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Anxiety and depression symptoms in academics at the beginning of the pandemic in Brazil

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Sintomas de ansiedade e depressão em acadêmicos no início da pandemia no Brasil

Síntomas de ansiedad y depresión en académicos al inicio de la pandemia en Brasil

RESUMO

Objetivo: Avaliar os níveis dos sintomas de ansiedade e depressão dos acadêmicos de Ciências da Saúde no início da pandemia. Métodos: Para mensuração dos níveis de ansiedade e depressão foi utilizado o instrumento Hospital Anxiety and Depression Scale (HADS), através de um formulário eletrônico. Resultados: A amostra foi composta por 99 alunos de uma universidade pública. Os níveis dos sintomas de saúde mental apresentaram uma média de 8,73 para ansiedade e 7,62 para depressão, interpretados como valores limítrofes. Os alunos do sexo feminino e que relataram sentimentos de medo/ansiedade a respeito da pandemia apresentaram maiores níveis dos sintomas estudados. Os níveis desses sintomas também foram maiores em acadêmicos que relataram não praticar exercícios físicos regularmente. Conclusão: Foi observado que os níveis de sintomas de ansiedade e depressão foram maiores em mulheres e alunos que apresentaram medo e anseio frente a pandemia e ao novo coronavírus.
DESCRITORES: Estudantes em Ciências da Saúde; Pandemia; COVID-19; Transtorno Mental.

ABSTRACT

Objective: To assess the levels of anxiety and depression symptoms of Health Science students at the onset of the pandemic. Methods: To measure the levels of anxiety and depression, the Hospital Anxiety and Depression Scale (HADS) instrument was used, through an electronic form. Results: The sample consisted of 99 students from a public university. The levels of mental health symptoms had an average of 8.73 for anxiety and 7.62 for depression, interpreted as borderline values. Female students who reported feelings of fear/anxiety about the pandemic had higher levels of studied symptoms. Levels of these symptoms were also higher in students who reported not exercising regularly. Conclusion: It was observed that the levels of anxiety and depression symptoms were higher in women and students who were afraid and anxious about the pandemic and the new coronavirus.
DESCRIPTORS: Health Science Students; Pandemic; COVID-19; Mental Disorder.

RESUMEN

Objetivo: Objetivo: Evaluar los niveles de síntomas de ansiedad y depresión de los estudiantes de Ciencias de la Salud al inicio de la pandemia. Métodos: Para medir los niveles de ansiedad y depresión se utilizó el instrumento Hospital Anxiety and Depression Scale (HADS), a través de un formulario electrónico. Resultados: La muestra estuvo conformada por 99 estudiantes de una universidad pública. Los niveles de síntomas de salud mental tuvieron un promedio de 8.73 para ansiedad y 7.62 para depresión, interpretados como valores límite. Las estudiantes que informaron sentimientos de miedo / ansiedad sobre la pandemia tenían niveles más altos de síntomas estudiados. Los niveles de estos síntomas también fueron más altos en los estudiantes que informaron no hacer ejercicio con regularidad. Conclusión: Se observó que los niveles de síntomas de ansiedad y depresión fueron mayores en mujeres y estudiantes que tenían miedo y ansiedad por la pandemia y el nuevo coronavirus.
DESCRIPTORES: Estudiantes de Ciencias de la Salud; Pandemia; COVID-19; Trastorno Mental.

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INTRODUCTION

The first cases of COVID-19 appeared in Brazilian territory after February 26, 2020, since then, there has been an increase in the incidence of the disease, reaching more than ten million infected people and more than 200 thousand deaths registered in a period of one year. [1] With the advancement of the disease, state governments decided to implement norms to contain the spread of the SARS-CoV-2 virus on a large scale, with the encouragement of social isolation, use of face masks in public places, availability of gel alcohol in all establishments, as well as the closing of public and private education centers, establishing the beginning of remote classes. [2]

Faced with this situation, Health Sciences academics at universities have faced several challenges, such as the reduction of social interactions [3], concerns about the impact of the pandemic on their studies, lack of motivation to study [4], increased levels of sedentary lifestyle [5], and consequently the increase or intensification of symptoms of common mental disorders, such as anxiety and depression. [6–8]

