Anxiety and depression in healthcare workers during the COVID-19 pandemic

Ansiedade e depressão em profissionais da saúde durante a pandemia da COVID-19

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Abstract

Objective
To investigate the prevalence and associated factors of depression and anxiety among hospital healthcare workers during the COVID-19 pandemic in the extreme south of Brazil.

Method
Cross-sectional study was conducted with 264 healthcare workers, between August and December 2020. Depression and anxiety were assessed using the Patient Health Questionnaire and the Generalized Anxiety Scale. Multivariable linear regression analysis was performed.

Results
The prevalence of depression and anxiety among healthcare workers was 32.4% and 26.2%, respectively. The profession of nursing technician, having a family member who had lost a job, being responsible for family income, being 50 or more years old, being divorced or widowed, having a test for COVID-19, having suffered a traumatic event in life and having received psychological counseling at work were associated with depression and anxiety.

Conclusion
In this study, receiving psychological counseling at work was a protective factor for anxiety and depression.

Keywords: GAD-7; Health personnel; Mental disorders; PHQ-9; SARS-CoV-2.

Resumo

Objetivo

Investigar a prevalência e os fatores associados à depressão e ansiedade entre profissionais de saúde durante a pandemia de COVID-19 no extremo sul do Brasil.

Método

Estudo transversal realizado com 264 profissionais de saúde, entre agosto e dezembro de 2020. Depressão e ansiedade foram avaliadas por meio do Questionário de Saúde do Paciente e da Escala de Ansiedade Generalizada. Foi realizada análise de regressão linear multivariável.

Resultados

A prevalência de depressão e ansiedade entre os profissionais de saúde foi de 32,4% e 26,2%, respectivamente. Ser técnico de enfermagem, ter familiar que tenha perdido o emprego, ser responsável pela renda familiar, ter 50 anos ou mais, ser divorciado/viúvo, ter feito exame para COVID-19, ter sofrido evento traumático na vida e ter recebido aconselhamento psicológico no trabalho esteve associado a depressão e ansiedade.

Conclusão

Neste estudo, receber aconselhamento psicológico no trabalho foi um fator de proteção para ansiedade e depressão.

Palavras-chave: *GAD-7; Pessoal de Saúde; Transtornos mentais; PHQ-9; SARS-CoV-2.*

The first case of the new coronavirus was identified in December 2019, in the city of Wuhan, Hubei province, China, and later spread around the world (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, 2020). In Brazil, the first case of COVID-19 was notified on February 26, 2020. Four years later, in February 2024, the country had registered more than 38 million cases and more than 708 thousand deaths, being among the five countries with the highest number of cases in the world. Globally, there were more than 774 million cases and more than 7 million deaths at the beginning of 2024 (World Health Organization, 2024).

The COVID-19 pandemic has caused an increase in demand for health services and this has impacted the mental health of workers in these services. A Chinese study found that in the year 2020 during the COVID-19 pandemic, a considerable proportion of health professionals reported symptoms of depression (50.4%), anxiety (44.6%), insomnia (34.0%), and stress (71.5%) (Lai et al., 2020). Another study also carried out in China, detected a prevalence of 34.4% of common mental disorders (depression, anxiety, and stress), with 28.6% of these professionals having moderate to severe symptoms shortly after the onset of the pandemic (Kang et al., 2020). Furthermore, Lu et al. (2020) described that frontline medical staff, in close contact with patients infected with Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), were twice as likely to suffer from anxiety and depression (Lu et al., 2020).

Despite the importance of this topic, data on the mental health of Brazilian health professionals before the pandemic were scarce, which limited the discussion and knowledge about this population. Therefore, this study aimed to investigate the prevalence and factors associated with depression and anxiety in healthcare workers in the extreme south of Brazil, during the COVID-19 pandemic.

