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The role of workplace violence in healthcare workers' mental health during Covid-19

O papel da violência no local de trabalho na saúde mental dos profissionais de saúde durante a Covid-19

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The role of workplace violence in healthcare workers' mental health during Covid-19

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Abstract

Introduction: The Covid-19 pandemic brought a new range of work-related stressors to health care workers. **Objectives:** The proposal of this study was to examine associations between exposure to violence and common mental disorders among healthcare workers in emergency care settings during the Covid-19 in the city of São Paulo, Brazil. **Methods:** We randomly selected 2 emergency services. The General Health Questionnaire 12-item was used to evaluate common mental disorders among emergency room healthcare workers (n = 100). We investigated the relationships among common mental disorders and pandemic-related variables: availability of personal protective equipment, exposure to violence/ discrimination/harassment, and level of trust in workplace to handle the pandemic common mental disorders. We performed multivariate Poisson regression with robust variance to estimate prevalence ratios for common mental disorders. **Results:** 50% (95% CI = 39.8-60.1) of the participants presented common mental disorders. 71% reported being victim of at least one type of violence during the Covid-19 pandemic. Higher risk of common mental disorders was found among those who reported lack of personal protective equipment, being victim of discrimination, violence, or harassment; and who reported lower trust in the workplace to handle the pandemic. Participants exposed to two types and to three types of violence presented higher prevalence ratios, respectively, prevalence ratio 2,28 (95% CI = 1,23-4,21) and prevalence ratio 3,14 (95% CI = 1,62-6,08). Our findings indicate domains that may be crucial to mitigate to common mental disorders among healthcare workers in emergency room settings. **Conclusions:** It is crucial to promote access to personal protective equipment, to address mistreatment against healthcare workers, promote their well-being at work, and foster trust in the workplace to handle the pandemic.

Keywords: COVID-19; violence; health personnel; mental health.

Resumo

Introdução: A pandemia de Covid-19 trouxe uma nova gama de estressores relacionados ao trabalho para os profissionais de saúde. **Objetivos:** Esse estudo examina as associações entre a exposição à violência e os transtornos mentais comuns entre os profissionais de saúde durante as situações de emergência na pandemia de Covid-19 em São Paulo, Brasil. **Métodos:** Selecionamos aleatoriamente 2 serviços de emergência. O Questionário Geral de Saúde 12 foi utilizado para avaliar as transtornos mentais comuns entre os trabalhadores de saúde de urgência (n = 100). Investigamos as relações entre transtornos mentais comuns e variáveis relacionadas com a pandemia: disponibilidade de equipamento de proteção pessoal, exposição à violência/ discriminação/assédio, e nível de confiança no local de trabalho para lidar com a pandemia. Realizamos uma regressão multivariada de Poisson com uma variação robusta para estimar as razões de prevalência para transtornos mentais comuns. **Resultados:** 50% (95% CI = 39,8-60,1) dos participantes apresentaram transtornos mentais comuns. 71% relataram ter sido vítimas de pelo menos um tipo de violência durante a pandemia de Covid-19. Foi encontrado maior risco de transtornos mentais comuns entre aqueles que reportaram falta de equipamento de proteção pessoal, sendo vítimas de discriminação, violência, ou assédio; e que reportaram menor confiança no local de trabalho para lidar com a pandemia. Os participantes expostos a dois tipos e a três tipos de violência apresentaram razão de prevalência 2,28 (95% CI = 1,23-4,21) e razão de prevalência 3,14 (95% CI = 1,62-6,08) mais elevados, respectivamente. Os resultados indicam domínios que podem ser cruciais para mitigar os transtornos mentais comuns entre os trabalhadores da saúde. **Conclusões:** É crucial promover o acesso a equipamento de proteção pessoal, combater os maus tratos, promover o bem-estar e confiança no local de trabalho para lidar com a pandemia.

Palavras-chave: COVID-19; violência; pessoal de saúde; saúde mental.

