Rev Enferm Atenção Saúde
2025;15(1):e20258360
DOI: 10.18554/reas.v15i1.8360
http://seer.uftm.edu.br/revistaeletronica/index.php/enfer

ORIGINAL ARTICLE

Symptoms of anxiety and depression among health students in the context of emergency remote teaching

Sintomas de ansiedade e depressão entre estudantes de saúde no contexto do ensino remoto de emergência

Síntomas de ansiedade y depresión entre estudiantes de salud em el contexto de la enseñanza remota de emergencia

Lígia Fernanda de Araújo[1], Rodrigo Jácob Moreira de Freitas[2], Ana Paula Nunes de Lima Fernandes[3], Janieiry Lima de Araújo[4], Ellany Gurgel Cosme do Nascimento[5], Sibele Lima da Costa Dantas[6], Lídia Stéfanie Dantas Silva[7]

How to cite this article: Symptoms of anxiety and depression among health students in the context of emergency remote teaching. Rev Enferm Atenção Saúde [Internet]. 2025 [access:____]; 15(1): e20258360. DOI: https://doi.org/10.18554/reas.v15i1.8360

[1] Master's Degree. University of Rio Grande do Norte – UERN; Graduate Program in Health and Society, Faculty of Health Sciences - FACS/UERN, Rua Miguel Antônio da Silva Neto, s/n, Aeroporto, 59600-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0002-7400-1677. lidia20241002137@alu.uern.br.
[2] PhD. Professor. University of the State of Rio Grande do Norte – UERN; Graduate Program in Health and Society – PPGSS, Faculty of Health Sciences - FACS/UERN, Rua Miguel Antônio da Silva Neto, s/n, Aeroporto, 59600-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0002-5528-2995
[3] PhD. Professor of Medicine. Faculdade Nova Esperança de Mossoró – FACENE, Av. Pres. Dutra, 701 - Alto de São Manoel, 59628-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0002-0503-3333
[4] PhD. Professor of Nursing. University of the State of Rio Grande do Norte – UERN; Department of Nursing, Rodovia BR-405, S/n - Arizona, 59900-000, Pau dos Ferros, Rio Grande do Norte, Brazil. https://orcid.org/0000-0001-9806-8756
[5] PhD. Professor. University of the State of Rio Grande do Norte – UERN; Graduate Program in Health and Society – PPGSS, Faculty of Health Sciences - FACS/UERN, Rua Miguel Antônio da Silva Neto, s/n, Aeroporto, 59600-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0003-4014-6242
[6] PhD. Lecturer in Nursing and Medicine. Faculdade Nova Esperança de Mossoró – FACENE, Av. Pres. Dutra, 701 - Alto de São Manoel, 59628-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0001-7196-3769
[7] Master's student. University of the State of Rio Grande do Norte – UERN; Graduate Program in Health and Society – PPGSS, Faculty of Health Sciences - FACS/UERN, Rua Miguel Antônio da Silva Neto, s/n, Aeroporto, 59600-000, Mossoró, Rio Grande do Norte, Brazil. https://orcid.org/0000-0001-6737-2560

ABSTRACT

Objective: To analyze the prevalence of anxious and depressive symptoms among health students in the context of emergency remote learning. **Method:** This is a cross-sectional, observational, and descriptive study using a virtual questionnaire between November 2021 and June 2022. Participants were 105 students. The questionnaire covered sociodemographic and psychosocial variables and validated instruments for assessing anxiety and depressive disorders. **Results:** The results showed a prevalence of 62.8% anxious symptoms and 40.9% depressive symptoms. There is a correlation between variables such as course type, aspects of remote learning (e.g., quality of internet access), having a prior mental disorder diagnosis, and reporting psychological changes during the pandemic, with significance $p < 0.05$. **Conclusion:** The prevalence is slightly higher than the standards proposed by the literature, and statistical tests indicate that there is no single factor associated with positive symptoms of anxiety and depression, but rather a plurality of factors.

Descriptors: Anxiety; Depression; Students, health occupations; SARS-CoV-2.