Method

Participants

This is a cross-sectional study nested in a longitudinal study of 264 health professionals (physicians, nurses, nursing technicians, radiology technicians, and physiotherapists) from two hospitals in the city of Rio Grande, in the extreme south of Brazil. According to data from the Brazilian Institute of Geography and Statistics, the municipality has an estimated population of 210,005 inhabitants (Instituto Brasileiro de Geografia e Estatística, 2022). In total, the two hospitals in the Rio Grande provided 20 Intensive Care Unit (ICU) beds exclusively for COVID-19, 63 beds in the inpatient unit exclusively for COVID-19, 6 emergency room beds exclusively for COVID-19, and 4 exclusive pediatric ICU beds for COVID-19.

Procedures

Data collection was carried out between August and December 2020. The departments were randomly sampled in the two hospitals, and all health professionals in these departments were invited to participate in this study.

Instruments

The questionnaire consisted of five parts: sociodemographic characteristics (gender, age, skin color, marital status, responsible for the family income); occupational characteristics (profession, length of occupation, weekly working hours, workplace); variables related to the COVID-19 pandemic (having a family member who lost their job during the pandemic, having received psychological counseling at work during the pandemic, having been tested for COVID-19, having been diagnosed with COVID-19), prior risk (having chronic diseases and having suffered a traumatic event in life) and mental health assessment (anxiety and depression). The degree of depression and anxiety symptoms was assessed by the Brazilian versions of the 9-item Patient Health Questionnaire (PHQ-9) and the 7-item Generalized Anxiety Disorder Scale (GAD-7), respectively. The PHQ-9 contains nine items with Likert scale responses (Santos et al., 2013). The GAD-7 has seven items with answers on a Likert scale (Bártolo et al., 2017).

Statistical Analysis

Data analysis was performed using the statistical software Stata version 14.2 (StataCorp). The significance level was set at $\alpha = 0.05$. To determine the possible factors associated with symptoms of depression and anxiety in the participants, a linear regression analysis was performed, and the associations between the associated factors and the results were presented as a beta coefficient and a 95% confidence interval after adjusting for factors of confusion, including gender, age, skin color, marital status, being responsible for the family income, profession, time of occupation, weekly working hours, place of work, having a family member who lost their job during the pandemic, having received psychological counseling during the pandemic, having been tested for COVID-19, having been diagnosed with COVID-19, having chronic illnesses and having suffered a traumatic life event.

This study was approved by the Research Ethics Committee of the Federal University of Rio Grande and by the National Research Ethics Committee under number 33018720.5.0000.5324

(presentation certificate of ethical appreciation). Verbal informed consent was provided by all research participants prior to their participation.

Results

Of the 264 health professionals recruited, 78.8% were female, 73.8% were white and 70.1% were between 30 and 49 years old. Regarding profession, 47.7% of the sample consisted of nursing technicians, 53.4% had less than five years of occupation, 56.3% worked up to 40 hours a week and 31.6% worked in two or more places. During the period of the COVID-19 pandemic, 21.2% said they had a family member who had lost their job, 65% had not received psychological guidance at work and 24.1% had not been tested for COVID-19. Among the professionals tested, 19.8% had positive results. In addition, 24.2% of professionals had chronic diseases (diabetes, hypertension or asthma) and 63.9% had already suffered a traumatic event in their lives (Table 1).

Table 1
Description of sample characteristics (n = 264)

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Variable	n	%
Sociodemographic characteristics		
Gender		
Female	208	78.8
Male	56	21.2
Age*		
20 to 29 years	50	19.7
30 to 39 years	93	36.6
40 to 49 years	85	33.5
50 years or more	26	10.2
Skin Color*		
White	194	73.8
Black	24	9.1
Brown	45	17.1
Marital Status*		
Married/living with a partner	177	67.3
Single	72	27.4
Divorced/widowed	14	5.3
Responsibility for family income		
No	181	68.6
Yes	83	31.4
Occupational characteristics		
Profession		
Nursing technician	126	47.7
Nurse	67	25.4
Doctor	28	10.6
Radiology technician	24	9.1
Physiotherapist	19	7.2
Years of working in the current position		
Less than 5 years	141	53.4
From 5 to 10 years	35	13.3
More than 10 years	88	33.3
Weekly working hours*		
Up to 30 hours per week	87	33.1
Up to 40 hours per week	148	56.3
More than 40 hours per week	28	10.6
How many places do you work*		
One	180	68.4
Two or more	83	31.6

