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Minor psychiatric disorders among university students during the COVID-19 pandemic

Transtornos psiquiátricos menores em estudantes universitários durante a pandemia da COVID-19

Transtornos psiquiátricos menores en estudiantes universitarios durante la pandemia del COVID-19

Luciane Prado Kantorski[a]
Ariane da Cruz Guedes[a]
Aline Neutzling Brum[b]
Carlos Alberto dos Santos Treichel[c]
Vinícius Boldt dos Santos[d]
Bianca Albuquerque Gonçalves[e]
Mariana Dias Almeida[e]

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ABSTRACT

Objective: To identify the prevalence and factors associated with the manifestation of Minor Psychiatric Disorders (MPD) among university students in southern Brazil during the COVID-19 pandemic.

Method: Cross-sectional study, conducted in August and September 2020, with 464 university students. The Self-Reporting Questionnaire (SRQ-20) was used with a cut-off point ≥ 7, and associated factors were identified through crude and adjusted analyses using logistic regression.

Results: The prevalence of MPD was 76.5%. Factors positively associated with the outcome were female gender, job loss during the pandemic, use of psychoactive substances, and difficulties in following online classes. Being in social distancing for seven months or more was negatively associated with the outcome.

Conclusion: High prevalence of MPD among the studied sample, as well as a relationship between this outcome and the consequences of the COVID-19 pandemic.

Keywords: Students. Pandemics. Mental health.

RESUMO

Objetivo: Identificar a prevalência e os fatores associados à manifestação de Transtornos Psiquiátricos Menores (TPM) em estudantes universitários do Sul do Brasil durante a pandemia da COVID-19.

Método: Estudo transversal, realizado nos meses de agosto e setembro de 2020, com 464 estudantes universitários. Foi utilizado o *Self-Reporting Questionnaire* (SRQ-20) com o ponto de corte ≥ 7, e identificados os fatores associados por meio de análises brutas e ajustadas com emprego de regressão logística.

Resultados: A prevalência de TPM foi de 76,5%. Os fatores positivamente associados ao desfecho foram as pessoas do sexo feminino, perda de emprego durante a pandemia, uso de substâncias psicoativas e dificuldades para acompanhar as aulas on-line. Esteve negativamente associado ao desfecho, estar em distanciamento social por período igual ou superior a sete meses.

Conclusão: O estudo sugere alta prevalência de TPM entre os universitários e a relação entre esse desfecho e os desdobramentos da pandemia da COVID-19.

Palavras-chave: Estudantes. Pandemias. Saúde mental.

RESUMEN

Objetivo: Identificar la prevalencia y los factores asociados a la manifestación de trastornos psiquiátricos menores en estudiantes universitarios del sur de Brasil durante la pandemia del COVID-19.

Método: Estudio realizado en 2020, con 464 alumnos vinculados a una disciplina optativa de Salud Mental. Para el resultado se utilizó el *Self-Reporting Questionnaire* (SRQ-20), con el punto de corte ≥ 7. La identificación de los factores asociados se realizó mediante regresión logística, precedida de selección de factores de confusión.

Resultados: Prevalencia de trastornos psiquiátricos menores correspondiente al 76,5% entre los participantes. Factores asociados positivamente con este resultado: sexo femenino, la pérdida de empleo durante la pandemia, el consumo de sustancias psicoactivas y las dificultades para seguir las clases en línea. Estar socialmente distante durante siete meses o más se asoció negativamente con el resultado.

Conclusión: Alta prevalencia de malestar emocional entre la muestra, así como una relación entre este resultado y la pandemia.

Palabras clave: Estudiantes. Pandemias. Salud mental.

[a] Universidade Federal de Pelotas (UFPEL), Faculdade de Enfermagem, Departamento de Enfermagem em Saúde Coletiva. Pelotas, Rio Grande do Sul, Brasil.

[b] Universidade Federal do Pampa (Unipampa), Campus Dom Pedrito. Dom Pedrito, Rio Grande do Sul, Brasil.

[c] Universidade Estadual de Campinas (UNICAMP), Departamento de Saúde Coletiva. Campinas, São Paulo, Brasil.

