

Psychosocial Factors and Mental Disorders in Healthcare Workers Facing Covid-19

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Abstract

This study aimed to assess psychosocial risk factors and Minor Mental Disorders (MMD), as well as the possible effects of the pandemic on 85 healthcare workers working in two hospitals in the city of Campinas, SP (Brazil). This was an exploratory-descriptive, cross-sectional study, conducted through convenience sampling, utilizing an online platform. The study employed a Sociodemographic and Occupational Questionnaire, as well as the SRQ-20 and COPSOQ II instruments. The results indicated a risk level for emotional demands, cognitive demands, and work pace. Suspicion for MMD was 65.9%, being moderately associated with Quantitative Demands and Emotional Demands. The group that perceived a worsening of the work routine had a significantly higher score in the suspicion of MMD, as well as being more subject to emotional demands, cognitive demands, Demands for hiding emotions and quantitative demands. It is concluded that healthcare professionals who worked on the front line in the Covid-19 pandemic were subject to several psychosocial risk factors for the development of MMD. Awareness of these factors enhances the understanding of the challenges and needs faced by this group of professionals. It is hoped that his contribution will support future studies aimed at further exploring these issues.

Keywords: healthcare workers, workload, psychosocial impact, mental disorders, pandemic

FATORES PSICOSSOCIAIS E TRANSTORNOS MENTAIS EM TRABALHADORES DE SAÚDE ENFRENTANDO A COVID-19

Resumo

O presente estudo objetivou avaliar fatores psicossociais de risco e Transtornos Mentais Menores (TMM), e os possíveis efeitos da pandemia em 85 trabalhadores de saúde atuantes em dois hospitais da cidade de Campinas, SP. Tratou-se de um estudo exploratório-descritivo de corte transversal, com amostragem composta por conveniência e realizado com apoio da plataforma *on-line*, na qual foram utilizados um Questionário Sociodemográfico e Ocupacional, o SRQ-20 e o COPSOQ II. Os resultados indicam patamar de risco para exigências emocionais, exigências cognitivas e ritmo de trabalho. A suspeição para TMM foi de 65,9%, estando moderadamente associada às Exigências quantitativas e Exigências emocionais. O grupo que percebeu piora da rotina de trabalho obteve escore significativamente maior na suspeição de TMM, bem como estava mais sujeito a exigências emocionais, exigências cognitivas, exigências para esconder emoções e exigências quantitativas. Conclui-se que os profissionais da saúde que atuaram na linha de frente na pandemia de Covid-19 estiveram suscetíveis a diversos fatores de risco psicossociais para o TMM. O conhecimento desses fatores possibilita a compreensão das falhas e necessidade desse grupo de profissionais enfrenta. Com isso, espera-se contribuir para futuros trabalhos que visem a aprofundar essas questões.

Palavras-chave: trabalhadores de saúde, carga de trabalho, impacto psicossocial, transtornos mentais, pandemia

FACTORES PSICOSSOCIALES Y TRASTORNOS MENTALES EN TRABAJADORES DE LA SALUD FRENTE A LA COVID-19

Resumen

El presente estudio tuvo como objetivo evaluar los factores de riesgo psicosocial y los Trastornos Mentales Menores (TMM), así como los posibles efectos de la pandemia, en 85 trabajadores de la salud que actúan en dos hospitales de la ciudad de Campinas, SP (Brasil). Se trató de un estudio exploratorio-descriptivo de corte transversal, con muestreo por conveniencia y utilizando una plataforma en línea. El estudio empleó un Cuestionario Sociodemográfico y Ocupacional, el SRQ-20 y el COPSOQ II. Los resultados indican un nivel de riesgo para las demandas emocionales, demandas cognitivas y ritmo de trabajo. La sospecha de TMM se encontró en el 65,9% de los participantes, asociándose moderadamente con las Demandas Cuantitativas y las Demandas Emocionales. El grupo que percibió un empeoramiento en la rutina laboral obtuvo una puntuación significativamente más alta en la sospecha de TMM, además de estar más sujeto a las demandas emocionales, cognitivas, para ocultar emociones y cuantitativas. Se concluye que los profesionales de la salud que trabajaron en primera línea durante la pandemia de Covid-19 estuvieron sujetos a varios factores de riesgo psicosocial para el desarrollo de la TMM. La conciencia de estos factores mejora la comprensión de los desafíos y necesidades que enfrenta este grupo de profesionales. Se espera que esta contribución respalde futuras investigaciones destinadas a explorar más a fondo estos problemas.