Table 1
Description of sample characteristics (n = 264)

Variable	n	%
Variables related to the COVID-19 pandemic		
Having a family member who lost their job during the pandemic		
No	208	78.8
Yes	56	21.2
Having received psychological counseling at work during the pandemic*****		
No	165	65.0
Yes	89	35.0
Having been tested for COVID-19*****		
No	63	24.1
Yes	198	75.9
Having been diagnosed with COVID-19 (*n* = 194)		
No	158	80.2
Yes	39	19.8
Prior risk		
Chronic diseases (diabetes, hypertension, or asthma)		
No	200	75.8
Yes	64	24.2
Having suffered a traumatic life event*		
No	93	36.1
Yes	165	63.9
Mental Health Assessment		
Anxiety*****		
No	192	73.8
Yes	68	26.2
Depression*****		
No	177	67.6
Yes	85	32.4

Note: *****Missing value.

Prevalence and Factors Associated with Depression

Of the research participants, 32.4% had symptoms of depression. In the crude analysis, the variables profession, having a family member who lost their job during the pandemic, having received psychological guidance at work during the pandemic, having taken the COVID-19 test, and having suffered a traumatic event in life were associated with the outcome. In the adjusted analysis, the association was maintained.

Nursing technicians had an average of 3.78 points higher in the depression score when compared to radiology technicians. Professionals who had a family member who lost their job during the COVID-19 pandemic averaged 2.94 points higher in their depression score compared to those who did not have a family member who lost their job during the COVID-19 pandemic. COVID-19 pandemic. Those who received psychological counseling at work had an average of 2.00 points lower on their depression score compared to those who did not receive psychological counseling at work. Professionals tested for COVID-19 had an average of 2.47 points higher in depression score compared to those who were not tested for COVID-19. In addition, professionals who had already suffered a traumatic event in their life had an average of 2.25 points higher in the depression score than those who had not suffered a traumatic event in their life (Table 2).

Table 2
The linear regression coefficient of depression and anxiety scores according to sociodemographic characteristics, occupational characteristics, variables related to the COVID-19 pandemic, and previous risk, of healthcare workers during the COVID-19 pandemic in southern Brazil in 2020 (n = 264)