[d] Universidade Federal de Pelotas (UFPEL), Faculdade de Enfermagem, Programa de Pós-Graduação em Enfermagem. Pelotas, Rio Grande do Sul, Brasil.

[e] Autonomous researcher. Pelotas, Rio Grande do Sul, Brasil.

INTRODUCTION

In January 2020, one month after the identification of the first case of infection by the new coronavirus (SARS CoV-2), the World Health Organization (WHO) declared that the COVID-19 pandemic constituted a Public Health Emergency of International Concern. Given the absence of a specific vaccine and the lack of pharmacological treatment, the WHO considered restrictive contact measures as the most efficient model for controlling the spread of the virus. However, there was no unanimous way to cope with the pandemic due to the possibilities and guidelines of epidemiological surveillance in each country. Countries such as Germany, Spain, Italy, South Africa and New Zealand, which opted for the lockdown, showed positive results in relation to the decrease in the rate of spread of the disease[1]. In Brazil, intragovernmental lack of coordination to cope with the pandemic resulted in partial lockdown measures, which directly reflected in the incidence, spread and deaths from COVID-19[1,2].

The uncertainties and challenges generated during the pandemic enhanced the manifestation of feelings such as fear, stress, anguish, frustration, which were associated with the emergence of cardiovascular diseases (hypertension, arrhythmia), chronic inflammatory skin diseases (psoriasis, rosacea, urticaria) and psychiatric diseases[3–4].

Regarding mental illness, in China, 53.8% of the population suffered some moderate or severe impact. Among the main symptomatology screened were anxiety, depression and stress[3].

The context of the COVID-19 pandemic was marked by the reduction in economic activities caused by the closure of borders, decrease in exportation, reduction in tourism demand, difficulties in accessing credit, among others. Contact restriction measures, although partial, also had an impact on domestic activities. Public sectors were not prepared for remote work and there was a reduction in the supply of work.

During the COVID-19 pandemic, a study of 45,161 Brazilians, 40.4% reported that they often felt sad or depressed, 52.6% often felt anxious or nervous; 43.5% reported frequent sleep changes[5].

When compared to the overall population, university students are more vulnerable to the negative psychological impacts of the pandemic. The insertion in the university itself is characterized as a risk factor for illness, due to the conflicts caused by the transition to adult life, academic responsibilities, distance from the family core and socioeconomic vulnerabilities[3,6,7]. When including the biopsychosocial impacts of the pandemic, anxiety, depressive and psychosomatic symptoms contribute to the worsening of the situation and can trigger Minor Psychiatric Disorders (MPD).

According to the International Classification of Diseases (ICD-10), when they do not meet all the criteria for mental illness, these anxiety and depression conditions are classified by several authors as MPD. It can be said that MPD refer to health states involving non-psychotic psychiatric symptoms, and include symptoms such as: insomnia, fatigue, irritability, depression, anxiety, lack of memory, difficulty concentrating and somatic problems[8].

There is an advance in the production of knowledge when estimating the prevalence of minor psychiatric disorders in university students before and after the pandemic and associated factors, however, despite the volume of studies, they are still recent[1–4,6,7,9–25], and they highlight the need to continue the study on the subject. This study aims to estimate this prevalence, also associating the consumption of illicit substances, the challenges of remote education, besides strengthening the findings regarding variables related to sociodemographic factors in the face of the COVID-19 pandemic.

When considering the impacts of the current health crisis and the predisposition of the university population to mental illness, this study aims to identify these disorders early and to build appropriate interventions in mental health.

OBJECTIVE

To identify the prevalence of MPD among university students during the COVID-19 pandemic and the associated factors.

METHODOLOGY

This is a cross-sectional study with university students who attended the optional discipline of Mental Health in Humanitarian Emergencies offered by the Faculty of Nursing of the *Universidade Federal de Pelotas*, in Rio Grande do Sul, during the COVID-19 pandemic, in the alternative semester of 2020, which was exceptionally online, with classes from June 1 to September 19, 2020.

Data collection and participants

Data collection with the students was made through an online questionnaire that could be accessed by Google Forms link, made available in the discipline's virtual learning environment. An invitation was made to students, followed by four new reinforcement invitations each week, asking them to answer the online instrument. Backups of the questionnaires answered three times a week were made by the field work supervisor and quality control was performed by checking the questions regarding the completion of the questionnaire. There were no completely unanswered questionnaires since the online filling system had a sequence of filling in the questions and did not allow sending blank forms.

