(c) (i)



Anxiety and depression in nursing professionals of a maternity during the COVID-19 pandemic

Ansiedade e depressão em profissionais de enfermagem de uma maternidade durante a pandemia de COVID-19

Ansiedad y depresión en profesionales de enfermería de una maternidad durante la pandemia de COVID-19

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Objective: To estimate the prevalence of anxiety and depression symptoms and their related factors among nursing professionals in a maternity hospital during the COVID-19 pandemic. **Method:** Observational, descriptive and cross-sectional study carried out with 189 nursing professionals from a reference maternity hospital in Fortaleza-Ceará. Data collection took place over three months, from August to October 2020, using the Sociodemographic and Clinical Form and the Hospital Anxiety and Depression Scale. Factors related to depression or anxiety were determined by bivariate analysis using the chi-square (nominal) and Wilcoxon (numerical) tests, with a significance of p<0.05. **Results:** The prevalence of anxious and depressive symptoms was estimated in 58.3% and 29.6% of the participants, respectively. About 53.5% were removed due to suspected COVID-19 and 58% were infected with the virus. It was observed that professionals who worked in the emergency, obstetric clinic and maternal Intensive Care Unit were the most exposed to the risk of having depression (p=0.01055). **Conclusion and implications for practice:** High prevalence of anxiety and depression symptoms among participants, regardless of whether they are on the front lines of the pandemic or not. The situation requires meeting the demands of mental health.

Keywords: Anxiety; COVID-19; Depression; Maternity; Nursing.

RESUMO

Objetivo: Estimar a prevalência de sintomas de ansiedade e depressão e seus fatores relacionados, entre os profissionais de enfermagem de uma maternidade, durante a pandemia de COVID-19. **Método:** Estudo observacional, descritivo e transversal, realizado com 189 profissionais de enfermagem de uma maternidade de referência, em Fortaleza-Ceará. A coleta de dados ocorreu durante três meses – de agosto a outubro de 2020 –, e utilizou-se Formulário Sociodemográfico e Clínico e Escala Hospitalar de Ansiedade e Depressão. Os fatores relacionados para depressão ou ansiedade foram determinados pela análise bivariada, por meio do teste qui-quadrado (nominais) e Wilcoxon (numéricas), com significância de p<0,05. **Resultados:** Estimou-se a prevalência de sintomatologia ansiosa e depressiva em 58,3% e 29,6% dos participantes, respectivamente. Cerca de 53,5% foram afastados por suspeita de COVID-19 e 58%, infectados pelo vírus. Observou-se que os profissionais que atuavam na emergência, clínica obstétrica e Unidade de Terapia Intensiva materna foram os mais expostos ao risco de ter depressão (p=0,01055). **Conclusão e implicações para a prática:** Alta prevalência de sintomas de ansiedade e depressão entre os participantes, independentemente de estarem na linha de frente da pandemia ou não. A situação requer acolhimento às demandas da saúde mental.

Palavras-chave: Ansiedade; COVID-19; Depressão; Enfermagem; Maternidades.

RESUMEN

Objetivo: Estimar la prevalencia de síntomas de ansiedad y depresión y sus factores relacionados entre profesionales de enfermería en una maternidad durante la pandemia de COVID-19. **Método:** Estudio observacional, descriptivo y transversal realizado con 189 profesionales de enfermería de una maternidad de referencia en Fortaleza-Ceará. La recolección de datos ocurrió durante tres meses, de agosto a octubre de 2020, utilizando el Formulario Sociodemográfico y Clínico y la Escala Hospitalaria de Ansiedad y Depresión. Los factores relacionados con la depresión o la ansiedad se determinaron mediante análisis bivariado mediante las pruebas de chi-cuadrado (nominal) y Wilcoxon (numérica), con una significancia de p<0,05. **Resultados:** La prevalencia de síntomas ansiosos y depresivos se estimó en 58,3% y 29,6% de los participantes, respectivamente. Alrededor del 53,5% fueron retirados por sospecha de COVID-19 y el 58% estaban infectados con el virus. Se observó que los profesionales que actuaban en emergencia, clínica obstétrica y Unidad de Terapia Intensiva materna eran los más expuestos al riesgo de tener depresión (p=0,01055). **Conclusión e implicaciones para la práctica:** Alta prevalencia de síntomas de ansiedad y depresión entre los participantes, independientemente de si están en la primera línea de la pandemia o no. La situación requiere atender las demandas de salud mental.