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Variable	Depression				Anxiety			
	Crude		Adjusted		Crude		Adjusted	
	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value
Gender		0.12		0.10		0.45		0.28
Female	0		0		0		0	
Male	-1.30 (-2.98, -0.37)		-1.39 (-3.06, 0.27)		-0.62 (-2.27, 1.02)		-0.91 (-2.58, 0.76)	
Age		0.65		0.09*		0.05		0.04*
From 20 to 29 years	0		0		0		0	
From 30 to 39 years	-0.83 (-2.76, 1.10)		-1.31 (-3.25, 0.62)		-1.10 (-3.01, 0.79)		-1.58 (-3.50, 0.34)	
From 40 to 49 years	- 1.01 (-2.98 0.96)		-1.61 (-3.63, 0.40)		-1.09 (-3.02, 0.84)		-1.43 (-3.42, 0.55)	
50 years or more	-1.57 (-4.22, 1.08)		-2.15 (-4.84, 0.53)		-2.88 (-5.49, -0.27)		-3.18 (-5.83, -0.54)	
Skin Color		0,54		0.43		0.40		0.39
White	0		0		0		0	
Black	-1,32 (-3,71, 1,07)		-1.47 (-3.97, 0.82)		-1.07 (-3.41, 1.26)		-1.14 (-3.51, 1.21)	
Brown	-0.29 (-2.14, 1.55)		-1.47 (-2.00, 1.70)		0.80 (-1.03, 2.63)		0.77 (-1.08, 2.64)	
Marital Status		0.15		0.05		0.16		0.02
Married/living with a partner	0		0		0		0	
Single	-0.97 (-2.51, 0.56)		-1.59 (-3.31, 0.13)		-0.73 (-2.26, 0.78)		-2.01 (-3.80, -0.22)	
Divorced/widowed	-2.54 (-5.58, 0.49)		-3.12 (-6.25, 0.00)		-2.68 (- 5.67, 0.31)		-3.59 (-6.79, -0.38)	
Responsibility for family income		0.83		0.16		0.46		0.03
No	0		0		0		0	
Yes	0.15 (-1.31, 1.63)		1.18 (-0.47, 2.85)		0.53 (-0.90, 1.97)		1.81 (0.14, 3.48)	
Profession		0.01		0.02		0.56		0.48
Nursing Technician	3.61 (1.19, 6.04)		3.78 (1.19, 6.38)		1.35 (-1.06, 3.76)		1.70 (-0.81, 4.21)	
Nurse	2.26 (-0.32, 4.84)		2.48 (-0.22, 5.20)		0.81 (-1.76, 3.38)		1.24 (-1.39, 3.88)	
Doctor	2.84 (-0.21, 5.88)		3.58 (0.48, 6.69)		0.71 (-2.31, 3.75)		1.19 (-1.95, 4.33)	
Radiology technician	0		0		0		0	
Physiotherapist	0.56 (-2.78, 3.89)		0.77 (-2.55, 4.10)		-0.61 (-3.93, 2.70)		-0.40 (-3.76, 2.96)	
Years of working in the current position		0.97		0.98		0.66		0.90
Up to 5 years	0		0		0		0	
From 5 to 10 years	-0.15 (-2.24, 1.94)		-0.11 (-2.29, 2.07)		0.14 (-1.90, 2.19)		0.49 (-1.71, 2.71)	
More than 10 years	-0.17 (-1.69, 1.34)		0.12 (-1.72, 1.46)		-0.62 (-2.10, 0.86)		0.07 (-1.75, 1.90)	
Weekly working hours		0.32		0.24		0.49		0.33
Up to 30 hours per week	0		0		0		0	
Up to 40 hours per week	-0.10 (-1.60, 1.40)		-0.97 (-2.61, 0.66)		0.02 (-1.44, 1.49)		-1.15 (-2.93, 0.61)	
40 hours per week or more	1.62 (-0.78, 4.02)		0.85 (-1.80, 3.51)		1.31 (-1.03, 3.67)		0.10 (-2.77, 2.98)	
How many places do you work?		0.99		0.70		0.24		0.30
One	0		0		0		0	
Two or more	0.003 (-1.47, 1.48)		0.30 (-1.28, 1.89)		0.85 (-0.59, 2.29)		0.75 (-0.70, 2.21)	
Having a family member who lost their job during the pandemic		0.002		0.001		0.04		0.13
No	0		0		0		0	
Yes	2.63 (0.98, 4.28)		2.94 (1.24, 4.64)		1.67 (0.04, 3.30)		1.29 (- 0.41, 2.99)	

Table 2

The linear regression coefficient of depression and anxiety scores according to sociodemographic characteristics, occupational characteristics, variables related to the COVID-19 pandemic, and previous risk, of healthcare workers during the COVID-19 pandemic in southern Brazil in 2020 (n = 264)

