study and suicidal ideation and the odds ratios for each scale. Satisfaction with social support was a strong protective factor for suicidal ideation (p<0.001; OR 0.93 (0.90-0.96)), all the domains of the scale were associated with suicidal ideation, with the domains satisfaction with family and social activities being more strongly associated (p<0.001).

Table 3 - Logistic regression and the association between ESSS* and DASS-21† scores and potential suicide risk and latent psychopathology measured by the QIS in Health Sciences students. Aracaju (SE), Brazil, 2021.

Variables	Present	Absent	p-value	OR‡ ((IC§95%)
	n‖ (%)¶	n‖ (%)¶		
Satisfaction with friends				
	15 (5.5)	17.8 (4.9)	0.007	
Intimacy				
	9 (4.1)	13.7 (4.4)	<0.001	
Satisfaction with family				
	7.7 (3.3)	10.1 (3)	<0.001	
Social activities				
	6.5 (3)	7.6 (2.8)	0.040	
Social support				0.93 (0.90-0.96)
Bass	18 (56.3)	39 (24.7)	0.001	
Medium	12 (37.5)	70 (44.3)		
High	2 (6.3)	49 (31)		
Depression				1.18 (1.13-1.24)
Normal	0 (0)	59 (37.3)	<0.001	
Minimum	0 (0)	25 (15.8)		
Moderate	5 (15.6)	35 (22.2)		
Grave	5 (15.6)	16 (10.1)		
Very serious	22 (68.8)	23 (14.6)		
Stress				1.19 (1.07-1.17)
Normal	2 (6.3)	57 (36.1)	<0.001	
Minimum	0 (0)	18 (11.4)		
Moderate	5 (15.6)	29 (18.4)		
Grave	9 (28.1)	33 (20.9)		
Very serious	16 (50)	21 (13.3)		
Anxiety				1.09 (1.06-1.13)
Normal	1 (3.1)	45 (28.5)	<0.001	
Minimum	0 (0)	19 (12)		
Moderate	3 (9.4)	29 (18.4)		
Grave	4 (12.5)	15 (9.5)		
Very serious	24 (75)	50 (31.6)		

*ESSS= Satisfaction with Social Support Scale; †DASS-21= Depression, Anxiety and Stress Scale; ‡OR=Odds Ratio; §IC= Confidence Interval; ‖n= Sample size; ¶%= Relative percentage frequency.
Source: Prepared by the authors (2021).

DISCUSSION

The sociodemographic characterization of the population studied was similar to that found in national and international studies with health students[7-12]. There was a predominance of females, family income between one and three minimum wages, single marital status, and an age range between 18 and 21 years[14-16].

Social support plays a crucial role in preventing psychological distress during the transition to higher education when young people face significant psychological and social demands. The feeling of loneliness is common during this period, as students often move away from their families and friends to pursue their studies[2]. This justifies the results of medium and low satisfaction with social support, as shown in this study.

This research showed a significant prevalence of severe depressive symptoms, and it is thought that the increase in these symptoms may have been influenced by the social isolation resulting from the COVID-19 pandemic. This conclusion is supported by a study[9] conducted in New York in 2020, in which the assessment of the prevalence of anxiety and depression among medical students during the first wave of COVID-19 revealed that 45% of participants had depressive symptoms.

Given this seriousness, the manifestation of symptoms of mental suffering, such as anxiety and stress, in any severity range and any population group is a cause for concern since, in the absence of rapid intervention, they can evolve into symptoms of greater severity and limitation[17]. This is because the development of serious mental disorders depends on the frequency of suffering, protective factors, and risk factors, all of which need to be in balance.

In this context, when analyzing the level of stress and its relationship with health risk behaviors among university students, a national survey found that more than half of the participants had some symptoms of stress[16]. Although only a few students showed more severe phases of stress, it is important to emphasize that the detection of these less severe phases also indicates the need for attention since these stressful events, when recurrent, increase the potential risk of suicide[18].

The results related to anxiety may have been influenced by the pandemic, which completely affected the students' lives, bringing uncertainty about their studies, the future, and the possible loss of family members[19]. This happened as universities and schools closed their doors and adopted social distancing as a method of containing the COVID-19 pandemic.