Palabras-clave: trabajadores de la salud, carga de trabajo, impacto psicosocial, transtornos mentales, pandemia

The new coronavirus called Covid-19 had its first report as a disease in December 2019 and has since the beginning presented a high degree of transmissibility. It was classified as a global health emergency in March 2020, and seven months after the first report in the Americas reported the highest proportion of incidence and deaths caused by Covid-19 in the United States and Brazil (Pan American Health Organization [PAHO] & World Health Organization [WHO], 2020). Each category of healthcare workers has been affected in different ways in their work routine in terms of activity interruption, changes in working methods, and in-person, or remote care, among other factors. However, a high prevalence of symptoms of stress, anxiety, and depression has been observed among all healthcare workers (Campos et al., 2021).

Among the initial actions to combat the virus, social distancing, masks, and hand sanitizers to protect the population stood out. As the utilization of health policy resources progressed due to the understanding of different scenarios created by the disease, there was a demand for more specific guidance for teams responsible for contact and care of patients affected by the pandemic, including emergency services and intensive care units. This movement, combined with the lack of specialty hospital beds and healthcare supplies, resulted in extended working hours, increased infection risk, feelings of helplessness, and other factors that show that healthcare workers have work overload (Hallal et al., 2020; Wang & Lucca-Silveira, 2020).

Such experiences tend to result in adverse effects on the mental health of this occupational group, with various emotional, cognitive, and social symptoms, as greater psychosocial risks for frontline healthcare professionals (combatting Covid-19) have been associated with increased anxiety, stress, loneliness, depression, and the potential development of Burnout and Post-Traumatic Stress Disorder (Ornell et al., 2020; Shanafelt et al., 2020). On the other hand, Moura et al. (2020) found that high-quality relationships between supervisors and physicians, characterized by affection, loyalty, and professional respect, can reduce physician Burnout.

Nursing professionals working in emergency hospital environments are typically already exposed to the risk of developing Minor Mental Disorders (MMD) characterized by stress, anxiety, depression, and symptoms such as insomnia, irritability, fatigue, difficulty concentrating, forgetfulness, and somatic complaints (Moura et al., 2022). The management of emotional and the demand to cope with intense emotions constitute an important psychosocial risk factor (Giménez-Espert et al., 2020).

In the face of a dramatic situation brought about by the Covid-19 pandemic, physicians, physical therapists, and nurses have had to reconsider the meaning of life and their relationship with death, which has affected many close colleagues in a manner perceived as unnatural (Messias et al., 2022). Since these professionals are exposed to their suffering and that of patients and families, Schmidt et al. (2020) emphasize the importance of psychological support and guidance.

Work overload, insecurity, and fear of transmitting the disease to family members have been the main stressors (Quiñones-Laveriano et al., 2022), in addition to uncertainty about their professional future and financial situation. These factors have led healthcare professionals to seek better information, training, practice, behavior adaptation, and value revision (Prescott et al., 2020; Orfão et al., 2020). Among Brazilian frontline professionals, critical levels of work-related suffering have been observed due to excessive demand, lack of recognition, freedom, and perceived low social support (Baptista et al., 2022).

