

Violence against health personnel before and during the COVID-19 pandemic

Jorge Luiz Lozinski Musse^{1,2*} , Fernanda Cristina Coelho Musse^{1,2} , Sandra Marisa Pelloso^{1,2} ,
Maria Dalva de Barros Carvalho^{1,2} 

SUMMARY

OBJECTIVE: Violence in the workplace has been an alarming phenomenon around the world. The aim of this study was to analyze the frequency of violence against health personnel in urgent and emergency departments, before and during the COVID-19 pandemic.

METHODS: This is an exploratory cross-sectional study including a structured online survey with the approval of the Research Ethics Committee. The sample was composed of health personnel over 18 years old who work in urgent and emergency departments. The survey was structured with sections: sociodemographic data, detailing of occupational data, and a survey of physical, verbal, sexual, and racial violence. Descriptive statistics included absolute frequencies and percentages for categorical variables and means with standard deviation for continuous variables.

RESULTS: A total of 114 participants, aged between 20 and 60 years, answered the questionnaire; 68.4% of them were women. Most of them were white (71.9%), married or living with a partner (70.2%), residing in the south or southeast regions (85.1%) of Brazil, 56.1% doctors, 11.4% nurses, and 12.3% nursing technicians. The incidence of violence before the COVID-19 pandemic was 60%. During the pandemic, the incidence suffered low variation, being 57.9%. Only 37.7% said that their workplace offers some procedure/routine to report acts of violence suffered at work. Verbal violence was the most reported among the participants. Anxiety, tiredness, fear, low self-esteem, loss of concentration, and stress are the most frequent consequences of aggression.

CONCLUSION: Our results suggest that the COVID-19 pandemic did not potentiate the episodes of violence; however, episodes of violence continue to occur, and so management and prevention measures must be implemented.

KEYWORDS: Aggression. COVID-19. Emergency service, hospital. Health personnel.

INTRODUCTION

Violence in the workplace has been an alarming phenomenon around the world, with health personnel working in urgent and emergency departments at greater risk of suffering aggression^{1,2,3,4}. Emergency department health personnel are frequent victims of violence perpetrated by visitors and patients, resulting in injuries, acute stress, and loss of productivity³. Violence against health personnel is a complex problem, and rigorous research is lacking to address this issue^{5,6,7,8}.

In 2020 and 2021, with the explosion of the COVID-19 pandemic—in which a new virus with high morbidity and mortality and still untreated profoundly modified human relationships—health personnel figured as heroes amid the initial health demands⁹. On the contrary, as months passed and less was known about COVID-19 treatments, the appreciation for the efforts and contributions of doctors, nurses, and other health personnel began to aggravate the population's distrust of these professionals, with the emergence of reports of increased violence against them^{10,11,12}.

According to the World Health Organization (WHO), approximately 8–38% of health personnel experienced physical violence prior to the COVID-19 pandemic, with a much higher number of reports of verbal abuse or various threats⁷. There is a lack of data in scientific research on the incidence and characteristics of injuries suffered within this complex occupational problem before and currently during the beginning of the pandemic.

The objective of this study was to analyze the frequency of violence against health personnel in urgent and emergency departments in Brazil, before and during the COVID-19 pandemic, in order to be an instrument for health management systems that work in the planning of care for health personnel.

METHODS

This study was registered on Plataforma Brasil under the number 40969320.0.0000.0104 and approved by the Ethics and

¹Universidade Estadual de Maringá, Faculty of Medicine, Health Sciences Program – Maringá (PR), Brazil.

²Centro Universitário Ingá, Faculty of Medicine – Maringá (PR), Brazil.

*Corresponding author: jorgemusse@gmail.com

Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.

Received on March 04, 2022. Accepted on July 31, 2022.

Research Committee of the State University of Maringá—Paraná—Brazil, number 4.473.891 on December 18, 2020.

Participants and procedures

The sample was composed of participants over 18 years old who work in urgent and emergency departments. Participants were invited to respond to an online survey entitled “Survey with health personnel.” The access link to the structured questionnaire, along with the free and informed consent form, was released on social media between February and May 2021. Initially, the access link to the survey was launched for groups of family members, students, members of churches, multidisciplinary health groups, teachers, a group of daycare parents, and several other groups that replicated the link through Facebook and other social networks. The survey included questions subdivided into seven sections. Participation was voluntary and anonymous, through an online Google Form. Individuals were able to actively participate and invite other participants, either by individual or collective calls (broadcast groups).