Concern for the mental health of academics was present even before the pandemic. A study conducted in China observed that 81.4% of Chinese students had some psychological distress. [9] In Brazil, the prevalence of depression and anxiety in a public institution prior to the pandemic was 30.6 and 62.9%, respectively. [10] Given the situation of vulnerability that academics were and continue to be exposed to in relation to their mental health, there are still not many national studies that point out the psychological conditions of Brazilian academics when they are impacted by the pandemic and, consequently, by the changes of new habits of life and study. Thus, this study aims to evaluate the levels of anxiety and depression symptoms in Health Sciences academics from a public university at the beginning of the SARS-CoV-2 pandemic.

METHODS

This study is part of a cross-sectional quantitative research, of descriptive investigation, carried out through an online form by the Google Forms platform, data collection was carried out during the month of June 2020, period of promoting social isolation, mandatory use of masks and transfers from face-to-face classes to remote (virtual) classes. The participants selected for the research were Health Sciences students from a public university located in the interior of the state of Goiás, Brazil. The research was carried out in accordance with Resolution nº 510/16, being approved by the Research Ethics Committee of the State University of Goiás, under the opinion embodying nº 4.118.661, CAAE: 31714520.9.0000.8113.

The questionnaires were applied in an online format through a link, between groups of students of the Health Sciences courses on social networks, emails and messages for an individualized approach. The forms presented the Free and Informed Consent Term (ICF) after the acceptance and completion of the research form, the students received a copy of it by email. When dealing with the eligibility criteria, students were included who were properly enrolled in the higher education institution (HEI), aged between 18 and 59 years old and who were taking remote classes for a period equal to or greater than 15 days. Those students who were under license, did not have access to the internet or who did not properly fill in the questions on the form were excluded from the study.

Anxiety and depression symptoms were measured by the Hospital Anxiety and Depression Scale (HADS) responsible for carrying out a clinically significant mapping in anxious and depressive patients throughout the clinical follow-up performed by a specialist. [11] This instrument has 14 questions, seven of which are aimed at the assessment of depressive symptoms, and the remaining seven are indicated for anxiety symptoms, with alternatives ranging from 0-3 on a Likert scale, that the higher the score, the higher the risk of the individual having some anxiety or depression disorder that indicates clinical needs. It is noteworthy that this instrument was previously used in national cross-sectional studies in non-hospital environments with the aim of evaluating the study participants' anxiety and depression symptoms. [12,13] The parameters are assigned from the total scores for the questions of anxiety and depression, and below or equal to 7 it is very unlikely that the individual has a clinical diagnosis of both mental disorders - normal; between 8 and 10, there are doubts as to whether there

is any related mental disorder – borderline abnormal; and above [11], the individual has a high probability of having some depressive or anxiolytic mental disorder - abnormal. [11]

Data was structured and typed into the Microsoft Office Excel® 2016 program. Statistical analysis was performed using the Statistical Package for the Social Science (SPSS), version 21.0, for Windows®. Data referring to sociodemographic information were expressed in absolute (n) and relative (%) frequency. Mental health scores were expressed as mean and standard deviation (SD) (95% CI). To compare the variables of two categories, the t test was used for independent samples, and for variables with more than two categories, the Tukey ANOVA test was used, both were applied at a significance level of 5% (p<0.05).

RESULTS

For the study, 99 participants were selected who belonged to physical education, nursing, pharmacy and medicine courses at the State University of Goiás – Itumbiara University Unit (UEG – UnU Itumbiara). Characteristics such as: female, self-reported white people and aged between 18 and 29 years were predominant in the study sample. When addressing topics such as anxiety/fear related to the new coronavirus and performing physical exercises during isolation, it was possible to observe the following frequencies (Table 1):

The results of this study showed that most of the sample had normal levels of symptoms of anxiety and depression. The students presented levels of anxiety symptoms between the threshold parameters for the development of a clinical condition (from 8 to 10 points), according to the HADS instrument. As for the symptoms of depression, the results showed an impossible condition for the development of this disorder (Table 2).