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Variable	Depression				Anxiety			
	Crude		Adjusted		Crude		Adjusted	
	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value	Beta (95% CI)	*p*-value
Having received psychological counseling at work during the pandemic*		0.01		0.005		0.03		0.01
No	0		0		0		0	
Yes	-1.76 (-3.22, -0.31)		-2.00 (-3.40, -0.60)		-1.57 (-2.98, -0.15)		-1.77 (-3.18, -0.37)	
Having been tested for COVID-19		0.006		0.002		0.001		0.002
No	0		0		0		0	
Yes	2.26 (0.67, 3.85)		2.47 (0.93, 4.00)		2.55 (0.99, 4.10)		2.52 (0.97, 4.08)	
Having been diagnosed with COVID-19		0.98		0,64		0,72		0.82
No	0		0		0		0	
Yes	-0.02 (-2.04, 2.00)		-0.46 (-2.43, 1.50)		0.34 (-1.61, 2.31)		0.22 (-1.78, 2.22)	
Chronic diseases (diabetes, hypertension, or asthma)		0.78		0.205		0.94		0.75
No	-0.22 (1.82, 1.37)		-0.98 (-2.51, 0.54)		-0.05 (-1.61, 1.51)		-0.38 (-1.86, 1.34)	
Yes	0		0		0		0	
Having suffered a traumatic life event		0.001		0.002		<0.001		<0.001
No	0		0		0		0	
Yes	2.40 (1.00, 3.80)		2.25 (0.87, 3.63)		2.48 (1.09, 3.86)		2.54 (1.16, 3.92)	

Note: *Trend *p*-value. Beta: linear regression coefficient. CI: Confidence Interval.

Prevalence and Factors Associated with Anxiety

Of the study participants, 26.2% had anxiety symptoms. In the crude analysis, having a family member who lost their job during the pandemic, having received psychological counseling at work, having been tested for COVID-19, and having suffered a traumatic life event were associated with the outcome. In the adjusted analysis, age, being responsible family income and marital status was associated with the outcome. In addition, having received psychological counseling at work, having been tested for COVID-19, and having suffered a traumatic life event maintained an association with the anxiety outcome. However, having a family member lose their job during the COVID-19 pandemic lost association with the outcome.

Professionals aged 50 years or older had an average of 3.18 points less in the anxiety score when compared to professionals aged 20 to 29 years; the anxiety score decreased with increasing age. Divorced or widowed professionals had an average of 3.59 points less in the anxiety score when compared to professionals who were married or lived with a partner. Those who received counseling at work during the pandemic averaged 1.77 points lower on their anxiety score compared to those who did not receive counseling at work. Professionals who are solely responsible for family income had an average of 1.81 points higher in the anxiety score compared to those who are not solely responsible for family income. Professionals tested for COVID-19 had an average of 2.52 points higher in the anxiety score when compared to those not tested. In addition, professionals who had already suffered a traumatic event in their lives had an average of 2.54 points higher in the anxiety score than those who had not suffered a traumatic event in their life (Table 2).

Discussion

Since the beginning of the COVID-19 pandemic, several countries have been concerned about the working conditions of their health professionals. Some countries already had protocols for these situations, due to previous epidemics. However, other countries, such as Brazil, did not have previous studies that investigated the psychological characteristics of health professionals exposed to an event such as an endemic/pandemic. The uncertain scenario of the pandemic in Brazil and the rapid increase in cases and deaths from COVID-19 could contribute to the emergence of psychological symptoms. In this study, the prevalence of depression and anxiety in health professionals was 32.4% and 26.2%, respectively. These prevalences were higher than those found in other studies that also used the GAD-7 and PHQ-9 scales (Naser et al., 2020; Rossi et al., 2020; Zhu et al., 2020), and a prevalence combined with a systematic review carried out with 13 studies (Pappa et al., 2020). However, our results on the prevalence of anxiety and depression are lower than those found by other studies that also used the same scales (AlAteeq et al., 2020; Gu et al., 2022; Lai et al., 2020).