Both psychologically positive and negative experiences of healthcare teams have been identified, indicating ambivalent experiences of achievement, exhaustion, stress, hope, resilience, and flexibility (Buselli et al., 2020). Similarly, this is a period in which such professionals have been evident in the global media, often considered heroes. However, the strain experienced, with a high risk of MMD, in addition to the suffering of the workers, can lead to reduced work capacity and performance failures (Luz et al., 2020; Magnago et al., 2015).

High prevalence rates of Burnout, depression, anxiety, and sleep problems among physicians, nurses, and healthcare professionals have been associated with hospital overcrowding, long working hours, and inadequate Personal Protective Equipment (PPE) (Alrawashdeh et al., 2021; Arafa et al., 2020; Silva Jr., 2021). Being female, having children under 12 years of age, and salary reduction were significant factors associated with Burnout development (Duarte et al., 2020), while among males, being Black, young, having low educational levels, high-stress levels, and greater intolerance of uncertainty were elements favoring the occurrence of MMD (Souza et al., 2021).

Because of these elements, the present study aimed to assess psychosocial risk factors and MMD, as well as the potential effects of the pandemic on these constructs, among healthcare workers on the frontlines of combating Covid-19 in two reference hospitals for treating patients affected by the disease in the city of Campinas, São Paulo (Brazil).

Method

Participants

The studied hospitals employed approximately 3,500 workers across different departments and sectors within their respective organizational structures. The protocol was approved for administration to workers who, even before the pandemic, were working in the emergency, urgent care, and intensive care units, constituting a group of about 450 (N) healthcare workers from both institutions. During the research period, the authorized group continued to work in the sectors mentioned above and were on the front lines of caring for COVID-19 patients.

Given the challenges in accessing hospitals during the study period and limitations in contact and communication with these workers, n=85 (18.8% of N) workers participated in this study, of which 71.8% were from Hospital A and 21.2% from Hospital B. The mean comparison analyses between participant groups from each hospital did not show significant differences, the results are presented henceforth considering the group (n=85).

Instruments

MMD data were obtained using the Self Report Questionnaire (SRQ-20) – in its translated and validated version for use in Brazil (Gonçalves, 2016) – for screening non-psychotic symptomatic conditions (depressive/anxious mood; somatic symptoms; decreased vital energy; depressive thoughts). The questionnaire consists of 20 dichotomous (yes/no) questions assessing the presence of these conditions, with a Cut-off Score (CS) of seven or more altered responses ($CS \geq 7$) for such assessment.

To measure the psychosocial factors related to work, the subscales Quantitative Demands, Work Pace, Cognitive Demands, Emotional Demands, and Demands for Hiding Emotions from the Work Demands domain of the Copenhagen Psychosocial Questionnaire in its second edition (COPSOQ II – Rosário et al., 2017; Lima et al., 2019; Gonçalves et al., 2021) were employed. This instrument, based on workplace evidence from data collected directly from workers, this instrument provides indicators of health, safety, and well-being at work (Vazquez et al., 2018; Oliveira & Guimarães, 2023). The 3.66 standard was used for tertile analysis as the risk threshold. Thus, mean values exceeding this threshold indicated risk or harm to the worker's health.

A Sociodemographic and Occupational Questionnaire (SOQ) was also administered, designed specifically for this study. It comprised questions on sociodemographic data (gender, age, monthly income, having children), occupational details (length of service, profession/occupation, position, role, work arrangement, weekly work hours – weekdays, weekends, shifts, workplace), as well as experiences and potential impacts of the pandemic on the worker (social distancing, sleep, caring for COVID patients, emotional support infrastructure for the worker, communication, organization of work resumption, demands related to risks, changes in work routine, alteration in work arrangement).

Procedures

This exploratory-descriptive, cross-sectional study was conducted with a non-probabilistic convenience sample (using a snowball sampling technique due to restricted access to hospitals during the pandemic) and carried out through the Survio® online survey platform. The surveys were available online from October 2020 to March 2021 (six months).