RESUMO

Objetivo: Analisar a prevalência de sintomas ansiosos e depressivos entre estudantes de saúde no contexto do ensino remoto emergencial. **Método:** Estudo transversal, observacional e descritivo por meio de questionário virtual entre novembro de 2021 e junho de 2022. Participaram 105 estudantes. O questionário cobria variáveis sociodemográficas e psicossociais e instrumentos validados para avaliar transtornos de ansiedade e depressão. **Resultados:** Os resultados mostraram uma prevalência de 62,8% de sintomas ansiosos e 40,9% de sintomas depressivos. Há uma correlação entre variáveis como tipo de curso, aspectos do ensino remoto (por exemplo, qualidade do acesso à internet), ter um diagnóstico prévio de transtorno mental e relatar mudanças psicológicas durante a pandemia, com significância $p<0,05$. **Conclusão:** A prevalência é ligeiramente superior aos padrões propostos pela literatura, e os testes estatísticos indicam que não há um único fator associado aos sintomas positivos de ansiedade e depressão, mas sim uma pluralidade de fatores.

Descritores: Ansiedade; Depressão; Estudantes de Ciências da Saúde; SARS-CoV-2.

RESUMEN

Objetivo: Analizar la prevalencia de síntomas ansiosos y depresivos entre estudiantes de salud en el contexto del aprendizaje remoto de emergencia. **Método:** Este es un estudio transversal, observacional y descriptivo mediante un cuestionario virtual entre noviembre de 2021 y junio de 2022. Participaron 105 estudiantes. El cuestionario cubría variables sociodemográficas y psicosociales y instrumentos validados para evaluar trastornos de ansiedad y depresión. **Resultados:** Los resultados mostraron una prevalencia de 62,8% de síntomas ansiosos y 40,9% de síntomas depresivos. Hay una correlación entre variables como tipo de curso, aspectos del aprendizaje remoto (por ejemplo, calidad del acceso a internet), tener un diagnóstico previo de trastorno mental e informar cambios psicológicos durante la pandemia, con significancia $p < 0,05$. **Conclusión:** La prevalencia es ligeramente superior a los estándares propuestos por la literatura, y las pruebas estadísticas indican que no hay un solo factor asociado a los síntomas positivos de ansiedad y depresión, sino una pluralidad de factores.

Descriptores: Ansiedad; Depresión; Estudiantes del área de la salud; SARS-CoV-2.

INTRODUCTION

In 2020, SARS-CoV-2 infection cases spread rapidly, reaching continental proportions, which led the World Health Organization (WHO) to declare a Public Health Emergency of International Concern (PHEIC) and, after acknowledging the high transmissibility of the disease and the onset

of a health crisis, to recognize a pandemic status.[1]

The pandemic brought numerous uncertainties: it was a new disease; there was no scientific evidence of treatment capable of halting the disease's proliferation, nor a vaccine for prevention.[2] The WHO recommended basic actions: isolation and treatment of cases, mass testing, social distancing, as well as the use of masks and hand hygiene.[1]

Based on WHO recommendations, various sectors had their activities interrupted, including education, which led to the implementation of emergency remote learning. The Ministry of Education (MEC) suspended in-person classes while the pandemic lasted, leaving educational institutions responsible for the components to be offered.[3]

The new context altered routines, producing new demands associated with feelings such as fear, loneliness, uncertainties, and isolation, combined with new pedagogical strategies that had not been previously applied. The pandemic posed challenges of immeasurable dimensions in all aspects, and considering the mental health of health students became essential.

Anxiety and depression are considered Common Mental Disorders (CMD), a term created by Goldberg and Huxley to describe a health condition that does not meet formal criteria for a mental health diagnosis. However, the symptoms carried by these disorders cause incapacitating harm to the individual, society, and the economy.[4]

CMDs among university students have shown higher rates than the general population: one in five university students worldwide has mental disorders, among which anxiety is the most prevalent. It is estimated that 37.7% of Brazilian students experience anxiety disorders.[5,6]

According to the WHO, Brazil is the most anxious country in the world: about 18.6 million Brazilians suffer from anxiety, a prevalence of 9.3%. The lifetime prevalence of depression is 15.5% and is associated with suicide rates. The first year of the pandemic saw a 25% increase in depression and anxiety cases.[7]

In the context of the health crisis and the implementation of emergency remote learning, it became necessary to reflect on education and health permeated by the effects of the pandemic. This study aimed to analyze the prevalence of anxious and depressive symptoms among health students in the state of Rio Grande do Norte.