INTRODUCTION

The Covid-19 pandemic brought a new range of work-related stressors to health care workers (HCWs)[1]. The high transmissibility of the SARS-CoV-2 virus resulted in an exponential increase in the number of cases in a short period of time, causing overcrowding in health services and work overload because of the number of patients requiring treatment and the need to cover for colleagues who were sick with Covid-19 and therefore away from work. In addition, these new stressors were magnified by the lack of personal protective equipment (PPE), the novelty of the disease, the fact that patients could quickly worsen and die, the depletion of health system resources, the need to decide which patients will receive limited resources and rapidly changing protocols[2,3].

High prevalence of depressive symptoms and anxiety among HCWs during the pandemic ranged from 17.9 to 36 and 22.2 to 33%, respectively[4]. However, few studies have evaluated the HCWs' mental health during the Covid-19 pandemic in Brazil. Moreover, rarely studies have evaluated the relationships between exposure to violence, discrimination and harassment and HCWs' mental health during the pandemic.

Prior to the pandemic, exposure to workplace violence among HCWs in the municipality of São Paulo was associated with depression. Among the 2,940 HCWs who participated in the PANDORA-SP study, 44.9% reported exposure to insults, 24.5% reported threats, 2.3% were victims of physical violence and 29.5% witnessed violent behaviors toward their coworkers; physicians had a higher risk of being threatened, and community health agents (CHAs) were more likely to witness violence at work. The risk for depression was higher for professionals who reported exposure to violence[5].

In the context of the Covid-19 pandemic, few studies have shown the occurrence of violence against health care workers. In July 2020, 265 attacks on health care workers related to Covid-19 were reported in 61 countries[6]. The types of violence to which HCWs were exposed were diverse and included threats, verbal and physical aggressions[7]. Some of the factors that exacerbated violence against these workers during this period were social isolation measures, limited access to health care, ineffective administrative policies and the

large number of deaths due to Covid-19, which generated fear, anxiety, irritation and panic in the population[8].

In addition, the misinformation and out-of-context quotes on social media about the dispersion of the SARS-CoV-2 virus also contributed to the worsening of the situation because they stigmatized health professionals as transmitters of the virus[8]. This increase in violence was deleterious because violence is associated with reduced quality of life[9] and increased rates of anxiety, depression, insomnia, self-harm and suicide[10]. Therefore, violence generates additive psychological damage among HCWs who are already overloaded, increasing the risk of common mental disorders (CMDs)[11]. It endangers the quality of HCWs' work and is associated with increased rates of absenteeism, and burnout[12,13].

Brazil is among the epicenters of the Covid-19 pandemic, and within Brazil the city of São Paulo is a major epicenter in terms of both cases and deaths[14]. In addition, because it is the largest urban centers in South America, the city of São Paulo has a high rate of urban violence that intensified during the pandemic, especially toward HCWs. We investigated CMDs among HCWs in emergency care units in the city of São Paulo and examined the relationships among pandemic-related factors (access to personal protective equipment – PPE-, exposure to discrimination/violence/harassment) and HCWs' mental health.

METHODS

Study design and participants

We analyzed the baseline of the COVID-19 Healthcare Workers study in the city of São Paulo (HEROES-SP). It is part of The COVID-19 Healthcare workers (HEROES) study, a longitudinal global initiative, that includes 26 countries[15]. We conducted an online survey in October and November 2020. The sample was obtained by randomly selecting 2 emergency care units in Region 1 of São Paulo (n=100). The response rate for HEROES-SP study was 39.3%.

Measures

The Spanish version of the HEROES questionnaire was translated to Portuguese and back-translated according to the World Health Organization's standard procedures[16].