The reduction in social contact between students, as a result of the distancing, contributed to the increase in alcohol consumption and the worsening of anxiety and depression symptoms[20]. Some studies carried out in Brazil in 2018 and 2020 revealed that this strategy can lead to negative outcomes, such as decreased quality of life, low academic performance and engagement, dropout, development of anxiety disorder, and even suicidal ideation[17].

In turn, suicidal ideation requires special attention and can be correlated with the lack of adequate social support, as well as the presence of untreated anxiety and depression symptoms. It is the individual's consideration of ending their own life and can appear as a pre-existing factor, both in suicide attempts and in cases where the suicidal act is consummated[21].

The prevalence of potential risk for suicidal ideation and latent psychopathology was considered high at 37 (17.8%), although this is lower than that found in another Brazilian study carried out in 2020 (22% to 36%)[9]. However, the phenomenon deserves attention since it is a multi-causal process with a complex approach, and the participants in this investigation are part of the age group most at risk[8].

Various studies have identified the factors associated with suicidal ideation, covering aspects such as economic class, age group, involvement in religious practices, a history of suicide attempts in the family and among friends, alcohol consumption patterns, as well as depressive symptoms during adolescence[22-23]. It is important to note that depressive symptoms stood out as the most strongly related to suicidal ideation.

The phenomenon of suicidal ideation most often affects young adults, with the 18 to 25 age group considered to be most at risk[24]. This age group coincides with entering university and the transition to adulthood, a time when individuals face a variety of emotional challenges. Therefore, the initial periods of academic life tend to be more challenging for these young people[25].

To characterize non-suicidal self-injury behaviors, a study carried out in Portugal with 1,763 adolescents aged between 14 and 22 found that individuals from rural areas, due to significant social problems and low socioeconomic status, were more likely to have suicidal ideation. Social isolation and difficulties in employment and education are also important risk factors[26].

Living in a rural area can imply less access to quality goods, services, and information due to Brazil's large continental dimensions and poor income distribution, which favor exclusion. The social isolation imposed by the pandemic, the difficulty of access, the fear of contracting the virus, and the distance from the university may have been triggers for mental suffering[27].

In this study, religion was identified as a risk factor for suicidal ideation, which contradicts other findings in the literature. A Brazilian study investigated the association between attempted suicide and variables related to socioeconomic and demographic aspects in a cohort of women in a Brazilian municipality, in which religion was considered a protective factor for suicidal ideation and suicide[28].

In agreement with some authors, religious affiliation can have a protective effect against suicide attempts due to the inherent social support. However, the relationship between religion and suicide is complex, as different religious affiliations offer different degrees of social support and welcome[29]. Therefore, the type of religion and the way it is experienced may be the most decisive aspects in this matter.

The dimension of intimacy and satisfaction with family in the social support construct was also associated with suicidal ideation. Dysfunctional families that do not offer adequate support may not provide the student with the necessary coping strategies in the face of suffering. A survey carried out in 2021 on the risk of suicide corroborates this statement, concluding in its results that children who are not satisfied with their family configuration are a risk factor for suicidal ideation[30].

Therefore, it is clear that stress in academic life can be a result of the high level of demands and demands on students and that no individual risk factor can explain suicidal ideation in isolation. However, stress, anxiety, depression, and difficulties with social support can make the individual susceptible to suicidal ideation, and in the absence of timely intervention, these factors can trigger such behavior[17].

This study's limitation is related to adapting data collection to the digital environment. Due to the impossibility of carrying out face-to-face collections during the first peak of the COVID-19 pandemic, the number of participants was reduced, which had a direct impact on the composition of the sample.

CONCLUSION

The study revealed a strong association between suicidal ideation and symptoms of stress and anxiety, associated with low social satisfaction during the COVID-19 pandemic and aggravated by social distancing measures. These factors have had a far-reaching negative impact on the quality of life, academic performance, and mental health of affected individuals, especially among young adults who live in rural areas and have no religious affiliation.

Thus, the data from this study can be used to create coping strategies for stressful and adaptive events at the start of university life. In addition, they help formulate mechanisms to assess emotional conditions, reduce mental suffering, and prevent the onset of disorders.

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