METHOD

The research was submitted and approved by the Research Ethics Committee of the University of the State of Rio Grande do Norte (UERN), under

approval number 5.031.507. All ethical issues were followed according to Resolution No. 466/12 of the National Health Council.[8]

This is a cross-sectional, observational, and descriptive study conducted in the state of Rio Grande do Norte, located in northeastern Brazil. The target population consisted of 105 undergraduate health students from both public and private higher education institutions in the state. The sampling used the "snowball" method, inviting participants to respond to an electronic questionnaire shared via social media.

The sample calculation considered infinite populations and the prevalence of anxious and depressive symptoms from an author[9], which was 28.6% for depression and 36.1% for anxiety. Thus, the required sample size was calculated using the infinite population formula (Figure 1).

$$n = \frac{Z^2.p.q}{e^2}$$

Figure 1. Infinite population formula

The questionnaire, created by the authors using Google Forms, consisted of three parts: objective questions about sociodemographic and health variables; the General Anxiety Disorder-7 (GAD-7) scale[10]; and the Patient Health Questionnaire-9 (PHQ-9).[11]

The virtual questionnaire responses were organized in a Microsoft Excel® spreadsheet, being exported to the statistical data package SPSS IBM 25®, version 5.0. Data normality was tested using the Kolmogorov-Smirnov test, revealing a non-normal distribution, which led to the use of non-parametric tests.

Associations between outcomes and all variables were analyzed using the generalized linear Poisson model and the Omnibus test value. For quantitative variable analysis, Spearman's correlation tests (rho) were used, while descriptive associations were verified through the calculation of the Prevalence Ratio (PR), with a 95% confidence interval.

RESULTS

The participants of this research were aged 18 to 37, with a mode of 23 years; 83.8% were female; 70.5% were enrolled in nursing undergraduate programs, and 86.7% attended private universities. Most

were between the 7th and 8th academic periods (38.1%), did not have children (86.7%), were single (87.6%), and had a monthly income between 1 and 3 minimum wages (70.5%); 60% reported a decrease in their usual income due to the pandemic.

Table I presents the number of students with anxious and depressive symptoms, according to the instruments used (GAD-7 and PHQ-9), during emergency remote learning.

Table I. Variables of anxiety and depression symptoms according to the scores of health students in Emergency Remote Education.

Variables	n	%
Anxiety (GAD-7)		
Yes	66	62,8
No	39	37,2
Depression (PHQ-9)		
Yes	43	40,9
No	62	59,1

From this finding, correlations were made between the study variables and the outcome of 'presence of anxious and depressive symptoms.' Table II presents the correlation with socioeconomic variables.

Table II. Spearman correlation between the socioeconomic variables of health students and the outcome presence of anxious and depressive symptoms.

Variables	n	%	rho	p valor
Gender				
Female	88	83,8	,568	0,000
Male	17	16,2	,637	0 003
Marital Status				
Married/ Stable Union	13	12,4	8,47	1,193
Single*	92	87,6	2,627	0,000
Have children ?				
Yes	14	13,3	,410	0,102
No	91	86,7	,634	0,000
Family income **				
< 1 minimum wage	14	13,3	,491	0,063
1 |---------- 3	74	70,5	1,72	0,000
3 |---------- 6	17	16,2	,693	0,009
Family income adequate to needs?				
Yes	48	45,7	,644	0,000
No	57	54,3	,546	0,000
Impact of the pandemic on income				
Income decreased	63	60,0	,606	0,000
Income remained	39	37,1	607	0,000
Income increased	03	2,9	,423	0,125
Course				

Medicine	18	17,1	,599	0,005
Nursing	74	70,5	,576	0,000
Physiotherapy	02	1,9	,707	0,116
Dentistry	02	1,9	-	-
Physical Education	02	1,9	-	-
Nutrition	01	1,0	-	-
Social Work	01	1,0	-	-
Psychology	05	4,8	,667	0,219
Type of Higher Education Institution				
Public	14	13,3	,745	0,002
Private	91	86,7	,578	0,000
Religiosity				
Catholic	53	50,5	,600	0,000
Evangelical	29	27,6	,420	0,012
Spiritualist	03	2,9	,359	0,148
Other	02	1,9	,411	0,104
None	18	17,1	,892	0,000

* Considering single people as those who declare themselves widowed, separated or divorced
** Considering the value of the minimum wage in 2022 in Brazil of R$ 1,212.00

Regarding gender, positive correlations were found for both males and females concerning anxious and depressive symptoms. It is worth noting the significant difference in sample distribution, where 83.8% are female, which further elevates the significance level of the findings.