Outcome

CMDs were assessed with the Brazilian version of the widely used General Health Questionnaire 12 (GHQ-12)[17]. It consists of 12 questions and detects the presence of nonpsychotic mental disorders, especially anxiety and depression, by investigating whether the respondent has recently experienced certain symptoms and behaviors. Half of the items are positively phrased (e.g., "During the past week, have you lost sleep due to being worried?"), whereas the other half is negatively phrased (e.g., "During the past week, have you felt capable of making decisions?"). All items are rated on a four-point Likert scale, ranging from 0 ("not at all"/ "much less than usual") to 3 ("(much) more than usual"). As in previous studies, some from Brazil, we used a score of 3 or higher to indicate CMDs.

Exposures

We assessed the following factors hypothesized to be related to CMDs: (1) level of access to PPE (sufficient, a little insufficient, much/very much insufficient); (2) experiences of mistreatment: discrimination ("I have felt discriminated due to being a health worker during the pandemic" [yes or no]), violence ("I have experienced violence due to being a health worker during the pandemic" [yes or no]), and harassment ("I have been harassed by family members of patients with COVID-19" [yes or no]); response options ranged from 0 to 3 types of violence; (3) job type (physician, nurse, nursing assistant, administrative staff, and other); (4) trust in workplace to handle COVID-19 pandemic (none, a little, and a lot).

Confounders

We considered the following sociodemographic variables as potential confounders: age (18–30, 30–40, 40 years or more), gender (female, male, other), and self-reported skin color (white, black, brown, and other).

Statistical analysis

We used Poisson regression analyses with robust variance estimates to obtain prevalence ratios (PRs) for relationships between the exposures and CMDs among participants. This type of regression was selected to minimize overestimation of the associations given that the outcome was frequent in our sample[18]. Stata version 14.0 (StataCorp LP, College Station, TX) was used in conducting all our analyses.

Ethical considerations

The project was approved by the Research Ethics Committee of the Municipal Health Secretariat of the municipality of São Paulo (number: 4,160,385), by the Research Ethics Committee of the Pan American Health Association (number: PAHOERC.0208.02) and the National Research Ethics Commission (number: 4,160,552). All health professionals invited to participate in the study were informed about its objectives and procedures. Those who agreed to participate signed an informed consent form that guaranteed the confidentiality of information and the participant's right to withdraw consent at any time during the study.

For HEROES, a Web-based platform is being used to collect data across countries. This platform is akin to REDCap in terms of protection and data management. As a means of guaranteeing confidentiality, each participant is issued an identification number created by a code system. Access to the system is restricted to personnel with credentials defined by the study's steering committee.

RESULTS

50% (95% CI = 39.8-60.1) of HCWs presented CMDs. Most participants were women (78%). In terms of pandemic-related factors, 43% of the participants had insufficient access to PPE, 50% reported to have a lot of trust in the workplace to handle the pandemic, and 71% of the participants reported having experienced at least one type of mistreatment (Table 1). Stigma was the type of mistreatment more frequently reported by the participants (Figure 1).

Table 1. Distribution of participants according to sociodemographic and work characteristics, exposure to violence in the context of the Covid-19 pandemic and common mental disorders. Study HEROES. São Paulo, Brazil

		CMD	
	Total	**No**	**Yes**
	n (%)	n (%)	n (%)
Sex			
Woman	78 (78.0)	39 (50.0)	39 (50.0)
Men	21 (21.0)	11 (52.4)	10 (47.6)
Age			
18-30 years	35 (38.0)	18 (51.4)	17 (48.6)
30-40 years	40 (43.5)	20 (50.0)	20 (50.0)
40 years or more	17 (18.5)	8 (47.1)	9 (52.9)
Skin color (self-reported)			
White	48 (48.0)	25 (52.1)	23 (47.9)
Black	16 (16.0)	8 (50.0)	8 (50.0)
Brown	32 (32.0)	16 (50.0)	16(50.0)
Other	4 (4.0)	1 (25.0)	3 (75.0)
Job type			
Nursing assistant	34 (34.0)	20 (58.8)	14 (41.2)
Nurse	15 (15.0)	6 (40.0)	9 (60.0)
Physician	4 (4.0)	1 (25.0)	3 (75.0)
Administration	31 (31.0)	13 (41.9)	18 (58.1)
Other*	16 (16.0)	10 (62.5)	6 (37.5)