Palabras clave: Ansiedad; Depresión; Enfermería; COVID-19; Maternidades.

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INTRODUCTION

The pandemic caused by the new coronavirus (COVID-19) is a serious global health problem, considered since January 2020, by the World Health Organization (WHO), as a public health emergency of international interest, as it is a disease with a high rate of transmissibility and morbidity.¹

The scenario experienced by the pandemic made it clear that there are gaps in the Brazilian health system, such as the shortage of hospital beds, shortage of human and material resources.² Associated with this, the lack of Personal Protective Equipment (PPE), the work overload for undersized teams, the lack of permanent education policies and poor testing³ have directly contributed to the distress suffered by health professionals who have worked in the frontline in the fight against the virus.

A Brazilian study showed that health workers have a risk index of 97 to 100% of being contaminated by COVID-19 during their professional activities. This high risk of contagion affects from oral health technicians to nursing technicians, nurses and doctors.⁴

The mental health of workers has been the target of stressors in this pandemic due to psychological overload, fatigue, exposure to large-scale deaths and significant losses, frustrations related to the quality of care, threats, aggression and increased risk of infection.² The overlap of these factors contributes to the development or worsening of mental disorders in this population, especially anxiety and depression.⁵

The specifics of health services can increase tension and stress among these professionals, such as those who work in maternity hospitals. Pregnancy is a unique immune state. Several peculiarities related to this period make coping with COVID-19 even more complex, requiring different strategies for the development of professional nursing practices.⁶

The gradual number of high-risk users emerged simultaneously with the increasing number of contaminated professionals on leave, exacerbating problems that were amplified with the overload arising from the pandemic, such as: the precariousness of working conditions; the overload of working hours; shortage or lack of qualified professionals to take on sectors that require qualifications, experience and decision-making; the scarcity of protective equipment, among other structural challenges. These problems are similar to those seen in other non-obstetric spaces, however, obstetric care aimed at the pregnancy-puerperal cycle has the specificities of hypertensive and hemorrhagic syndromes, which increase the exposure of professionals to blood and body fluids. These situations increase the risk of contamination and require a different look regarding occupational care.^{7,8}

Studies focusing on professionals from obstetric centers can contribute to the design of strategies for the health of nursing professionals whose practice is focused on obstetrics, based on the identification of risk factors that can trigger or potentiate mental disorders, such as anxiety and depression. It is known that the coronavirus infection is a complicating factor in the gestational or puerperal state of the user, reverberating in the spread of the disease in professionals. Added to this, the importance of estimating the prevalence and related factors for the reorientation of conducts and protocols in the sphere of health management, encouraging the development of strategies for the prevention and treatment of mental disorders for the nursing team.

Given the above, the study aims to estimate the prevalence of symptoms of anxiety and depression and their related factors among nursing professionals in a maternity hospital during the COVID-19 pandemic.

METHOD

Observational, descriptive and cross-sectional study carried out in a reference maternity hospital in Fortaleza, Ceará State, Brazil. Observational Study in Epidemiology (STROBE)⁹ guidelines were observed. The place of study was chosen by the researchers because it is a teaching and reference maternity hospital for high complexity in the care of puerperal women and pregnant women, including high-risk pregnancy, and for providing gynecological services, treating cases of violence and Sexually Transmitted Infections (IST) among women.

The study population consisted of 189 nursing professionals. Applying the sample to finite populations, considering a confidence of 95%, a margin of error of 5% and an outcome proportion of 15% of anxiety and depression among professionals who provide care for users with COVID-19,¹⁰ we arrived at to the sample size of 189 professionals. To select the participants, the convenience sampling technique was used. The inclusion criteria were: nursing professionals (technicians and nurses), who worked in care during the pandemic period and who agreed to participate in the research and sign the Free and Informed Consent Term. Professionals who were working remotely were excluded.

Data collection took place over three months, from August to October 2020, through an interview in a private environment, with an average duration of 20 minutes. Two instruments were used: the Sociodemographic and Clinical Form and the Hospital Anxiety and Depression Scale (HAD).¹¹

The Sociodemographic and Clinical Form, created by the researchers, presented the following variables: sex; age; provenance; race/color; years of study; position; sector; monthly family income; more than one employment relationship; marital status; religion; distancing from family/friends; family member with symptoms/COVID-19; comorbidity; leave on suspicion of COVID-19; infection and/or previous hospitalization by COVID-19.