Data collection took place from August 4 to September 12, 2020 (for 40 days). The study used a group of eligible students from eight classes of the optional discipline of Mental Health in Humanitarian Emergencies, totaling 536 students who effectively attended the discipline. 464 students answered the questionnaire, setting a response rate of 86%, 72 students did not answer the research questionnaire. Missing data correspond to categories that had a number of respondents below five, which were not considered in the regression.

The inclusion criteria of the participants was to be a student and to be regularly attending the discipline during data collection period. The exclusion criteria was have given up or requested a leave of absence.

Instrument

The instrument used in this study corresponds to a structured questionnaire consisted of 223 self-administered questions. The instrument was developed by the research group coordinating the project, based on a previous study of the literature, having been previously tested with a group of students not belonging to the study. Initially, the sociodemographic characterization questions of respondents were in the questionnaire (course, area of knowledge, semester, gender, color, marital status, income and number of dependents), followed by a group of questions that aimed to describe the relation of respondents with the moment of the COVID-19 pandemic (intensity of social contact restriction during the pandemic, time of isolation or social distancing, suspected COVID-19 infection, carrying out the test for screening of COVID-19, positive diagnosis for COVID-19, hospitalization for COVID-19, family member or close friend diagnosed with COVID-19, family member or close friend who died due to COVID-19, loss of individual or family source of income/employment during the pandemic, family financial situation during the pandemic and people who provided support during the pandemic). Afterwards, questions regarding distance education (offer of virtual classes or other teaching activities by the teaching unit during the period of social distancing, reasons for not following distance learning activities, average daily hours in which distance learning activities were performed, devices used to access distance learning activities, evaluation of the quality of internet access, difficulties to follow distance learning activities, assimilated level of content taught by distance learning, opinion on distance learning activities in the context of the COVID-19 pandemic, perception of having attended the Mental Health discipline in times of a pandemic in virtual class mode), the health conditions of the respondents (hypertension, diabetes, heart problems, transplantation, use of immunosuppressive drugs or presence of immunosuppressive disease, respiratory problems, asthma, bronchitis or chronic obstructive pulmonary disease, weight, height, tobacco and alcohol consumption – ASSIST Scale), when use of psychotropic drugs (frequency of consumption during the pandemic), use of psychoactive substances (marijuana, cocaine, crack and others, frequency of consumption during the pandemic), composed the instrument.

For the screening of minor psychiatric disorders, the WHO suggests the use of the Self-Reporting Questionnaire[26], this instrument developed by Harding *et al*[27], measures the level of suspicion for any MPD, not defining the diagnosis. In its original version, the SRQ-20 included screening for non-psychotic, psychotic, tonic-clonic seizure symptoms, and alcohol use. After revision, only non-psychotic symptoms remained, such as somatic complaints, fatigue, insomnia, difficulty in concentrating and irritation, corresponding to the 20 dichotomous questions (YES = 1, NO = 0), currently present in the instrument, to obtain a maximum score of 20 points. According to Harding *et al*[27], the cut-off point, based on the number of positive responses, may vary considerably from 5/6 to 10/11, depending on the cultural context to which it is applied. It includes local and temporal contexts. This study adopted a cut-off point of seven, based on the Brazilian validation by Santos[28] which found 68% sensitivity and 70.7% specificity at the 6/7 cut-off point for men and women.

The SRQ-20 has been commonly reported in a series of studies conducted in developing countries and is

recommended by the WHO[26] and was validated for Brazil by Mari and Williams[29] in 1986, and since then it has been used showing high performance and internal reliability.

The self-administered questionnaires were coded and migrated to the EpiData software, the data was cleaned with correction of amplitude and consistency errors. Afterwards, they were exported to SPSS 25.0 software where statistical analyses were performed.

Data analysis

For the study of the existing associations between the positive results for MPD in the studied population and the other variables existing in the study, crude and adjusted binary logistic regressions were conducted in this study. The option for the adjusted model considered the analysis results of the model's adjustment, being chosen the model that presented the best adjustment among the others tested, this presented the value of 0.39 for the Nagelkerke test. The variables excluded from the model were also analyzed in crude analyses and adjusted considering the selection of confounding factors, using stepwise forward selection between the study covariates. The significance value was established as $p<0.05$.