Access to PPE			
Sufficient	57(57.0)	33 (57.9)	24 (42.1)
Insufficient	43 (43.0)	17 (39.5)	26 (60.5)
Trust in the workplace to handle the pandemic			
None	16 (16.0)	3 (18.7)	13 (81.3)
A little	34 (34.0)	14 (41.2)	20 (58.8)
A lot	50 (50.0)	33 (66.0)	17 (34.0)
Exposure to mistreatment			
None	29 (29.0)	18 (62.1)	11 (37.9)
Exposure to one type	33 (33.0)	22 (66.7)	11 (33.3)
Exposure to two types	26 (26.0)	8 (30.7)	18 (69.3)
Exposure to three types	12 (12.0)	2 (16.7)	10 (83.3)

CMD: common mental disorders; PPE: personal protective equipment; Other*: laboratory and radiology technicians

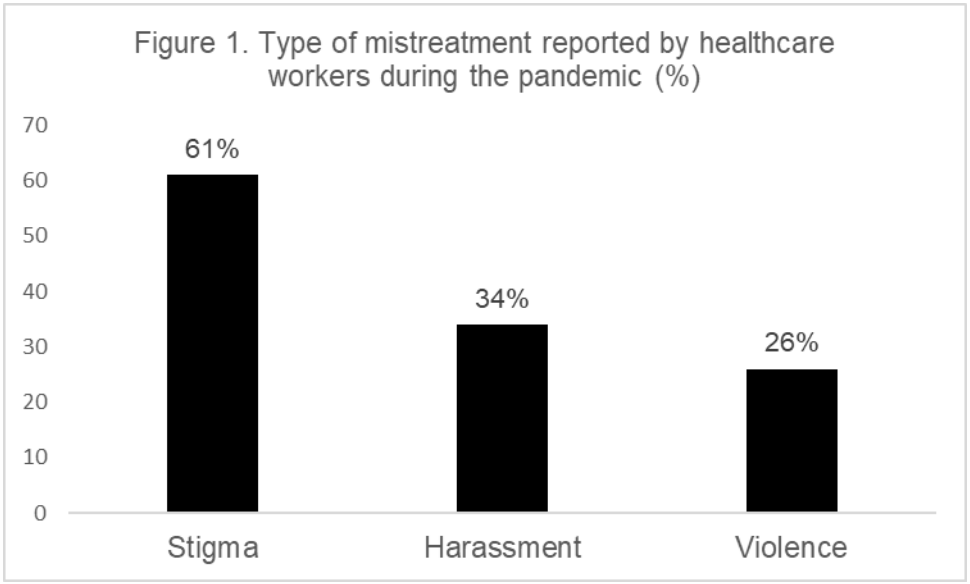

Figure 1. Type of mistreatment reported by healthcare workers during the pandemic (%).

The variables associated with CMDs in professionals working in the UPAs were as follows: age group, participants aged 40 years or older (adjusted PR = 1.89; 95% CI = 1.01-3.55), degree of confidence in the ability of the workplace to cope with the Covid-19 pandemic (highest degree of confidence, adjusted PR = 0.43; 95% CI = 0.24-0.74), and exposure to violence/discrimination as a result of being a health worker in the context of the Covid-19 pandemic or harassment by patients' family members. The participants who reported exposure to more types of aggression had a higher odds ratio of CMD; thus, we observed that the risk was 2.28 higher for those who reported exposure to 2 types of aggression and 3 times higher for those who reported exposure to all 3 types (Table 2).