The HAD is an instrument adapted to the Brazilian population, consisting of 14 items, which seeks to assess signs and symptoms of anxiety and depression individually and collectively, with half of the items related to anxiety and the other half to depression, presenting separate concepts. On the HAD scale, the concept of depression is centered on the notion of anhedonia; it is intended to detect mild degrees of affective disorders in non-psychiatric environments, but the concept of anxiety is not explicit in this instrument.¹¹

The scale allows for four response options, so that the participant must choose the one that corresponds to the way they

felt in the last week. Each item of the instrument is evaluated on a Likert-type scale that varies from 0 to 3, allowing a spectrum of scores from 0 to 21, in each subscale.¹¹ As an outcome variable, the HAD scale was used with its subdivisions: anxiety and depression. Each of the subscales was transformed into a specific outcome, using the cut-off point eight, that is, for values ≥ 8 , it was considered as having symptoms of anxiety or depression.

For data analysis, nominal variables were described using simple and relative frequency, and for numerical variables, the median and interquartile range were presented. Next, the predictor variables were compared with the presence or absence of depression or anxiety using the chi-square test (for nominal variables) and Wilcoxon test (for numerical variables), considering p<0.05 as significant.

The study was developed in accordance with the recommendations of Resolution n° 466/2012, of the National Health Council and

complementarities, which describes the ethical and moral standards of research involving human beings, guaranteeing the rights of the participant and the duties of the research regarding the scientific community. This study was approved by the Research Ethics Committee of the Maternity School Assis Chateaubriand, on July 31, 2020 under CAAE nº 35340620.1.0000.5050 and opinion nº 4.184.752.

RESULTS

A total of 189 professionals responded to the survey form, being 48.2% nurses and 51.8% nursing technicians. There was a predominance of females (96.3%; n=182), with a median age of 40 years (IIQ 34 – 46), coming from Fortaleza-Ceará (69.6%). The predominant race/color was brown (57.4%; n=105). The median number of years of schooling was 17 (IIQ 12 – 19) (Table 1).

Table 1. Association between sociodemographic factors and the occurrence of anxiety/depression in nursing professionals (n=189). Fortaleza, CE, Brazil, 2022.

Martaklaa	TOTAL	0/										
Variables	TOTAL	% -	Yes	%	No	%	р	Yes	%	No	%	þ
Sex							0.113					0.365
Female	182	96.3	81	44.5	101	55.5		55	30.2	6	85.7	
Male	7	3.7	1	14.3	6	85.7		1	14.3	127	69.8	
Age (median)	40	34 – 46	40	35 – 46	39	34 – 46	0.362	39	34 - 46	40	34 – 46	0.877
Provenance							0.704					0.720
Fortaleza	128	69.6	54	42.2	74	57.8		35	27.3	93	72.7	
Metropolitan region	17	9.2	5	29.4	12	70.6		4	23.5	13	76.5	
Interior of CE	20	10.9	9	45.0	11	55.0		7	35.0	13	65.0	
Another state	19	10.3	9	47.4	10	52.6		7	36.8	12	63.2	
Race/color							0.334					0.613
White	59	32.2	27	45.8	32	54.2		16	27.1	43	72.9	
Black	15	8.2	9	60.0	6	40.0		5	33.3	10	66.7	
Yellow	3	1.6	2	66.7	1	33.3		1	33.3	2	66.7	
Brown	105	57.4	41	39.1	64	60.9		31	29.5	74	70.5	
Indigenous	1	0.6	1	100.0	0	0.00		1	100.0	0	00.0	
Years of study (median)	17	12 – 19	19	12 – 19	17	12 – 19	0.833	19	12 - 19	17	12 – 19	0.033
Position							0.879					0.054
Nurse	91	48.2	40	44.0	51	56.0		33	23.5	75	76.5	
Nursing technician	98	51.8	42	42.9	56	57.1		23	36.3	58	63.7	
Sector							0.2466					0.010
Frontline	117	62.6	47	40.2	70	59.8		22	18.8	88	75.2	
Non frontline	70	37.4	35	50	35	50		27	38.6	43	61.4	

Source: prepared by the authors.