The research was approved by the Research Ethics Committee, CAAE No. 36729320.3.0000.5481 and Opinion No. 4.295.494. All recommended ethical precepts were followed, and each participant digitally received the Informed Consent Form (ICF), which was a mandatory requirement for accessing the instruments and participating in the research. As previously mentioned, the validated participation of 85 healthcare workers who were on the frontlines of caring for Covid-19 patients in two hospitals located in the city of Campinas, São Paulo, Brazil, was included.

For initial result organization, quantitative data were analyzed using Microsoft Excel 365® for Windows®. The data were then transferred to the Statistical Package for the Social

Sciences® (SPSS), version 25, for further statistical analysis. The significance criterion for tests was set at 95%. Descriptive analyses (mean, standard deviation, and relative frequency [percentage]) and inferential analyses (independent samples, mean comparison, and correlations) were conducted to assess constructs and achieve the objectives of this study.

Results

The sample, considering significant data (chi-square test – $p \leq 0.05$), displayed the following prevalent sociodemographic and occupational characteristics: female gender (74.1%), age greater than or equal to 40 years (49.4%), married or in a stable union (63.5%), and having children (56.5%).

By profession, the participants consisted of physicians (38.8%), nurses (18.8%), nursing technicians (12.9%), physiotherapists (3.5%), and other professionals (25.9%) working in the investigated hospitals. They reported working frequently for more than 8 hours per day (67.1%) during the week and more than 4 hours per day (66.9%) on weekends, indicating they were working over 44 hours per week. Although 81.2% ($n=69$) of these participants did not report changes in their work arrangement during the pandemic, 82.4% ($n=70$) believed their work routine was worse than before.

Regarding the employment contract, most participants reported being hired with an indefinite employment contract recorded in their work permits (63.5%). Their monthly family income varied across the following salary ranges in Brazil: (a) up to three minimum wages – 7.1%; (b) more than three up to six minimum wages – 35.3%; (c) more than six up to ten minimum wages – 21.2%; and (d) more than ten minimum wages – 36.4%.

To better understand the psychosocial factors related to work existing in the surveyed locations throughout the pandemic, the following were assessed in these environments: quantitative, cognitive, and emotional demands; work pace; and demands for hiding emotions. Descriptive data presented in Table 1 indicate that emotional needs, cognitive demands, and work pace were at a risk level for the workers' health at these sites, as their mean scores were above 3.66 points.

Table 1

Mean, standard deviation, skewness, and kurtosis scales of COPSOQ-II

Instrument/Scale	Mean (Standard deviation)	Skewness	Kurtosis
Quantitative demands	2.99 (± 0.84)	-0.014	0.008
Work pace	3.78 (± 0.94)	-1.103	1.741
Cognitive demands	4.25 (± 0.61)	-0.696	-0.111
Emotional demands	4.22 (± 0.76)	-1.093	0.708
Demands for hiding emotions	3.13 (± 0.93)	-0.504	0.053

The assessment of emotional demands as being at risk for occupational health suggests that workers in the investigated workplace are exposed to emotionally distressing situations and feel emotionally challenged and engaged in their profession. Cognitive demands indicate that the work requires constant attention, making difficult decisions, and proposing new ideas by these professionals. The work pace, on the other hand, is linked to the requirement of working very rapidly in these locations.

Although the demands for hiding emotions and quantitative needs were not identified as being at risk for these workers' health, as their mean scores were below 3.66 points, both demands warrant attention, given that they were classified as intermediate, meaning they were not at a favorable level for workers' health.

Following the design proposed for this study, participants responded to the SRQ-20 instrument, designed to assess the presence of MMD. The results indicated that 65.9% of the sample (n=56) of investigated professionals could be considered suspected cases for MMD, as they scored seven or higher in the assessment.

The detailed analysis of the distribution of MMD symptoms in the sample of this study (Table 2) revealed that decreased vital energy (36.1%) was the most prevalent symptom among the investigated workers, followed by somatic symptoms (30.5%), depressive mood (25.0%), and depressive thoughts (8.4%).