Some of the characteristics of these studies may have contributed to the differences in prevalence. For example, a Chinese study found a prevalence of depression and anxiety of 50.4% and 44.6%, respectively, in approximately 60.5% of professionals working in Wuhan and 41.5% on the frontlines of COVID-19, in the initial period of the pandemic (i.e. January and February 2020) (Lai et al., 2020). This may have overestimated the prevalence in this population, given that, during this period, China found an increase in cases and hospitalizations due to the disease, and studies are still being conducted to understand the mechanism and etiology of SARS-CoV-2. Meanwhile, a study in Jordan, which found a prevalence of 21.2% and 11.3% for depression and anxiety, respectively, described a profile of health professionals, where 48.2% were doctors and only 53.1% were directly involved in the COVID-19 pandemic (Naser et al., 2020). These differences in prevalence can be explained by the different cutoff points adopted, cultural differences between countries, and the pandemic situation.

It is important to mention that the literature related to psychosocial care in an emergency context highlights that the first months after the event are essential for emergency preventive actions, considering that in this period individuals may present common (Fundação Oswaldo Cruz, 2020). However, the different phases of the pandemic may have increased the period of these responses; at a time when European countries, for example, were experiencing a decrease in COVID-19 cases and deaths, Brazil reached its peak. The anxiety and depressive symptoms found in this study from August to December 2020 represent a period in which the region faced an increase in the number of cases and deaths (Ministério da Saúde, 2021), but they had already been on alert since March 2020 with the initiation of COVID-19 prevention measures. Although it was not possible to identify whether these symptoms were classified as common reactions or were already chronic, it is important to understand that there are other factors related to these symptoms.

Regarding these associated factors, professionals aged 50 years or older had lower anxiety scores than their younger counterparts. This result is similar to that found in other studies during the COVID-19 pandemic (AlAteeq et al., 2020; Naser et al., 2020). However, only 10.2% of the professionals in our study were over 50 years old, which may have led to underestimating the anxiety scores of these participants; age was not associated with depressive symptoms, demonstrating that the sample size may not be the only explanation. Length of work experience may have contributed to the lower anxiety scores of professionals aged > 50 years.

Single and divorced/widowed health professionals had lower anxiety scores. It is possible that in the context of the COVID-19 pandemic, the fear of transmitting the virus to family members may have contributed to this result, as concern for the family is greater in individuals who are married or live with a partner. During the SARS epidemic of 2003, exposure to the virus and the possibility of infecting friends and family were risk factors for developing psychological symptoms (Wong et al., 2005).

In this study, other points that indicated that concern for the family may be related to psychological symptoms during the pandemic period were the association between depression and having a family member who lost their job, and the association between anxiety and being responsible for family income. A study conducted with US citizens during the COVID-19 pandemic showed that greater job insecurity was associated with an increase in depressive symptoms (Wilson et al., 2020). Another study in southern Brazil showed that participants who experienced economic losses during the COVID-19 pandemic were 1.4 times more likely to be at risk of anxiety and depression (Duarte et al., 2020). If concern for family and financial conditions are added, the professional may feel even more overwhelmed during this stressful period. These results are consistent with guidelines related to the pandemic, which state that concerns for the family can cause the onset of psychological symptoms (Ayanian, 2020).

Regarding profession, most of the sample in this study comprised nursing technicians who had higher depression scores. A higher proportion of nursing technicians may have overestimated the association in this study. However, these results are consistent with those of previous studies (Dal'Bosco et al., 2020; Wong et al., 2005). Previously, during the SARS epidemic, nurses and health aides had higher levels of distress than physicians (Wong et al., 2005), which may have been caused by increased contact with patients. A Brazilian study conducted among nursing professionals during the COVID-19 pandemic showed that technicians had a higher prevalence of anxiety (Dal'Bosco et al., 2020).