Table 2. Associations between participant characteristics, variables related to the context of the COVID-19 pandemic and common mental disorders. Study HEROES. São Paulo, Brazil

	CMDs			
	Crude PR (IC95%)	**p**	**Adjusted PR (IC95%)**	**p**
Gender				
Woman	1		1	
Men	1,00 (0.62- 1.60)	1,00	1,11 (0.70 - 1.73)	0.64
Age				
18-30 years	1		1	
30-40 years	1.14 (0.72 - 1.79)	0.90	1,24 (0.77 - 2,01)	0.36
40 years or more	1.14 (0.66 - 1.95)	0.76	1,89 (1,01 - 3,55)	0.04

Skin color (self-reported)				
White	1		1	
Black	1,04 (0.58 - 1.85)	0.88	1.07 (0.61 - 1,88)	0.79
Brown	1.04 (0.66 - 1,64)	0.18	1,40 (0.85 - 2,30)	0.17
Other	1,56 (0.82 - 2,97)	0,17	1,63 (0.67 - 3,95)	0.27
Profession				
Nursing technician	1		1	
Nurse	1.45 (0.81 - 2.60)	0.20	1,60 (0.91 - 2,82)	0.10
Physician	1.82 (0.90 - 3.65)	0.09	1,80 (0.97 - 3,35)	0.06
Administration	1.41 (0.85 - 2.33)	0.18	1,67 (0,95 - 2,92)	0.07
Other	0.91 (0.42 - 1.93)	0.80	1.15 (0.58 - 2,29)	0.67
Access to PPE				
Sufficient	1		1	
Insufficient	1.43 (0.97 - 2.12)	0.07	0.87 (0.54 - 1,42)	0.59
Trust in the workplace				
None	1		1	
Low	0,72 (0,50-1,04)	0.08	0,99 (0,57-1,74)	0.99

A lot	0,41 (0,26-0,65)	<0,001	0,43 (0,24-0,74)	0,003
Exposure to discrimination/stigma and violence				
None	1		1	
Exposure to one type	0,87 (0,44-1,72)	0.70	1,25 (0.61- 2,53)	0.52
Exposure to two types	1,82 (1,06-3,11)	0,02	2,28 (1,23-4,21)	0,008
Exposure to three types	2,19(1,28-3,74)	0,004	3,14 (1,62-6,08)	<0,001

CMD: common mental disorders; PPE: personal protective equipment; PR: prevalence ratio. Model adjusted according to Poisson regression with robust variance

DISCUSSION

We found a higher prevalence of CMDs than that reported in other studies conducted during the pandemic. The present study found CMDs in 50% of the participants; in Italy, the prevalence was 33.5%[19]. Furthermore, studies conducted during other pandemics also revealed lower rates of CMDs. In Canada, during SARS in 2003, the prevalence of CMDs was 29% among hospital workers[20]. Studies conducted in Brazil before the pandemic also reported lower rates of CMD than the present study. In 2006, a study conducted in the city of Botucatu, São Paulo described that 42.6% of HCWs had CMDs[12]. Thus, as the rate of CMDs observed in this study was higher than that of other studies in different contexts, it can be concluded that the Covid-19 pandemic in Brazil strongly influenced the mental health of frontline workers. Some reasons for the increase in CMDs during the pandemic are the increased number of cases, overwork, lack of PPE, lack of medications and adequate protocols for the treatment of the virus and widespread media coverage[2,3].

The variables that were associated with increased risk of CMD were exposure to violence as a result of being a health worker in the context of the pandemic (including

experiencing discrimination, insults or aggression), age group and degree of confidence in the ability of the workplace to cope with the Covid-19 pandemic. Approximately 73% of the participants with CMDs experienced any type of violence during the COVID-19 pandemic. Violence at work has been frequently reported by HCWs, and it has affected their mental health[5]. It is a complex multifaceted phenomenon, that gain other trigger components during the pandemic[21].

Discrimination and violence against health professionals intensified during the COVID-19 pandemic. According to the International Committee of the Red Cross (ICRC), 611 violent incidents were recorded between February and July 2020, of which 67% were against health professionals around the world[21]. These violent incidents occurred mainly in countries with a lower average income, such as India, a country that experienced a high frequency of such incidents[22], motivated primarily by feelings of fear of contracting the disease from health professionals, anxiety, restlessness and despair among the population.