Anxiety and depression in nursing professionals

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Table 1. Continued...

Variables	TOTAL	0/										
variables	TOTAL	%	Yes	%	No	%	р	Yes	%	No	%	μ
Monthly Family Income							0.975					0.226
3 to 5 minimum wages	83	44.4	37	44.6	46	55.4		25	30.1	58	69.9	
5 to 7 minimum wages	47	25.1	20	42.5	27	57.5		10	21.3	37	78.7	
Above 7 minimum wages	57	30.5	25	43.9	32	56.1		21	36.8	36	63.2	
More than one employment relationship							0.434					0.407
Yes	61	33.1	29	47.5	32	52.5		21	34.4	40	65.6	
No	123	66.9	51	41.5	72	58.5		35	28.5	88	71.5	
Marital status							0.169					0.156
Single	63	33.5	33	52.4	30	47.6		22	34.9	41	65.1	
Married/ together	108	57.5	40	37.0	68	63.0		26	24.1	82	75.9	
Divorced/ separated	14	7.4	8	57.1	6	42.9		7	50.0	7	50.0	
Widower	3	1.6	1	33.3	2	66.7		1	33.3	2	66.7	
Religion							0.189					0.771
Catholic	122	64.9	54	44.3	68	55.7		39	32.0	83	68.0	
Evangelical	49	26.1	17	34.7	32	65.3		13	26.5	36	73.5	
Spiritualism	7	3.7	5	71.4	2	28.6		2	28.6	5	71.4	
Other	3	1.6	1	33.3	2	66.7		0	0.00	3	100.0	
Without religion	7	3.7	5	71.4	5	28.6		2	28.6	5	71.4	

Source: prepared by the authors.

The prevalence of anxious symptoms was 43.4% (36.4% - 50.6%), being more prevalent among female participants. The most common work sectors were those on the frontline (62.6%; n=117) such as emergency, obstetric clinic (which was designated by the Hospital management as COVID-19 Unit) and maternal ICU (Intensive Care Unit). Of the 117 frontline workers, 40.2% had symptoms of anxiety, while the rate of anxiety in non-frontline professionals was 50%. The predominant monthly family income ranged from three to five minimum wages (44.4%; n=37), most professionals were married (57.5%; n=108) and Catholic (64.9%; n=122) (Table 1).

The prevalence of depressive symptoms was 29.6%, being more prevalent in females, 30.2%. Of the respondents who presented depressive symptoms, 23.5% were nurses and 36.3% were nursing technicians. Most of the employees interviewed (62.6%; n=117) were working in frontline sectors, receiving users

with suspected or confirmed cases of COVID-19. Professionals who worked in the emergency, obstetric clinic and maternal ICU sectors were the most exposed to the risk of having depression (p=0.01055). There was a statistically significant association between the number of years of study and depressive symptoms (p=0.033). The other factors were not associated with the presence of symptoms of anxiety or depression (p>0.05) (Table 1).

As for living with COVID-19, 66.3% (n=122) practiced distancing from family/friends and 55.1% (n=102) had a family member/friend with symptoms of the disease. In addition, 53.5% (n=100) received sick leave for suspected COVID-19 and 58% (n=109) were infected with the virus. Most professionals did not report hospitalization for COVID-19 (98.4%). There was no statistically significant association between living with COVID-19 and the presence of symptoms of anxiety or depression (p>0.05) (Table 2).

Table 2. Association between factors related to the experience of COVID-19 and the occurrence of anxiety/depression in nursing professionals (n=189). Fortaleza, CE, Brazil, 2022.