For the type of Higher Education Institution (HEI), both public and private institutions demonstrated positive correlation to the outcome. Regarding the course, medicine and nursing showed a statistically significant correlation with the presence of anxious and depressive symptoms, although the sample of medical students was smaller than that of nursing students.

Considering the presence of children, students without children were statistically more prone to anxious and depressive symptoms compared to those with children, as was the case for single marital status (87.6%).

Table III presents the correlation with variables on remote learning, such as adaptation and difficulties.

Table III. Spearman correlation of remote teaching variables for health students with the outcome presence of anxious and depressive symptoms.

Variables	rho	p valor
Interruption of academic activities during the pandemic		
Completely interrupted	-	-
Interrupted and resumed later	,667	0,035
Continued remotely	,568	0,000
Adapting to remote teaching		
Poorly adapted	,612	0,007
Partially adapted	,265	0,039
Fully adapted	,188	0,239
Considers remote teaching appropriate for learning?		
Yes	,563	0,000
No	3,00	1,000

Partially adapted	,633	0,000
Adapting the Environment to Remote Teaching		
Completely adequate	,378	0,316
Partially adequate	,636	0,000
Not at all adequate	,476	0,009
Biggest difficulty of remote teaching		
Access to quality internet	,568	0,000
Inadequate electronic devices	,241	1,000
Inadequate environment	,545	0,000
Excessive academic activities	,645	0,000
Concern about loss and/or delay in learning through Remote Teaching		
Yes	,609	0,000
No	,447	0,145
Concern about replacement		
Yes	,645	0,000
No	,235	0,306

Students who reported little adaptation to remote learning and partially or inadequately equipped environments were most positively correlated with the presence of anxious and depressive symptoms. Those who reported being partially adapted showed a weak positive correlation, while those who reported being fully adapted showed no correlation.

Finally, Table IV correlates the presence of anxious and depressive symptoms with health variables and students' pandemic experiences.

Table IV. Spearman correlation with health variables and experience of the pandemic among health students with the outcome presence of anxious and depressive symptoms.

Variables	n	%	rho	p valor
Did you frequently use alcohol and/or cigarettes?				
Yes	24	22,9	,667	0,000
No	81	77,1	,566	0,000
Diagnosis of Previous Mental Disorder?				
Yes	19	18,1	,842	0,000
No	86	81,9	,536	0,000
Perception of psychological/behavioral change during the pandemic period?				
Yes	73	69,5	,491	0,000
No	15	14,3	1,000	-
Maybe	17	16,2	,508	0,000
Did you self-isolate during the pandemic?				
Yes	100	95,2	,581	0,000
No	05	4,8	-	5,00
Degree of insulation adopted				
Total, only essential activities	37	35,2	,447	0,002
Partial isolation with distancing measures	61	58,1	,691	0,000
I did not and/or could not carry out social isolation	07	6,7	1,000	0,116
Are you still taking preventive measures against COVID-19?				
Totally	31	29,5	,805	0,000

Partially	71	67,6	,499	0,000
I don't do it	03	2,9	3,000	1,000
Positive Diagnosis for COVID-19 during the pandemic?				
Yes	54	51,4	,478	0,000
No	34	32,4	,708	0,000
I had suspicions	17	16,2	,739	0,000
Has any family member had COVID-19 during the pandemic?				
Yes	94	89,5	,600	0,000
No	05	4,8	,316	0,541
Had suspicion	06	5,7	,008	0,010
Have you lost someone close to you to COVID-19?				
Yes	38	36,2	,568	0,000
No	67	63,8	,604	0,000

When verifying health variables, students who reported frequent use of alcohol and cigarettes during the pandemic showed a significant correlation with anxious and depressive symptoms. Additionally, a prior diagnosis of mental disorders revealed a high correlation with anxious and depressive symptoms compared to those without mental health diagnoses.