The violence and discrimination that health professionals experience causes psychological damage, which not only affects their mental health but promotes the development of mental illnesses such as CMDs, characterized by the manifestation of somatic, anxious and depressive symptoms[23], and impacts the quality of their professional performance[11]. A study conducted with health workers in Xi'an and Wuhan, China, found that during the pandemic, more than 50% of health professionals experienced some type of psychological stress[24].

The association between exposure to violence and discrimination and the development of CMDs showed that having experienced discrimination increased the risk of developing CMDs by 2.5 and having experienced violence increased the risk of developing CMDs by approximately 2. The more types of violence the respondents were exposed to, the greater their risk of developing CMDs; the risk was 2.28 times higher in HCWs who were exposed to 2 types of violence and 3.14 times higher in professionals who were exposed to 3 types. Physicians are the health professionals with the highest risk of presenting CMDs.

We found that doctors, administration professionals and nurses had an increased risk of exposure to violence. One hypothesis is that patients and family members view doctors and nurses as government representatives in the health system and blame them for problems

related to the scarcity of resources in the health system[5]. During the Covid-19 pandemic, the collapse of the health system[25] in terms of the scarcity of ICU beds, sedatives for intubation and oxygen, may have motivated violent and aggressive attitudes toward health professionals among patients' family members[5], who blamed HCWs for the resulting problems. In addition, the population regarded HCWs as responsible for disseminating the disease[26].

Violence against HCWs has been escalating during the Covid-19 pandemic. Menon et al.[22] noted that the spread of misinformation on Covid-19 has increased fear of HCWs as potential sources of infection. In Brazil, the national government has contributed to spread misinformation about the pandemic[14,27]. The government discredited public health measures and medical scientific-based practices[28], creating feelings of insecurity in the population. It might have contributed to increase violence against HCWs. Exposure to mistreatment has been associated with higher levels of anxious and depressive symptoms among HCWs. Studies conducted during the pandemic in other countries, especially low- and middle-income countries, have revealed similar experiences among health workers[10,29].

Trust in the workplace to handle the Covid-19 pandemic had a protective effect on the mental health of HCWs, the greater their confidence in the workplace was, the lower their risk of presenting CMDs. The risk of developing CMDs was more than twice as high among HCWs who reported having no or little confidence in the workplace relative to the 0.43 risk among those who reported having confidence in the workplace. These data can be explained by the social support of supervisors and coworkers, the workplace infrastructure and the presence of the basic inputs necessary to adequately provide health services in the health unit.

Such factors can be considered protective of health professionals' mental health because they indicate a better relationship among the health care team, adequate institutional support and less dissatisfaction among patients and family members with the services provided, which may reduce violent attitudes toward HCWs. The study was conducted in one of the largest urban centers in the country, the city of São Paulo, where there is greater investment in health and a better health infrastructure than in the interior of the country, in rural areas and in areas that are distant from large urban centers. In such locations, the protective effect of confidence in the workplace may not be as prevalent, and the incidence of

exposure to mistreatment experienced by HCWs may be higher or more underreported than in the present study.

Among the limitations of the study are the cross-sectional design, which did not allow an analysis of cause-and-effect relationships, and the setting of a large urban center, which limits the applicability of the results to contexts other than urban areas. The prevalence of exposure to violence may have been underestimated because HCWs may not report episodes due to stigma or shame[30].

CONCLUSIONS

Our results reinforce the need to take protective measures against mistreatment toward HCWs, since the increase in the rate of CMDs among this group during the pandemic was directly related to exposure to violence. First, the media and social networks should endeavor to educate the population about the pandemic through awareness and reliable information campaigns that are easily accessible[7], since misinformation about health professionals made them more vulnerable to violence. Second, as trust in the workplace proved to be a protective factor, health managers should propose strategies that strengthen the HCWs' bonds with the institutions where they work, reduce conflicts and promote communication[5].

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