Table 2

Distribution of MMD Symptoms for the Study Sample

MMD symptoms	n	%
Depressive mood	181	25.0
Somatic symptoms	221	30.5
Decreased vital energy	262	36.1
Depressive thoughts	61	8.4

Correlation tests were conducted using Pearson's correlation coefficient to assess the possible association between the demands of healthcare professionals' work and the presence of MMD during the pandemic period. The results (Table 3) indicated a positive and moderate association between quantitative demands and higher scores in the assessment of suspected MMD and between emotional needs and higher scores in the assessment of alleged MMD. A positive and weak association was also identified between work pace and higher scores in the assessment of suspected MMD.

Table 3

Assessment of the association between work demands and the presence of MMD in the study population

	Correlations				
	SRQ-20	QD	WP	CD	ED
QD	0.304**				
p-value	0.005				
WP	0.276*	0.472**			
p-value	0.011	0.001			
CD	0.044	0.242*	0.340**		
p-value	0.688	0.026	0.001		
ED	0.305**	0.297*	0.324**	0.485**	
p-value	0.005	0.006	0.003	0.001	
DHE	0.204	0.248*	0.241*	0.051	0.107
p-value	0.062	0.022	0.026	0.644	0.329

Note 1: QD – Quantitative Demands; WP – Work Pace; CD – Cognitive Demands; ED – Emotional Demands; DHE – Demands for Hiding Emotions

Note 2: * Correlation is significant at the 0.05 level (Pearson correlation coefficient)

Note 3: ** Correlation is significant at the 0.01 level (Pearson correlation coefficient)

As this study indicated that 82.4% (n=70) of the investigated workers believed that their work routine had worsened during this period, comparisons were made between the results obtained for these professionals and those who did not perceive the same change in their work routine (Table 4).

Table 4

Mean comparison test (work demands and presence of MMD) between professionals who perceived and did not perceive a worsening in their work routine

Instrument / Scale	Perceived worsening Mean / (SD)	Did not perceive worsening Mean / (SD)	p-value*
SRQ-20	9.26 (± 4.23)	5.13 (± 4.50)	0.001
Quantitative demands	3.21 (± 0.71)	1.98 (± 0.65)	0.001
Work pace	3.96 (± 0.81)	2.93 (± 1.10)	0.125
Cognitive demands	4.30 (± 0.58)	4.00 (± 0.70)	0.014
Emotional demands	4.33 (± 0.68)	3.73 (± 0.94)	0.029
Demands for hiding emotions	3.23 (± 0.92)	2.65 (± 0.89)	0.002

* Mann-Whitney U Test for independent samples at a significance level of 0.05.

The application of the Mann-Whitney U Test for independent samples indicated that workers who perceived a worsening of their work routine also reported a higher level of emotional demands, cognitive demands, demands for hiding emotions, and quantitative demands. These workers also obtained a significantly higher score in the assessment of suspected MMD. The

mean results indicated that professionals who reported worsening their work routine were suspected cases for MMD, while others were not.

Discussion

A sudden and intense pandemic outbreak profoundly impacted the daily lives of healthcare professionals. Despite many potential participants expressing interest and willingness during the research promotion, participation was challenging due to the increased workload. This could illustrate one aspect of the ambivalences mentioned by Buselli et al. (2020), Prescott et al. (2020), and Orfão et al. (2020). The sample profile, especially the predominance of married women and mothers, aligns with risk factors for developing Burnout (Duarte et al., 2020), and the fact that 42.4% earned three minimum wages or less also contributes to the aggravation of MMD (Souza et al., 2021).

Objectively, over 65% of these professionals started working beyond the 44-hour weekly limit, including weekends, and the subjective feeling of over 80% was that their routine had worsened. In addition to the extra workload, several other factors contributed to the decline in the quality of these professionals' work. Structurally, overcrowding, the adaptation of wards and teams for other specialties to treat Covid-19 patients, and a scarcity of PPE required significant adaptive efforts. Regarding patient care, the urgent need for additional knowledge, both in terms of diagnosis and appropriate treatment, increased the qualification demands for all professionals. The combination of these factors explains the increased strain on these teams.