Variables	τοται	0/		ANX	IETY			DEPRESSION				2
variables	IUIAL	/0	Yes	%	No	%	- p	Yes	%	No	%	þ
Distancing from family/friends							0.096					0.229
Yes	122	66.3	59	48.4	63	51.6		40	32.8	82	67.2	
No	62	33.7	22	35.5	40	64.5		15	24.2	47	75.8	
Family member with symptoms/ COVID							0.061					0.493
Yes	102	55.1	52	51.0	50	49.0		34	33.3	68	66.7	
No	75	40.5	25	33.3	50	66.7		19	25.3	56	74.7	
Do not know	8	4.4	4	50.0	4	50.0		2	25.0	6	75.0	
Comorbidity							0.359					0.229
Yes	40	21.3	20	50.0	20	50.0		15	37.5	25	62.5	
No	148	78.7	62	41.9	86	58.1		41	27.7	107	72.3	
Leave on suspicion of COVID							0.840					0.405
Yes	100	53.5	44	44.0	56	56.0		32	32.0	68	68.0	
No	87	46.5	37	42.5	50	57.5		23	26.4	64	73.6	
Infected by COVID-19							0.816					0.096
Yes	109	58.0	49	45.0	60	55.0		37	33.9	72	66.1	
No	43	22.9	17	39.5	26	60.5		7	16.3	36	83.7	
Do not know	36	19.1	15	41.7	21	58.3		11	30.6	25	69.4	
Previous hospitalization for COVID-19							0.729					0.884
Yes	3	1.6	1	33.3	2	66.7		1	33.3	2	66.7	
No	180	98.4	78	43.3	102	56.7		53	29.4	127	70.6	

Source: prepared by the authors.

Of the participants, 83.6% (n=158) were tested for COVID-19, with the rapid test being the most used type of test (Table 3).

DISCUSSION

The present study showed a high prevalence of symptoms of anxiety and depression among nursing professionals, both in those who worked on the frontline of the COVID-19 pandemic and those who worked in other sectors.

These data may be related to the imminent risk that these professionals have of being exposed to the virus, due to the fact that they carry out their work activities in a hospital institution that welcomes people affected by the disease. These results were also identified in the study by Gupta et al.,¹² which demonstrated

the increase in mental suffering among nursing professionals during the pandemic, especially those working in obstetrics, given that maternal and neonatal health, under the responsibility of these professionals, is composed of important indicators of global health.¹³

Professionals who were not on the frontline were less likely to have depression. This result can be explained by the fact that frontline professionals face a greater risk of contamination by the virus and the feeling of impotence when facing a disease permeated by uncertainty and physical and psychological suffering, given the deaths that occurred during the provision of care.

Similar results were presented in a study carried out in China, in the city of Wuhan, which compared the psychological impact of the COVID-19 outbreak between frontline medical workers (1173) Ribeiro CL, Maia ICVL, Pereira LP, Santos VF, Brasil RFG, Santos JS, Cunha MB, Vieira LJES

Table 3. Association between the tests performed and the occurrence of anxiety/depression in nursing professionals (n=189). Fortaleza, CE, Brazil, 2022.

Variables		ANXIETY								DEPRESSION						
	TOTAL	%	Yes	%	No	%	р	%	Yes	%	No	%	р			
Did you get tested for COVID?							0.566						0.347			
Yes	158	83.6	70	44.3	88	55.7		83.6	49	31.0	109	69.0				
No	31	16.4	12	38.7	19	61.3		16.4	7	22.6	24	77.4				
Which one?																
SWAB							0.359						0.206			
Yes	49	25.9	24	49.0	25	51.0		25.9	18	36.7	31	63.3				
No	140	74.1	58	41.4	82	58.6		74.1	38	27.1	102	72.9				
Quick test							0.812						0.746			
Yes	125	66.1	55	44.0	70	56.0		66.1	38	30.4	87	69.6				
No	64	33.9	27	42.2	37	57.8		33.9	18	28.1	46	71.9				
Serology							0.071						0.071			
Yes	31	16.4	18	58.1	13	41.9		16.4	18	58.1	13	41.9				
No	158	83.6	64	40.5	94	59.5		83.6	64	40.5	94	59.5				
What was the result?							0.652						0.166			
Positive	112	70.0	51	41.7	28	58.3		70.0	38	33.9	74	66.1				
Negative	48	30.0	20	45.5	61	54.5		30.0	11	22.9	37	77.1				

Source: prepared by the authors.

and those working in other sectors (1173). Results showed that frontline workers had higher rates of any mental issue (52.6% vs. 34.0%), such as anxiety symptoms (15.7% vs. 7.4%), depressed mood (marginally insignificant; 14.3% vs. 10.1%) and insomnia (47.8% vs. 29.1%), when compared with medical workers from other sectors.¹⁰

In the research, among the factors associated with a higher risk of presenting depressive symptoms, the longer study time stood out. The literature shows that nursing professionals already have a greater predisposition to mental suffering in everyday situations. A similar result showed that this factor can be considered a risk factor for anxiety, as they provide an intense daily routine with users and staff.¹⁴