In the association of independent variables with those of mental health, it was possible to identify significant differences between the averages of anxiety and depression disorders in the comparison between males and females. Higher levels of anxiety

Table 1. Distribution of sociodemographic characteristics of Health Sciences students. Goiás, Brazil, 2020.

Characteristics		n	%
Gender*	Female	75	75,8
	Male	23	23,2
Color of skin	White	49	49,5
	Brown	35	35,4
	Black	11	11,1
	Yellow	4	4
Age	18 to 29 y/o	93	93,9
	≥ 30 y/o	6	6,1
Marital status	Single	88	88,8
	Married / Stable Union	11	11,2
Employment relationship	Yes	21	21,2
	No	78	78,8
Family Income	From 0 to 1 MW	18	18,2
	> 1 to 3 MW	49	49,5
	> than 3 MW	32	32,3
How anxious or fearful about COVID-19?	Nothing or a little	48	48,5
	A lot or Completely	51	51,5
Are you performing physical exercises during social isolation?	Yes	45	45,5
	No	54	54,5

MW: Minimum wage, *one person did not respond.
Source: The authors, 2021.

Table 2. Mental health (mean and SD) presented by Health Sciences students from a public university. Goiás, Brazil, 2020.

		n (%)	Mean (n=99)	SD
Anxiety	Normal	47 (39,5)	8,73	±4,82
	Borderline abnormal	24 (20,2)		
	Abnormal	28 (23,5)		
Depression	Normal	51 (42,9)	7,62	±4,07
	Borderline abnormal	30 (25,2)		
	Abnormal	18 (15,1)		

SD = Standard Deviation
Source: The authors, 2021.

were observed in students aged between 18 and 29 years, showing a significant difference when comparing them with students aged 30 years or more. The performance or not of physical exercises did not present significant results in the levels of anxiety

between the groups, however, those who performed physical exercises had lower scores of depressive symptoms, presenting a significant difference in relation to students who did not practice any type of physical exercise during social isolation (Table 3). In

the association between the levels of the variables studied and students' reports about feeling fear or anxiety about the pandemic and its infectious agent, SARS-CoV-2, it was possible to verify that those who reported being very or completely feared/anxious were the ones who obtained the highest averages in the levels of anxiety and depression by the HADS instrument, reaching averages closer to the limit that describes the probable presence of some of the disorders (Table 4).

DISCUSSION

This study evaluated the levels of anxiety and depression symptoms in Health Sciences students during the promotion of social isolation. It was observed that the average of both symptoms did not have a high probability of triggering any related mental disorder, however anxiety levels reached a higher score compared to depression levels. As for gender, in females, higher scores were observed in the levels of anxiety and depression symptoms, as well as those who reported having high levels of fear/anxiety in relation to the Sars-CoV-2 virus and the general context of the pandemic.

It was also pointed out in this study that the averages were higher in the symptoms of disorders evaluated by the HADS for females when compared to males, corroborating the results observed in other studies carried out before and during the pandemic. Before the emergence of the new coronavirus, some studies claimed that women in university environments are more vulnerable to stress and lower well-being [14], in addition to having higher levels of depressive symptoms [10,15,16], as well as anxiety. [13,17] While during the pandemic, some countries also saw similar results, in which female students had their mental health negatively affected by the situation [3], in addition to having higher levels of stress and insecurity than men. [18,19]

Younger academics had higher scores on levels of anxiety symptoms, a similar result was also found in the study by Ghandour 18, in which students under the age of 35 had higher levels of stress and insecurity

Tabela 3. Associação entre os aspectos sociodemográficos e, os sintomas de ansiedade e depressão, dos alunos de uma universidade pública. Goiás, Brasil, 2020.