DISCUSSION

The predominance of female participants aligns with data from the National Institute of Educational Studies and Research (INEP), which indicates that more than half of the university population is female (57%).[12] The positive correlation of anxious and depressive symptoms in both genders contradicts most research found in the literature, which states that women are more prone to these conditions.[13] Regarding the courses, medicine and nursing showed statistically significant correlations with anxious and depressive symptoms. This research aligns with the literature stating that medical students are more prone to anxiety and depression.[14]

The initial phase of the pandemic, with its uncertainties, fears, and exponential mortality of the population affected by the coronavirus, generated anxious symptoms in the population. A study conducted with medical students during the initial phase of the pandemic revealed Generalized Anxiety Disorder (GAD) levels of 60% among medical students in the United States, with female students significantly more affected by the symptoms.[15]

Regarding income, about 50% of the sample experienced a decrease in usual income due to the pandemic, claiming that the amount was insufficient to meet their needs. Some authors[16] demonstrated a significant correlation between anxiety, depression, and stress with financial difficulties. However, this research contradicts the literature as the findings showed that both high- and low-income groups had significant correlations with anxious and depressive symptoms.

In line with literature[17], a study conducted in Nepal with health students during the pandemic found anxiety and depression prevalence rates of 15.7% and 10.7%, respectively, associated with study location, hours of sleep per day, and daily time spent on the internet for education.

The continuity of academic activities through remote learning, as well as the total interruption of academic activities, little adaptation to the teaching model, and inadequate study environments (physical structure, access to quality internet), were the major obstacles to the feasibility of remote classes and were positively correlated with anxious and depressive symptoms. This statement aligns with authors who point to remote learning as a factor for psychological distress and situations such as learning problems, difficulty in memorization, among others.[18]

Concerns about losses in the teaching/learning process due to remote learning and the need to make up for practical classes in the future, in an attempt to fill the gaps left by the impossibility of practical classes, were variables positively correlated with anxious and depressive symptom outcomes.[18]

Regarding isolation during the pandemic, whether partial or total, students who practiced social isolation during the pandemic had a positive and significant correlation with anxious and depressive symptoms, as also found in studies by some authors.[19,13] The loss and/or contamination of close individuals by coronavirus were also risk factors for anxiety symptoms.[20]

Health variables demonstrated that students who reported more frequent use of alcohol and cigarettes during the pandemic, as well as those who noted psychological changes due to the pandemic, presented a highly significant correlation. This can be explained by some authors in literature[21] when stating that changes in the pattern of legal and illegal drug use and behavioral changes are associated with higher levels of anxiety and depression.

A prior diagnosis of mental disorders reveals a highly significant correlation with the emergence of anxious and depressive symptoms. On this topic, authors[18] found in their study a stronger association between students with a prior psychiatric history and common mental disorders, including anxiety and depression, compared to the sample without a prior diagnosis.

In Brazil, current days reveal a society afflicted by levels of anxiety and depression never experienced before.[1] The experience of the pandemic and remote learning was marked by the absence of basic supplies, lack of support for education and health, delays in vaccine purchases, inadequate access to free and quality internet, and electronic devices. These factors explaining the data collection context can justify

anxiety and depression prevalence levels well above the global average.

Authors[21] describe that the changes arising from the pandemic modified the entire existing social dynamic, and this scenario was no different among students. A study conducted in Brazil with 1,786 health students revealed that the main changes arising from the phase are lower productivity, difficulty concentrating, increased sleep hours and body weight, increased use of electronic devices, poor diet, increased use of legal and illegal drugs and medications, especially antidepressants and anxiolytics, less interest in personal appearance, and greater coexistence with family members.

Health students are more prone to anxious and depressive symptoms due to their involvement in health care services and the stressors and risks linked to the new coronavirus pandemic. A study conducted over 14 months of the pandemic in Switzerland with this group revealed GAD variations between 22.7% and 24.4%, identifying them as a vulnerable group to GAD. [22]

CONCLUSION

This research allows for analyzing the prevalence of anxious (62.8%) and depressive (40.9%) symptoms among health students in the context of emergency remote learning, characterizing the sociodemographic profile, and estimating and correlating variables with the prevalence of anxious and depressive symptoms. The prevalence, slightly higher than the standards proposed by the literature, and statistical tests indicate that no single variable can explain the relationship with self-reported symptoms of anxiety and depression. In other words, there is no isolated factor associated with positive symptoms of anxiety but rather a plurality of factors.