The fear of infecting family and friends, with the consequent risk of losing them, was one of the most powerful stressors (Alrawashdeh et al., 2021; Arafa et al., 2021; Hallal et al., 2020, Prescott et al., 2020; Orfão et al., 2020, Wang & Lucca-Silveira, 2020). It is worth noting that almost all participants in this study were in direct contact with infected patients, with the majority being married and having children. Even for single individuals, the possibility of living with family members, parents, and grandparents could produce a similarly distressing effect.

It is important to highlight the excess work and the inherent hardship in caring for Covid-19 patients, leading to higher service demand. This issue is challenging to address since the pandemic imposes this scenario (Baptista et al., 2022). This may explain the findings in this study where the higher risk for MMD was moderately associated with Quantitative Demands, related to the increased workload derived from the higher number of patients across all care levels and sectors. Several studies have described high and intense workloads, exhaustive shifts, and sleep deprivation experienced during the initial months of the pandemic (Alrawashdeh et al., 2021; Arafa et al., 2021; Hallal et al., 2020, Prescott et al., 2020; Orfão et al., 2020, Wang & Lucca-Silveira, 2020). This hypothesis might also explain the data shown in Table 2, demonstrating decreased vital energy and somatic symptoms in 66.6% of the sample.

Depressive mood and depressive thoughts represented 33.4% of symptoms, but other studies suggest the gradual worsening of this dimension (Ardebili et al., 2021; Messias et al., 2022). Studies comparing psychological symptoms among different categories of healthcare

workers in Brazil and Peru observed a high prevalence of depression, anxiety, stress, and psychological impact symptoms across all categories (Campos et al., 2021; Quiñones-Laveriano et al., 2022). Categories of healthcare workers observed a high prevalence of depression, anxiety, stress, and psychological impact symptoms across all categories (Campos et al., 2021; Quiñones-Laveriano et al., 2022).

In this study, elevated scores in Cognitive Demands and Work Pace were also evident, both signaling a risk to the workers' health. Given the data collection timing, the higher cognitive scores might be related to more immediate demands related to decision-making and work pace than emotional strain, which was already high but tends to be experienced more chronically (Ardebili et al., 2021; Messias et al., 2022).

Regarding Emotional Demands (which is another factor moderately associated with MMD in this study), it is important to consider that life and death are part of hospital daily routines, as well as the experiences of healthcare professionals working in these environments. Considering that this factor relates to emotional aspects involved in healthcare work, including emotionally disturbing situations, emotional demands, and emotional involvement in their work, it is evident that all these aspects were affected. The ambivalent experiences, on one hand, the suffering of patients and their families who not only lost loved ones but also could not be with them during hospitalization and after death, could not be balanced by positive experiences, such as the satisfaction of seeing other patients recover. This imbalance was unexpectedly amplified (Buselli et al., 2020, Orfão et al., 2020; Prescott et al., 2020).

Interestingly, when separating the groups of workers who perceived worsening and those who did not perceive a change in their work routine, emotional demands moved slightly into the first place for those who perceived a worsening, compared to the total score. This analysis could be related to feelings of helplessness and strangeness related to experiences of death (Hallal et al., 2020, Messias et al., 2022, Wang & Lucca-Silveira, 2020), and the cost of managing emotions (Giménez-Espert et al., 2020). Comparing the groups made the correlation between work demands and the presence of MMD more explicit and specific, showing significant differences in total SRQ-20 scores, as well as in the dimensions of Quantitative Demands, Hiding Emotions, Cognitive Demands, and Emotional Demands from COPSOQ.