In the present study, most participants reported having distanced themselves from family and friends as a form of protection, although this fact was not statistically associated with the risk of depression or anxiety. This distancing can impact on mental health, given that the human is a sociable being who needs to relate to others for their individual formation. This socialization was changed during the peak period of the pandemic, due to the need for social isolation to mitigate the transmission of the virus, inducing the world population to face apprehension, fear, loneliness, panic and anxiety.^{15,16}

Among the preventive measures to control COVID-19, social isolation is the most adopted measure worldwide, with positive effects on transmission rates. To protect their family and friends, many health professionals physically distanced themselves from these people, reducing their support, affection and social network. This distancing, associated with several other stressors, can lead to a psychic and mental imbalance.¹⁷ This can trigger mental suffering, generating uncertainties and symptoms of anxiety and depression.

Another point to be discussed is the influence of the religion factor, although in the present study religiosity has not resulted in a lower risk for symptoms of anxiety and depression. This finding differs from other studies that mentioned that participating in a religion becomes a significant coping mechanism for mental health, stress control and reduction of anxiety and depression.^{18,19} It is worth mentioning that personal resources can be developed by the worker as defense mechanisms to neutralize suffering and enhance resilience. They are faith in transcendence, team support, family, religion, physical activity, professional experience and improvement.

It was also identified that most professionals were infected with the coronavirus, with the rapid test being the most used type of exam to diagnose cases; a small number of professionals required hospitalization. It should be noted that diagnostic confirmation through the rapid test may be related to the lack of availability of molecular tests in the public network during the research period. As of November 6, 2021, 650,456 cases of suspected flu-like syndrome of COVID-19 had been reported among health professionals in the e-SUS Notifica system. Of these, 153,247 (23.6%) were confirmed for COVID-19. The health professions with the highest records among confirmed cases of flu-like illness caused by COVID-19 were nursing technicians/assistants (45,631; 29.8%), followed by nurses and related (25,853; 16.9%) and doctors (16,574; 10.8%).²⁰

More than half of those interviewed left the sector because of the symptoms of the disease. This absence leads to absenteeism, reduced teams and overloading those who remained healthy to continue in care – in addition to being missed by their children, fathers, mothers and partners and representing a risk to the population, as this professional can be a source of contagion for their family members or to society.²¹ A study carried out with nursing professionals in a hospital in São Paulo identified that, among the reasons for absenteeism, mental and behavioral disorders were the most prevalent.²²

CONCLUSION AND IMPLICATIONS FOR PRACTICE

A high prevalence of anxiety and depression symptoms was observed among nursing professionals, regardless of whether they are on the frontlines of the COVID-19 pandemic or not. It was possible to evidence a higher prevalence of symptoms of anxiety and depression in the female audience, with a median age of 40 years, and in nursing technicians. Symptoms of depression were more prevalent in professionals who worked on the frontlines of the pandemic and who attended users with suspected or confirmed cases.

The results indicate that actions aimed at improving working conditions and psychological assistance to professionals can be beneficial for the maintenance and strengthening of the mental health conditions of this population. It is recommended that institutions carry out online training and psychological assistance aimed at nursing professionals who are or are not on the frontline of combating COVID-19, in order to alleviate the impacts on the mental health of these professionals, as well as promote coping strategies and managing of emotions.

In view of the above, it is suggested that further studies be carried out addressing professionals who work both on the frontline against the pandemic and in remote activity. In this way, it will be observed if the physical presence in the work environment adds feelings that intensify the signs and symptoms of anxiety and depression in the context of the pandemic.

One of the limitations of the study was the fact that, despite the HAD scale being considered an effective instrument for measuring symptoms of anxiety and depression in hospital environments, it is not perceived as a screening mechanism, since it does not establish a diagnosis, requiring psychological assessment. In addition, another limiting factor of the research is that it was carried out in only one health institution, in addition to not having included professionals who worked in remote activities or who were away from work activities due to illness.

AUTHOR'S CONTRIBUTIONS

Study design. Camila Lima Ribeiro. Vanessa da Frota Santos. Raquel Ferreira Gomes Brasil. Lívia de Paulo Pereira.

Data collection or production. Camila Lima Ribeiro. Vanessa da Frota Santos. Raquel Ferreira Gomes Brasil. Morgana Boaventura Cunha.

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