ACKNOWLEDGMENTS

To the Graduate Program in Health and Society (PPGSS). To the students, professors, class leaders, and academic health center representatives who facilitated the data collection for this research.

REFERENCES

1. Organização Pan-Americana da Saúde. Dia Mundial da Saúde Mental: uma oportunidade para dar o pontapé inicial em uma grande escala de investimentos [Internet]. Washington, D.C.: OPAS; 2020 [cited 2025 Mar 10]. Available from: https://www.paho.org/pt/noticias/27-8-2020-dia-mundial-da-saude-mental-uma-oportunidade-para-dar-pontape-inicial-em-uma

2. Silva AC, Martins DS, Santiago AT, Santos OS, Paes CJO, Silva AC, et al. O impacto psicológico da pandemia de COVID-19 nos acadêmicos de medicina da região de Carajás. Brazilian Journal of Health Review [Internet]. 2020 [cited 2025 Aug 26]; 3(6):19731-47. Available from: https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/22290/17817

3. Ministério da Educação (Brasil). Portaria Nº 343, de 17 de março de 2020. Dispõe sobre a substituição das aulas presenciais por aulas em meios digitais

enquanto durar a situação de pandemia do Novo Coronavírus - COVID-19 [Internet]. D.O.U., Brasília, DF, 17 mar 2020 [cited 2025 Aug 26]; Seção 1, 53:39. Available from: https://www.in.gov.br/en/web/dou/-/portaria-n-343-de-17-de-marco-de-2020-248564376

4. Santos GBV, Alves MCGP, Goldbaum M, Cesar CLG, Gianini RJ. Prevalência de transtornos mentais comuns e fatores associados em moradores da área urbana de São Paulo, Brasil. Cad Saúde Pública [Internet]. 2019 [cited 2025 Aug 26]; 35(11):e00236318. Available from: https://www.scielo.br/j/csp/a/B4xZbzc6ZLt5ghtsdXJq9gf/?format=pdf&lang=pt

5. Auerbach RP, Alonso J, Axinn WG, Cuijpers P, Ebert DD, Green JG, et al. Mental disorders among college students in the World Health Organization World Mental Health Surveys. Psychol Med. [Internet]. 2016 [cited 2025 Aug 26]; 46(14):2955-70. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC5129654/pdf/nihms830521.pdf

6. Demenech LM, Oliveira AT, Neiva-Silva L, Dumith SC. Prevalence of anxiety, depression and suicidal behaviors among Brazilian undergraduate students: a systematic review and meta-analysis. J Affect Disord. [Internet]. 2021 [cited 2025 Aug 26]; 282:147-59. Available from: https://www.sciencedirect.com/science/article/pii/S0165032720331980?via%3Dihub

7. World Health Organization. Depression and other common mental disorders [Internet]. Geneva: WHO; 2017 [cited 2025 Aug 26]. Available from: https://iris.who.int/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf?sequence=1

8. Conselho Nacional de Saúde (Brasil). Resolução Nº 466, de 12 de dezembro de 2012. Resolve aprovar as seguintes diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos [Internet]. Brasília, DF: CNS; 2012 [cited 2025 Aug 26]. Available from: https://www.gov.br/conselho-nacional-de-saude/pt-br/acesso-a-informacao/legislacao/resolucoes/2012/resolucao-no-466.pdf/view

9. Leão AM, Gomes IP, Ferreira MJM, Cavalcanti LPG. Prevalência e fatores associados à depressão e ansiedade entre estudantes universitários da área da saúde de um grande centro urbano do nordeste do Brasil. Rev Bras Educ Méd. [Internet]. 2018 [cited 2025 Aug 26]; 42(4):55-65. Available from: https://www.scielo.br/j/rbem/a/kyYq35bwkZKHpKRTjyqjMYz/?format=pdf&lang=pt

10. Kroenke K, Spitzer RL, Williams JBW, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. Ann Intern Med. [Internet]. 2007 [cited 2025 Aug 26]; 146(5):317-25. Available from: https://pubmed.ncbi.nlm.nih.gov/17339617/