Study design and instruments

This is an exploratory cross-sectional study including a structured survey developed by the researchers.

The survey was structured with the following sections: (1) adherence to the survey, (2) selection of participants with occupation in urgent and emergency departments, (3) sociodemographic data, (4) detailing of occupational data, (5) workplace physical violence, (4) workplace verbal violence, (6) workplace sexual violence, and (7) workplace racial violence.

Participants were asked about episodes of violence at work before the COVID-19 pandemic and whether there were changes in the frequency and types of violence suffered after the start of the pandemic. In case of violence, details of the episode were requested, such as the use of weapons or other instruments in the violent act, whether the event was common in the workplace, who would have attacked them (patient, companion, co-worker, superiors/management, and others), the sex of the aggressor, the time close to the event and the day of the week it happened, and the consequences of the aggression suffered.

Statistical analysis

Descriptive statistics included absolute frequencies and percentages for categorical variables and means with standard deviation for continuous variables. To compare proportions and test associations between groups, the chi-square test was used. Analyses were performed with IBM SPSS Statistics, version 26¹³.

RESULTS

Sample characteristics

A total of 144 Brazilian participants answered the questionnaire, considering 114 participants in the studied sample who had occupational positions in urgent and emergency departments. Most of them were between 30 and 39 years old, and 68.4% were women. Most of them were white (71.9%), married or living with a partner (70.2%), residing in the south or southeast regions (85.1%) of Brazil, and declared themselves as Christians (71%). Just over 70% receive more than five salaries; 64% have postgraduate/residence education, with less than 2% having only elementary education. Doctors totaled 56.1% of respondents, 11.4% nurses, and 12.3% nursing technicians. One-third have between 1 and 5 years of experience in urgent and emergency services, and 28.9% have between 6 and 10 years of experience. Workers in public hospitals totaled 45.6%, 36.8% work in the public and private sectors, and only 16.7% work only in the private sector; 39.5% work between 21 and 40 h/week, 23.7% work up to 20 h/week; and 48.2% work in the day and night shifts, which account for 28.1% of respondents (Tables 1 and 2).

Procedure/routine for reporting acts of violence

Only 43 (37.7%) said that their workplace offers some procedure/routine to report acts of violence suffered at work. Of these, only 25 (58.1%) know how to use the procedure/routine in episodes of violence. Of those interviewed, 68.4% said there was no encouragement to report violence in the workplace, and of the 36 who reported some encouragement, only 15 (41.7%) indicated their manager as encouraging.

Episodes of violence before and during the COVID-19 pandemic

The incidence of violence against health personnel in urgent and emergency departments evaluated before the COVID-19 pandemic was around 60%. During the pandemic, the incidence suffered less variation, being 57.9% in the analyzed data. This ratio changed slightly before and during the pandemic, and to see if this change was significant, we ran a two-ratio comparison test. A test for comparing two proportions was generated ($Z=0.2691$, $p=0.7879$), indicating that the proportion of violence against professionals before the pandemic is the same as the proportion of violence during the COVID-19 pandemic.

Before the pandemic, 68 participants remember having suffered some types of violence; during the pandemic, this number drops to 66 participants. Note that the types of violence

remain close, with verbal violence being the most reported among the participants, occurring either alone or in combination with other types of aggression. The report of sexual, physical, or racial violence was infrequent. Anxiety, tiredness, fear, low self-esteem, loss of concentration, and stress are the most frequent consequences of aggression both before and during the COVID-19 pandemic. The time and gender characteristics of the aggressor are listed in Table 3.

DISCUSSION

This is one of the first studies to analyze episodes of violence against health personnel from urgent and emergency departments before and during the COVID-19 pandemic in a Brazilian sample. The main results found were maintenance of the frequency of violence against health personnel in urgent and emergency departments before and during the pandemic, however, with high numbers of aggressions suffered, especially

Table 1. Types of violence against health personnel before the COVID-19 pandemic by sociodemographic data.