The variables in the initial model were: gender, loss of income source by you or family member during the pandemic, use of psychoactive substances (marijuana, cocaine, crack and others), use of psychotropic drugs, time of isolation and difficulties following remote activities. From this model, the variables identified as likely confounding were race, marital status, intensity of social contact restriction, suspected COVID-19, family member or close friend diagnosed with COVID-19, family member or close friend hospitalized with COVID-19, family member or close friend who died from COVID-19 and people you can count on during the COVID-19 pandemic. Thus, these variables were adjusted themselves and with each of the other variables.

Ethical procedures

The project was approved by the Research Ethics Committee of the Faculty of Medicine of the *Universidade Federal de Pelotas*, CAAE no. 34510720,7,0000,5317, through Opinion 4,186,982 of August 1, 2020. The study met all recommendations provided for in the Resolutions no. 466/2012 and no. 510/2016 of the National Health Council. As it is an online questionnaire, all participants expressed their agreement to participate in the study through previous authorization through the Free and Informed Consent Form, accessed through a link on Google Forms.

This study complied with the recommendations of STROBE (Strengthening the Reporting of Observational Studies in Epidemiology).

RESULTS

Regarding sociodemographic characteristics, from the 464 university students who answered the questionnaire, most 71.1% (n=329) were female, most self-declared white (76.5%, n=355), 88% (n =412) had no partner and were on average 23.4 (± 5.7) years old. Regarding family income, 28.2% (n=131) earned up to two minimum wages (US$ 380.23), 28.7% (n=101) between two and four minimum wages (US$ 380.23 and US$ 760.46), 24.1% (n=112) between four and ten minimum wages (US$ 760.46 and US$ 3802.30) 7% (n=33) had income above ten minimum wages (US$ 3802.30). The mean number of dependents on this income was 3.3% (± 1.3) people.

Regarding the course, 34.6% (n=160) attended Medicine, 16.4% (n=76) Nursing, 9.3% (n=43) Psychology, 7.8% (n=36) Dentistry, 3.2% (n=15) Occupational Therapy and the other students were distributed in other courses (in a percentage below 3%). Regarding the semester, the average of the students participating in the study was 4.7 semesters (± 2.3 years), ranging from the 1st to the 10th semester.

The prevalence of MPD in the studied public was 76.5%. The prevalence of this outcome, as well as the crude and adjusted associations related to the characteristics, are shown in Table 1.

The results of the adjusted analysis suggest that women were approximately four times (OR 4.12; 95% CI; 2.41-6.93) more likely to develop positive results for MPD than men.

Likewise, the chances of developing these disorders were higher for individuals who lost job or source of income during the pandemic, around seven times (OR 7.12; 95% CI; 1.42-34.71), and for individuals who had family members who lost their jobs or income during the pandemic, around two times (OR 2.05; 95% CI; 1.13-3.84), when compared to those who did not lose their jobs or income and who did not present family members in this situation during the pandemic.

Individuals who used psychoactive substances had approximately five times more chance (OR 5.39; 95% CI; 1.62-17.61) to have positive results for minor psychiatric disorders when compared to those who did not use these substances.

Table 1 – Prevalence of MPD, the characteristics studied, crude and adjusted analysis by logistic regression (n=464). Pelotas, Rio Grande do Sul, Brazil, 2020

	n	%	Crude analysis (95% CI)	p-value	Adjusted analysis (95% CI)	p-value
Gender						
Male	75	56.0	1	0.000	1	0.000
Female	279	84.8	4.39 (2.71-6.94)		4.12 (2.41-6.93)	
Race*						
White	272	76.6	1	0.961	1	0.624
Black	26	74.3	0.88 (0.33-1.92)		0.72 (0.34-1.73)	
Brown or mixed	55	77.5	1.04 (0.54-1.93)		1.32 (0.63-2.72)	
Yellow	2	66.7	0.61 (0.03-6.81)		0.38 (0.02-4.91)	
Marital status*						
Single	317	77.5	1	0.187	1	0.096
Married/Living together	36	69.2	0.65 (0.32-1.24)		0.53 (0.32-1.11)	
Loss of individual or family source of income/ employment during the pandemic						
No	213	70.8	1	0.001	1	0.007
Yes, I lost	35	94.6	7.23 (1.71-30.72)		7.12 (1.42-34.71)	
Yes, a family member	107	84.9	2.32 (1.32-4.03)		2.05 (1.13-3.84)	