11. Bergerot CD, Laros JA, Araujo TCCF. Avaliação de ansiedade e depressão em pacientes oncológicos: comparação psicométrica. Psico-USF [Internet]. 2014 [cited 2025 Aug 26]; 19(2):187-97. Available from: https://www.scielo.br/j/pusf/a/SR6jJNRL4FrP5jkMrXssxMb/?format=pdf&lang=pt

12. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. Resumo técnico do censo da educação superior 2020 [Internet]. Brasília, DF: INEP; 2022 [cited 2025 Mar 10]. Available from: https://www.gov.br/inep/pt-br/centrais-de-conteudo/acervo-linha-editorial/publicacoes-institucionais/estatisticas-e-indicadores-educacionais/resumo-tecnico-do-censo-da-educacao-superior-2020

13. Essangri H, Sabir M, Benkabbou A, Majbar MA, Amrani L, Ghannam A, et al. Predictive factors for impaired mental health among medical students during the early stage of the COVID-19 pandemic in Morocco. Am J Trop Med Hyg. [Internet]. 2020 [cited 2021 May 15]; 104(1):95-102. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7790070/pdf/tpmd201302.pdf

14. Xiao C. A novel approach of consultation on 2019 novel Coronavirus (COVID-19) -Related psychological and mental problems: structured letter therapy. Psychiatry Investig. [Internet]. 2020 [cited 2025 Aug 26]; 17(2):175-6. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7047000/pdf/pi-2020-0047.pdf
15. Lee CM, Juarez M, Rae G, Jones L, Rodriguez RM, Davis JA, et al. Anxiety, PTSD, and stressors in medical students during the initial peak of the COVID-19 pandemic. Lahiri A, editor. PLoS One [Internet]. 2021 [cited 2025 Aug 26]; 16(7):e0255013. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8320894/pdf/pone.0255013.pdf
16. Cheung T, Yip PS. Depression, anxiety and symptoms of stress among Hong Kong nurses: a cross-sectional study. Int J Environ Res Public Health [Internet]. 2015 [cited 2025 Aug 27]; 12(9):11072-100. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC4586662/pdf/ijerph-12-11072.pdf
17. Yadav RK, Baral S, Khatri E, Pandey S, Pandeya P, Neupane R, et al. Anxiety and depression among health sciences students in home quarantine during the COVID-19 pandemic in selected provinces of Nepal. Front Public Health [Internet]. 2021 [cited 2025 Aug 27]; 9:580561. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7956996/pdf/fpubh-09-580561.pdf
18. Aftab M, Abadi AM, Nahar S, Ahmed RA, Mahmood SE, Madaan M, et al. COVID-19 pandemic affects the medical students' learning process and assaults their psychological wellbeing. Int J Environ Res Public Health [Internet]. 2021 [cited 2025 Aug 27]; 18(11):5792. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8197969/pdf/ijerph-18-05792.pdf
19. Vitale E, Moretti B, Noternicola A, Covelli I. How the italian nursing student deal the pandemic Covid-19 condition. Acta Biomed. [Internet]. 2020 [cited 2021 Jul 4]; 91(12 Suppl):e2020007. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8023108/pdf/ACTA-91-07.pdf
20. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Res. [Internet]. 2020 [cited 2025 Aug 27]; 287(112934). Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC7102633/pdf/main.pdf
21. Mata LRF, Pessalacia JDR, Kuznier TP, Neto PKS, Moura CC, Santos FR. Daily lives of university students in the health area during the beginning of the Covid-19 pandemic in Brazil. Invest Educ Enferm. [Internet]. 2021 [cited 2025 Aug 27]; 39(3):e07. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8912156/pdf/2216-0280-iee-39-03-e07.pdf
22. Volken T, Zysset A, Amendola S, von Wyl A, Dratva J, On behalf of the Hes-C Research Group. Generalized anxiety among swiss health professions and non-health professions students: an open cohort study over 14 months in the COVID-19 Pandemic. Int J Environ Res Public Health [Internet]. 2021 [cited 2025 Mar 10]; 18(20):10833. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC8535743/pdf/ijerph-18-10833.pdf

RECEBIDO: 14/03/25
APROVADO: 25/08/25
PUBLICADO: 09/2025