In this study, 35% of the professionals reported having received psychological guidance at work (brochures, online materials, or books), and these participants had lower scores for depression and anxiety. These results can be compared with those of a Chinese study (Kang et al., 2020) in which health professionals with severe mental disorders accessed fewer psychological materials and resources available in the media. Additionally, professionals with mild symptoms expressed interest in accessing psychological counseling materials (Kang et al., 2020). It is important to mention that these results demonstrate the importance of offering psychological guidance materials to health professionals, whether in person or digitally, as a method of promoting workers' mental health.

Approximately 75.9% of the health professionals were tested for COVID-19 and these professionals had higher depression and anxiety scores than those who were not tested. This result may be related to the fear of becoming infected because performing the test can demonstrate real proximity to the virus. However, there was no significant difference when the professionals were diagnosed with COVID-19. One possible explanation may be related to the sample size, which may have underestimated the association. In addition, professionals who were diagnosed with COVID-19 had already returned from the isolation period and probably felt calmer because they had already recovered, whereas those who tested negative continued to face an unpredictable prognosis.

Finally, one of the variables that was most associated with psychological outcomes in our study population was having experienced a traumatic event in life. This finding is consistent with the scientific literature, where the prevalence of exposure to a traumatic event in life ranged from 40% to 60% in previous studies (Breslau, 1991; Kessler, 1995; Norris, 1992; Resnick et al., 1993). In this

study, 63.9% of health professionals reported having suffered some traumatic event in their lives. An American study demonstrated that acute stress events were associated with depression; individuals who experienced traumatic life events had higher depression scores than those who did not experience a traumatic life event (Muscatell et al., 2009). In the context of the COVID-19 pandemic, health professionals face challenges related to life and death more frequently and intensely, and having already suffered a traumatic event may have further aggravated their symptoms.

Working conditions play a crucial role in individuals' quality of life and mental health and may work either as protective or risk factors (International Labour Organization & World Health Organization, 2022). The constant fear caused by the pandemic and concerns about financial conditions added to the lack of adequate protective equipment and relationship problems with coworkers. According to the guidelines and recommendations for mental health at work, it is necessary to prevent exposure to mental health risks, promote mental health and well-being, and support those who already have a mental health condition (International Labour Organization & World Health Organization, 2022). A lack of support can interfere with the professional capacity of the worker, who alone is prone to greater illness and worse service delivery. Among all the factors associated with mental health outcomes in this study, few were related to individual characteristics (e.g., age), demonstrating that mental health promotion, prevention, and support services can achieve important results.

This study should be interpreted in light of its design limitations, as it is not possible to determine whether symptoms were absent prior to exposure to the pandemic; therefore, the results are subject to reverse causality. In addition, there may have been a sampling bias, as 47.7% of the professionals were nursing technicians. However, these professionals comprise a large proportion of health professionals who work on the frontlines in different parts of the country. Furthermore, this study was conducted in person during a period of difficult access and stress for the professionals. It is necessary to highlight the importance of this study, which is one of the first to investigate the mental health of Brazilian health workers during the COVID-19 pandemic. This study contributes to the most diverse areas of psychological science, mainly those that transition through the psychology of emergencies, workers' mental health, and collective mental health, providing scientific evidence about the population studied and the period itself.

Conclusion

This study identified a high prevalence of anxiety and depression among health professionals working in hospitals. One of the most relevant findings of this study was that receiving psychological guidance at work was a protective factor against anxiety and depression. Considering the unprecedented pandemic in Brazil, these results can aid the development of interventions and care protocols for Brazilian professionals after the pandemic period. Considering that health workers face major challenges inherent to their profession, continuous actions to support and prevent mental health problems are essential to improve the working conditions and quality of life of these professionals.

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T. G. PERES was responsible for the study design, execution, analysis, data interpretation, and writing the manuscript. I. B. RAMIS coordinated the research and contributed to the study design, data interpretation, and critical review of the manuscript. L. ZHANG contributed to the study design, data interpretation, and critical review of the manuscript. M. TRAMONTINA participated in data collection, interpretation, and critical review of the manuscript. All the authors approved the final version of the manuscript.