	Episode of violence N (%)		Verbal violence N (%)	Physical violence N (%)	Sexual violence N (%)	Racial violence N (%)
	Yes	No				
Gender (N=113) ^a						
Women	49 (62.8)	29 (37.2)	43 (55.1)	0 (0.0)	2 (2.6)	2 (2.6)
Men	18 (51.4)	17 (48.6)	13 (37.1)	1 (2.9)	0 (0.0)	0 (0.0)
Age (N=113) ^a						
20–29	8 (53.3)	7 (46.7)	6 (40.0)	0 (2.0)	1 (6.7)	1 (6.7)
30–39	36 (70.6)	15 (29.4)	30 (58.8)	1 (0.0)	0 (0.0)	1 (2.0)
40–49	14 (60.9)	9 (39.1)	11 (47.8)	0 (0.0)	0 (0.0)	0 (0.0)
50–59	6 (37.5)	10 (62.5)	6 (37.5)	0 (0.0)	1 (6.3)	0 (0.0)
60 or above	3 (37.5)	5 (62.5)	3 (37.5)	0 (0.0)	0 (0.0)	0 (0.0)
Ethnicity (N=113) ^a						
White	51 (62.2)	31 (37.8)	45 (54.9)	0 (0.0)	1 (1.2)	1 (1.2)
Brown	15 (55.6)	12 (44.4)	10 (37.0)	1 (3.7)	0 (0.0)	1 (3.7)
Other	1 (33.3)	2 (66.7)	1 (33.3)	0 (0.0)	1 (33.3)	0 (0.0)
Marital status (N=114)						
Single	13 (54.2)	11 (45.8)	12 (50.0)	0 (0.0)	1 (4.2)	0 (0.0)
Married	37 (56.9)	28 (43.1)	33 (50.8)	0 (0.0)	1 (1.5)	1 (1.5)
Living together	12 (80.0)	3 (20.0)	7 (46.7)	0 (0.0)	0 (0.0)	1 (6.7)
Other	5 (55.6)	4 (44.4)	4 (44.4)	1 (11.1)	0 (0.0)	0 (0.0)
Region of Brazil (N=114)						
South	40 (63.5)	23 (36.5)	35 (55.6)	0 (0.0)	1 (1.6)	2 (3.2)
Southeast	21 (61.8)	13 (38.2)	16 (47.1)	1 (2.9)	1 (2.9)	0 (0.0)
Midwest	2 (33.3)	4 (66.7)	1 (16.7)	0 (0.0)	0 (0.0)	0 (0.0)
North	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Northeast	4 (50.0)	4 (50.0)	4 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)
Religion (N=114)						
No religion	9 (56.3)	7 (43.7)	5 (37.3)	0 (0.0)	0 (0.0)	1 (6.3)
Catholic	40 (61.5)	25 (38.5)	35 (53.8)	1 (1.5)	2 (3.1)	1 (1.5)
Evangelical	9 (56.3)	7 (43.7)	8 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)
Kardecism	8 (57.1)	6 (42.9)	8 (57.1)	0 (0.0)	0 (0.0)	0 (0.0)
Afro-Brazilian traditions	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Other	1 (50.0)	1 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

One participant did not respond about gender, age, and ethnicity.

verbal aggression, and the fact that a minority of workplaces were cited as offering some procedure/routine to report acts of violence suffered at work.

At the start of the COVID-19 pandemic, healthcare workers figured as heroes amid initial healthcare demands⁹. On the contrary, as months passed and less was known about COVID-19 treatments, the appreciation for the efforts and contributions of doctors, nurses, and other health personnel

began to aggravate the population's distrust of these professionals, with the emergence of reports of increased violence against them^{10,11,12}. Devi et al.¹² reinforced an exacerbation of violence with the COVID-19 pandemic, reporting a case in Bangladesh where bricks were thrown at a doctor's home after he tested positive for COVID-19 and that a team of health care workers was verbally and physically attacked after a patient died from COVID-19¹².

Table 2. Types of violence against health personnel during the COVID-19 pandemic by sociodemographic data.