Table 1 – Cont.

	n	%	Crude analysis (95% CI)	p-value	Adjusted analysis (95% CI)	p-value
Use of psychoactive substances						
No	308	74.4	1	0.005	1	0.016
Yes	47	94.0	5.39 (1.62-17.61)		4.7 (1.32-16.65)	
Use of psychotropic drugs						
No	207	71.1	1	1.001	1	0.059
Yes	148	85.5	2.40 (1.43-3.94)		1.73 (0.93-3.01)	
Time of isolation						
1 to 3 months	40	78.4	1	0.003	1	0.001
4 to 6 months	190	82.6	1.30 (0.62-2.74)		1.07 (0.43-2.52)	
7 months or more	124	68.1	0.58 (0.23-1.21)		0.41 (0.11-0.92)	
Difficulties to follow remote learning activities						
No	21	41.2	1	0.000	1	0.000
Yes	334	80.9	6.04 (3.22-8.11)		4.5 (2.23-9.44)	

Table 1 – Cont.

	n	%	Crude analysis (95% CI)	p-value	Adjusted analysis (95% CI)	p-value
Intensity of social contact restriction*						
I stopped going to class, only	5	83.3	1	0.022	1	0.500
I tried to be careful	114	68.3	0.43 (0.02-3.74)		0.19 (0.01-2.72)	
I stayed at home, leaving only to go to the supermarket and the pharmacy	201	81.0	0.85 (0.04-7.41)		0.17 (0.01-2.83)	
I stayed strictly at home	34	81.0	0.85 (0.01-8.32)		0.26 (0.01-4.92)	
Suspected COVID-19*						
No	265	75.1	1	0.194	1	0.338
Yes	90	81.1	1.40 (0.82-2.41)		1.3 (0.74-2.41)	
Family member or close friend diagnosed with COVID-19*						
No	198	74.4	1	0.223	1	0.403
Yes	157	79.3	1.31 (0.84-2.01)		0.80 (0.42-1.34)	

Table 1 – Cont.

	n	%	Crude analysis (95% CI)	p-value	Adjusted analysis (95% CI)	p-value
Family member or close friend hospitalized with COVID-19*						
No	284	75.5	1	0.306	1	0.999
Yes	71	80.7	1.35 (0.72-2.43)		1.01 (0.52-1.93)	
Family member or close friend died from COVID-19*						
No	323	75.6	1	0.143	1	0.333
Yes	32	86.5	2.01 (0.73-5.42)		1.73 (0.54-5.36)	
When you need/needed support during the COVID-19 pandemic, who you can count on*						
Nobody	23	88.5	1	0.009	1	0.177
Family	223	72.2	0.33 (0.14-1.13)		0.49 (0.12-1.91)	
Friends	101	84.9	0.73 (0.22-2.71)		0.83 (0.21-3.51)	
TOTAL						

Source: Prepared by the authors (2021).
*Possible confounding.

Staying at home, maintaining social distancing for seven months or more (OR 0.41; 95% CI; 0.11-0.92) reduced the chances of developing MPD when compared to the situation of being restricted from social interaction for the period between one and three months.

Presenting difficulties to follow remote learning activities increased by 4.5 (OR 4.5; 95% CI; 2.23-9.44) the chances of a positive result for MPD when compared to the situation of not presenting this difficulty.

The other variables in the table do not show an association with the development of a minor psychiatric disorder among the studied population, considering the crude and adjusted analyses and the statistical significance value adopted in the study.

DISCUSSION

The global prevalence of minor psychiatric disorders (MPD) is estimated at 17.6% for the world's adult population[9]. This study shows the prevalence of MPD in 76.5% of university students. This prevalence is high compared to the overall population, and compared to other studies conducted with the same public during the pandemic, in which prevalence of 58.5%, 60.1% and 62.8% were found[10–12].