The differences found between the groups highlight the difference in the subjective perception of psychosocial work characteristics. High-demand and low-social support psychosocial work characteristics are associated with low peer support and, consequently, mental suffering. The profession itself is associated with work-related suffering, as seen in studies by Baptista et al. (2021) and Silva-Junior et al. (2021), specifically with a prevalence of suspected MMD for 61.6% of participants. This reinforces the evidence that, in Brazil, mental distress and professional burnout among healthcare workers have been exacerbated by the pandemic's progression. For these reasons, promoting healthy interpersonal relationships should be a priority for hospital personnel management (Moura et al., 2020).

Psychological distress in healthcare workers is not new, and the very nature of these professionals' work, exemplified by constant exposure to suffering, pain, and death, has been a major cause of distress. However, in the past two decades, the World Health Organization has expressed concerns about healthcare human resources, prioritizing training, retention, compensation, recognition, and improving working conditions. The pandemic has brought numerous challenges and problems in these fields, but it has also prompted people to adapt to more virtual forms of communication, such as video conferencing. These resources could be utilized to expand possibilities for mental health support for these professionals (Schmidt et al., 2020) and teams (Moura et al., 2020).

In light of these considerations, it is important to highlight that the findings of this investigation are by the existing literature and, as a result, have allowed for the proposed inferences, even though the methodological design – including convenience sampling, coupled with the transportation and dissemination challenges imposed by the acute period of the pandemic – hindered the confirmation of a cause-and-effect relationship between the analyzed variables and reduced the potential for generalization of the results.

However, it is important to reinforce that discussions and comparisons with other studies have indicated that the current research aligns with similar studies in Brazil and around the world (involving frontline healthcare professionals in the fight against Covid-19). Therefore, the continuation of studies on the proposed themes is recommended to gain a better understanding of potential relationships between the constructs.

Conclusions

The present study aimed to assess psychosocial risk factors and MMD in healthcare workers operating in two hospitals in Campinas, São Paulo (Brazil). This theme and approach have been extensively explored in the scientific literature, enabling a robust discourse. The most significant contribution of this study, conducted within the unique context of a sudden and lethal pandemic, was to demonstrate the psychosocial stressors – to which frontline healthcare professionals are exposed – more clearly, and how these factors can impact their mental health. Therefore, these concluding reflections need to be contextualized beyond this angle, considering the typical daily routine of this group of professionals.

Naturally, there are formal limitations that must be noted. Firstly, the sample is confined to two reference hospitals in a metropolitan area corresponding to the second-largest city in São Paulo, Brazil. Thus, the experiences of workers in smaller cities within the same Southeastern region or other areas in the country might have been of lesser intensity, considering the high volume of patients treated in these hospitals, and the high level of complexity for which they serve as a reference.

Another important limitation is the number of research participants, which was limited to around 20% of frontline hospital workers. Due to the chaotic reality, they were experiencing, many did not participate in the study because they said they did not have time or were too

exhausted. Such arguments suggest that the findings could have been magnified with greater participant adherence, reinforcing the described evidence.

Considering the above, it is crucial to observe that healthcare workers, especially those in hospital settings, were under constant and heightened risk due to direct interaction with infected patients. This entire context points to psychosocial risk factors inherent in the situation experienced during the pandemic. A complex question arises as to whether the pandemic should be understood as an isolated moment of exacerbation of labor-related factors or whether its effects will change in how healthcare professionals perceive their work. These are relevant subjects for future studies.

Finally, the pandemic context and drastic changes may increase dissatisfaction with the work environment and the prevalence of adverse conditions, as psychosocial work factors continue to indicate uncertainties and risks, among other adverse feelings. As these characteristics are not fixed, they tend to allow for the development of behavior repertoires linked to learning from these new situations and challenges. Hence, it is essential for the psychological care of professionals and teams to be prioritized, aiming to prevent the risk of labor-related suffering from becoming normalized once the acute crisis phase has passed. Such an approach should be integral to the people management policy of healthcare institutions, being something essential, regular, and preventative.

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