	Episode of violence N (%)		Verbal violence N (%)	Physical violence N (%)	Sexual violence N (%)	Racial violence N (%)
	Yes	No				
Gender (N=113)						
Women	48 (61.5)	30 (38.5)	47 (60.2)	6 (7.7)	5 (6.4)	4 (5.1)
Men	17 (48.6)	18 (51.4)	17 (48.6)	4 (11.4)	0 (0.0)	0 (0.0)
Age (N=113)						
20–29	10 (66.7)	5 (33.3)	10 (66.7)	2 (13.3)	2 (13.3)	1 (6.7)
30–39	34 (66.7)	17 (33.3)	33 (64.7)	4 (7.8)	3 (5.9)	1 (2.0)
40–49	12 (52.1)	11 (47.9)	12 (52.2)	4 (17.4)	0 (0.0)	1 (4.4)
50–59	6 (37.5)	10 (62.5)	6 (37.5)	0 (0.0)	0 (0.0)	1 (6.3)
60 or above	3 (37.5)	5 (62.5)	3 (37.5)	0 (0.0)	0 (0.0)	0 (0.0)
Ethnicity (N=113)						
White	48 (58.5)	34 (41.5)	48 (58.5)	7 (8.5)	3 (3.7)	1 (1.2)
Brown	17 (63.0)	10 (37.0)	16 (59.3)	3 (11.1)	2 (7.4)	3 (11.1)
Other	0 (0.0)	4 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Marital status (N=113)						
Single	15 (62.5)	9 (37.5)	15 (62.5)	2 (8.3)	2 (8.3)	0 (0.0)
Married	35 (53.9)	30 (46.1)	35 (53.9)	5 (7.7)	2 (3.1)	1 (1.5)
Living together	11 (73.3)	4 (26.7)	11 (73.3)	3 (20.0)	0 (0.0)	1 (6.7)
Other	4 (44.4)	5 (55.6)	3 (33.3)	0 (0.0)	1 (11.1)	2 (22.2)
Region of Brazil (N=113)						
South	36 (57.1)	27 (42.9)	35 (55.6)	7 (11.1)	3 (4.8)	3 (4.8)
Southeast	18 (52.9)	16 (47.1)	18 (52.9)	3 (8.8)	1 (2.9)	1 (2.9)
Midwest	5 (83.3)	1 (16.7)	5 (83.3)	0 (0.0)	1 (16.7)	0 (0.0)
North	2 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)
Northeast	4 (50.0)	4 (50.0)	4 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)
Religion (N=113)						
No religion	10 (62.5)	6 (37.5)	9 (56.3)	1 (6.3)	1 (6.3)	2 (12.5)
Catholic	37 (56.9)	28 (43.1)	37 (56.9)	6 (9.5)	3 (4.6)	1 (1.5)
Evangelical	7 (43.8)	9 (56.20)	7 (43.8)	2 (12.5)	1 (6.3)	0 (0.0)
Kardecism	11 (78.6)	3 (21.4)	11 (78.6)	1 (7.1)	0 (0.0)	1 (7.1)
Afro-Brazilian traditions	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Other	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

One participant did not respond about data during the pandemic.

Table 3. Characteristics of episodes of violence during the COVID-19 pandemic.

Characteristics of episodes of violence	Absolute number of occurrences
Aggressor's sex	
Even if the victim	49
Opposite sex of victim	50
Time of day	
Morning	34
Afternoon	35
Night	31
Dawn	12
Day of the week	
Monday to Friday	35
Weekend (Saturday and Sunday)	9
Do not remember	34

These studies have led to increased research on the situation of violence against health personnel during the pandemic. In our research, the frequency of violence before and during the pandemic in urgent and emergency departments against health personnel did not change.

In 2019, in a systematic review and meta-analysis, with 253 pre-pandemic studies of COVID-19, that sought to evidence the prevalence rates of violence provoked by patients and visitors against health personnel, the authors found 61.9% of exposure reports to any form of violence⁴. The frequency of violence before and after the pandemic was very close in our study. We also found the highest number of reports among doctors and nurses with reports of aggression among professionals in urgent and emergency departments⁴.

A pre-pandemic study with health personnel in Turkey, using the online Health Sector Workplace Violence Case Study Questionnaire, with a sample of 447 participants including doctors, nurses, and emergency technicians, found that 36.7% of participants reported exposure to physical violence and 88.8% reported exposure to verbal abuse, at least once during their working life². Our data suggested high percentages but lower than those observed in Turkey, even before the pandemic. On the other hand, in this study, the authors also found that the performance of management with support for employees made them safer in their workplaces, contrary to our Brazilian study, in which participants did not feel stimulated by management, which could be a fact of the perpetuation of violence in our midst².

Palma et al.¹⁴ in a systematic review on occupational violence in the health area, pre-COVID-19 pandemic, with

23 articles in the analysis, concluded that the facilitators of violence against health personnel are related to the nature of work, and the consequences most commonly studied are related to the mental health of health personnel¹⁴. The report of sexual, physical, or racial violence was infrequent in our study, and, in fact, anxiety, tiredness, fear, low self-esteem, loss of concentration, and stress appeared more frequently as consequences of aggression for both before and during the pandemic.

The limitations of this study refer to selection bias. We describe a nonprobabilistic sample that included mainly women who responded to an online survey. It is possible that men are underrepresented. The other potential limitation is memory bias, where participants need to recall past and present episodes of violence.