However, a review study on the subject has already stated that the prevalence rates found in studies conducted before the pandemic, in this population, were already high, between 33.7% and 49.1%[6].

Factors such as being female, loss of income or job, use of psychoactive substances, being in lockdown for a period of less than 3 months, having difficulties in follow remote learning activities found a positive association with minor psychiatric disorders among university students in the sample of this study.

In the study, women had four times more chances to develop MPD (OR 4.12; 95% CI; 2.41-6.93). The higher prevalence of MPD in female university students showed by the SRQ-20 has already been observed in studies previously to the pandemic period[13–14], corroborating these findings. In southeastern Brazil, among university students screened for these disorders, 43.7% were female and 41.3% were male[13]. Reinforcing the data obtained in Brazilian studies, Somali female university students were 3.5 times more likely to have minor psychiatric disorders than male students[14].

It was also observed, in this study, that university students who lost their source of income or job during the pandemic had more chances to develop minor psychiatric disorders (OR 7.12; 95% CI; 1.42-34.71). This finding was corroborated by other studies that identified that the decrease in income due to the pandemic increased the probability of risk for MPD[13,15–17]. In Somalia, the SRQ-20 screened university students with a monthly income of US$100 or less as those at higher risk for MPD[13]. Other research conducted in Japan and Spain, with this population, using other measurement instruments, also pointed out the financial difficulties faced during the pandemic as risk factors for minor psychiatric disorders among university students[15–16].

In this study, students who used psychoactive substances (such as marijuana, crack, cocaine) had approximately five times more chances for positive results for MPD (OR 5.39; 95% CI; 1.62-17.61) when compared to those who did not use these substances. Reaffirming our results, a research conducted in Ethiopia, before the pandemic, using the SRQ-20 reported that the use of psychoactive substances was associated with an increased risk of MPD, showing that the use of these substances can be a self-regulation strategy for relief in situations that generate anguish[17].

An important limit in the current literature consists of studies about MPD and the use of psychoactive substances among university students, before or during the pandemic, which allow comparison with these results, due to the distinction of methodological procedures. Studies such as the one conducted in Brazil[18], with use of other measuring instruments, on the use of psychoactive substances (such as alcohol, tobacco, marijuana, cocaine, crack, amphetamines, ecstasy, inhalants, hypnotics/sedatives, hallucinogens and opioids) found a significant association with the presence of minor psychiatric disorders, indicating the use as a risk factor. However, in the same study, the isolated consumption of one of these substances did not show statistical significance, possibly related to the low frequency of use of each substance individually in the studied sample[18]. Also, research with Iranian[19] and American[20] university students reaffirmed the association between use of psychoactive substances and symptoms of anxiety, depression and stress, which are used as a resource for these students to be able to cope with the emotional demands related to the pandemic.

Being in lockdown for a period of less than three months, in this study, showed the association with positive screening of SRQ-20, however, when the period of distancing extends to seven months or more, the risk decreases. Research conducted in Minas Gerais, Brazil showed that in the second

month of social isolation due to COVID-19, 58.5% of participating university students had intense psychological distress, and a high prevalence rate of minor psychiatric disorders, screened by the SRQ-20[10]. The positive association between lockdown and minor psychiatric disorders among university students found in our study was evidenced in a research conducted, in the first months of social distancing, with university students from all regions of Brazil, pointing out to psychological and behavioral changes during this period and the relationship between this self-perception and the positive score on the SRQ-20[12].

A systematic review[21] that found 1,473 articles on the subject and another review[3] that started with 3,166 articles, showed that the duration and intensity of social interaction restriction, experienced during the pandemic, along with fear of infection, loneliness and boredom were presented as risk factors for the psychological illness of university students.

The quick change from face-to-face teaching to online teaching, in the pandemic, significantly changed the lives of university students who had to leave their contact with professors and colleagues, and adapt to online teaching platforms, facing the restriction of physical contact and social life. The difficulties of students accessing internet at home, changes in financial status, fear about the health of family members were the factors that generated concern and could affect the mental health of these students, their performance and their academic future[10]. A survey conducted in the United States among university students indicated that the increase in stress and anxiety due to the COVID-19 outbreak was linked to factors such as: fear and concern for their own health and that of their loved ones, the difficulty of concentration, interruptions in sleep patterns, decreased social interactions due to physical distancing and increased concern with academic performance[11].