Variáveis		Average Anxiety (SD)	p-Value	Average Depression (SD)	p-Value
Gender	Female	9,75 (±4,79)	<0,001*	8,21 (±4,03)	0,002*
	Male	5,13 (±2,84)		5,23 (±2,86)	
Color of skin	White	9,08 (±4,87)	§	7,80 (±4,21)	§
	Brown	8,69 (±5,04)		7,54 (±3,81)	
	Black	7,82 (±4,83)		6,73 (±4,54)	
	Yellow	7,25 (±3,50)		8,50 (±4,43)	
Age	18 to 29 y/o	9,00 (±4,83)	0,02*	7,80 (±4,10)	0,08
	≥ 30 y/o	4,50 (±2,73)		4,83 (±2,48)	
Marital Status	Single	9,02 (±4,94)	0,08	7,82 (±4,15)	0,16
	Married/ Stable Union	6,36 (±3,23)		6,00 (±3,06)	
Employment relationship	Yes	8,00 (±5,34)	0,44	6,76 (±4,65)	0,28
	No	8,92 (±4,71)		7,85 (±3,96)	
Family Income	From 0 to 1 MW	9,11 (±4,43)	§	7,78 (±4,23)	§
	> 1 to 3 MW	9,43 (±5,07)		7,94 (±4,37)	
	> than 3 MW	7,44 (±4,57)		7,03 (±3,54)	
Are you performing physical exercises during social isolation?	Yes	8,09 (±4,30)	0,23	6,47 (±3,85)	0,001*
	No	9,26 (±5,23)		8,57 (±4,03)	

*significant difference (p≤0.05), § there was no significant difference in the comparison between groups (p>0.05)

Table 4. Association of anxiety and depression levels with students who reported feeling little or a lot of fear/anxiety related to the pandemic and SARS-CoV-2. Goiás, Brazil, 2020.

Fear/anxiety about SARS-CoV-2	Anxiety	p-Value	Depression	p-Value
Nothing or a little	6,33	<0,001*	6,10	<0,001*
A lot or completely	10,98		9,04	

*significant difference (p≤0.05)
Source: The authors, 2021.

related to the pandemic. Regarding the performance of physical exercises, it was observed that those who did not exercise regularly had higher levels of depressive symptoms compared to those who practiced physical activities on a regular basis. This implication can be justified by the

study by Huckins 5, who observed that students who had increased symptoms of depression are characterized as sedentary, and that they had even reduced their physical exercise practices because of the pandemic.

Although the average levels of anxiety and depression symptoms found by this

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study did not present risks for the development of mental disorders for clinical indication, it is interesting to note that research carried out during the pandemic highlighted the increase in the levels of these disorders among university students. [3,5–7] This increase can be explained by concerns related to Sars-CoV-2 and the contamination of loved ones, such as friends and family [7,19,20], the news propagated by the media also contributed to this increase8, in addition to concerns such as employment and dealing with other forms of study. [4,7,8,19]

The high levels of anxiety and depressive symptoms identified in the present study were related to students who reported higher levels of fear and anxiety about the coronavirus and the pandemic in the general context. Such implications highlight the negative impacts that the pandemic has had on the mental health of university students and the entire population [9,21,] especially for those who understood the gravity of the situation. These risks to students' mental health are not only consistent with the pandemic context, but also with previously existing situations. Satisfaction with the course, social relationships, irregular physical exercise practices, excessive workload, and consumption of alcoholic beverages,

> **The high levels of anxiety and depressive symptoms identified in the present study were related to students who reported higher levels of fear and anxiety about the coronavirus and the pandemic in the general context**

as well as smoking, were already problems faced in the daily lives of Health Sciences university students even before the pandemic situation. [9,13–17]

As this is a cross-sectional study, it is not possible to know whether the levels of anxiety and depression symptoms have varied over time and adaptation to the pandemic. As the data collection period was only during the promotion of social isolation, the sample was not statistically high, probably due to the difficulty of academics to access synchronous classes in the remote model, as well as possible problems such as power outages or loss of internet connection.

CONCLUSION

In a general context, the levels of symptoms of anxiety and depression were borderline to the development of these disorders. However, it was possible to observe that these symptoms were greater in students who reported feeling fear and anxiety due to the coronavirus. Therefore, academic support is necessary for the preservation of the mental health of these students, and the development of strategies that allow psychological care for this population.

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