CONCLUSION

Our results suggest that the COVID-19 pandemic did not potentiate the episodes of violence suffered by health personnel in urgent and emergency departments; however, episodes of violence continue to occur, and so prevention measures must be implemented.

ETHICAL ASPECTS

We certify that this manuscript represents an original study and that neither it, in part or in full, nor any other study with substantially similar content has been published or is being considered for publication in another journal, whether in print or in online electronic format.

This study was registered on Plataforma Brasil under the number 40969320.0.0000.0104 and approved by the Ethics and Research Committee of the State University of Maringá—Paraná—Brazil, number 4.473.891 on December 18, 2020.

AUTHORS' CONTRIBUTIONS

JLLM: Conceptualization, Data curation, Formal Analysis, Resources, Writing – original draft, Writing – review & editing. **FCCM:** Conceptualization, Data curation, Formal Analysis, Resources, Writing – original draft, Writing – review & editing. **SMP:** Conceptualization, Data curation, Formal Analysis, Resources, Writing – original draft, Writing – review & editing. **MDBC:** Conceptualization, Data curation, Formal Analysis, Resources, Writing – original draft, Writing – review & editing.

REFERENCES

1. D'Ettoire G, Pellicani V, Mazzotta M, Vullo A. Preventing and managing workplace violence against healthcare workers in Emergency Departments. *Acta Biomed.* 2018;89(4-S), 28-36. <https://doi.org/10.23750/abm.v89i4-S.7113>
2. Hamzaoglu N, Türk B. Prevalence of physical and verbal violence against health care workers in Turkey. *Int J Health Serv.* 2019;49(4):844-61. <https://doi.org/10.1177/0020731419859828>
3. Kowalenko T, Gates D, Gillespie GL, Succop P, Mentzel TK. Prospective study of violence against ED workers. *Am J Emerg Med.* 2013;31(1):197-205. <https://doi.org/10.1016/j.ajem.2012.07.010>
4. Liu J, Gan Y, Jiang H, Li L, Dwyer R, Lu K, et al. Prevalence of workplace violence against healthcare workers: a systematic review and meta-analysis. *Occup Environ Med.* 2019;76(12):927-37. <https://doi.org/10.1136/oemed-2019-105849>
5. Rodríguez-Bolaños R, Cartujano-Barrera F, Cartujano B, Flores YN, Cupertino AP, Gallegos-Carrillo K. The urgent need to address violence against health workers during the COVID-19 pandemic. *Med Care.* 2020;58(7):663. <https://doi.org/10.1097/MLR.0000000000001365>
6. Phillips JP. Workplace violence against health care workers in the United States. *N Engl J Med.* 2016;374(17):1661-9. <https://doi.org/10.1056/NEJMra1501998>
7. Singh M. Intolerance and violence against doctors. *Indian J Pediatr.* 2017;84(10):768-73. <https://doi.org/10.1007/s12098-017-2435-9>
8. Heckemann B, Zeller A, Hahn S, Dassen T, Schols JM, Halfens RJ. The effect of aggression management training programmes for nursing staff and students working in an acute hospital setting. A narrative review of current literature. *Nurse Educ Today.* 2015;35(1):212-9. <https://doi.org/10.1016/j.nedt.2014.08.003>
9. McKay D, Heisler M, Mishori R, Catton H, Kloiber O. Attacks against health-care personnel must stop, especially as the world fights COVID-19. *Lancet.* 2020;395(10239):1743-5. [https://doi.org/10.1016/S0140-6736\(20\)31191-0](https://doi.org/10.1016/S0140-6736(20)31191-0)
10. Gan Y, Chen Y, Wang C, Latkin C, Hall BJ. The fight against COVID-19 and the restoration of trust in Chinese medical professionals. *Asian J Psychiatr.* 2020;51:102072. <https://doi.org/10.1016/j.ajp.2020.102072>
11. Mello MM, Greene JA, Sharfstein JM. Attacks on Public Health Officials During COVID-19. *JAMA.* 2020;324(8):741-2. <https://doi.org/10.1001/jama.2020.14423>
12. Devi S. COVID-19 exacerbates violence against health workers. *Lancet.* 2020;396(10252):658. [https://doi.org/10.1016/S0140-6736\(20\)31858-4](https://doi.org/10.1016/S0140-6736(20)31858-4)
13. IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.
14. Palma A, Ansoleaga E, Ahumada M. Violencia laboral en trabajadores del sector salud: revisión sistemática [Workplace violence among health care workers]. *Revista medica de Chile.* 2028;146(2):213-2. <https://doi.org/10.4067/s0034-98872018000200213>