According to this research, difficulties in following remote learning activities increased the chances of a positive result for MPD by 4.5 (OR 4.5; 95% CI; 2.23-9.44) when compared to the situation of not presenting this difficulty.

A research[12] with medical university students in Sergipe, Brazil, in which 76.7% of the sample was performing academic activities online, during the pandemic, 66.8% reported a lack of concentration and 39.2% stated that they couldn't learn that way. Bad adaptation to remote teaching, difficulty in concentration, concern about the accumulation of demands when returning to face-to-face teaching and the loss or delay of the course, were factors that proved to be risk factors for MPD screened by the SRQ-20[12].

Despite there is a great volume of research on the shift from face-to-face teaching to remote teaching during the COVID-19 pandemic and its implications for the lives of university students, there are still few studies that address the factors associated with MPD, using the SRQ- 20. However, two studies, one conducted in the USA[23] and the other in China[24], using other measurement instruments, found that the most commonly reported symptoms during the transition from a face-to-face to an online learning platform were the difficulty of concentration and the feeling of anxiety impacting on the mental health of university students. In a study conducted in Indonesia[25] with dentistry students, it was highlighted that in an unprecedented context of university closures, remote teaching was presented as an important education strategy. However, challenges such as the instability of internet connection, extra financial burden for the internet quota, difficulties in managing time and concentration for longer periods of online teaching marked this reality.

It is necessary to consider that the students who participated in the study were those who had access to virtual learning environments, and these were better represented in the study than individuals in greater socioeconomic vulnerability. Alternatively, it is considered that individuals affected by some emotional problem may have felt more mobilized to accept the invitation to participate in the study.

CONCLUSION

It was possible to observe a high prevalence of MPD among the university students included in the study. Although aspects related to the research design need to be considered, these results draw attention to the high number of university students screened for MPD.

Stands out the positive associations found between outcomes such as: being female, loss of job or income during the pandemic, and difficulties in following online classes. It was found that staying at home, adhering to social distancing guidance for a period of less than three months showed an association with positive screening of SRQ-20, however, when the period of social distancing is equal to or greater than seven months the risk for MPD decreases.

This study presents as a limitation, the use of a cross-sectional approach and, therefore, cannot establish causality; the use of self-administered online questionnaires, which may lead to response bias; data collection took place before the peak of the pandemic in the region and the fact that the study population belonged to a specific group.

Thus, although studies with greater predictive potential are necessary to understand the direction of the relationship between these aspects and the manifestation of the outcome, these results suggest that the COVID-19 pandemic context may have favored the occurrence and worsening of MPD among university students.

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Authorship contribution:
Project administration: Luciane Prado Kantorski.
Formal analysis: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel.
Conceptualization: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel.
Data curation: Luciane Prado Kantorski, Neutzling, Carlos Alberto dos Santos Treichel.
Writing-original draft: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel, Vinícius Boldt dos Santos, Bianca Albuquerque Gonçalves, Mariana Dias Almeida.
Writing-review & editing: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel, Vinícius Boldt dos Santos.
Investigation: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel, Vinícius Boldt dos Santos, Bianca Albuquerque Gonçalves, Mariana Dias Almeida.
Methodology: Luciane Prado Kantorski, Ariane da Cruz Guedes, Aline Neutzling, Carlos Alberto dos Santos Treichel, Vinícius Boldt dos Santos, Bianca Albuquerque Gonçalves, Mariana Dias Almeida.
Resources: Luciane Prado Kantorski.
Software: Aline Neutzling, Carlos Alberto dos Santos Treichel.
Supervision: Luciane Prado Kantorski, Ariane da Cruz Guedes.
Validation: Aline Neutzling, Carlos Alberto dos Santos Treichel.
Visualization: Luciane Prado Kantorski, Aline Neutzling, Carlos Alberto dos Santos Treichel.

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Corresponding author:
Luciane Prado Kantorski
E-mail: kantorskiluciane@gmail.com

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