Acta Biomed 2024; Vol. 95, N. 5: e2024155 DOI: 10.23750/abm.v95i5.16296 © Mattioli 1885

Original article

Workplace violence against doctors and dentists and their opinion during the pandemic

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Abstract. *Background and aim:* HCWs are particularly susceptible to diverse forms of workplace violence (WPV), and the COVID-19 pandemic has significantly altered the landscape of healthcare delivery, potentially influencing the dynamics of violence in healthcare settings. Many studies are about nurses but only few studies investigate WPV among doctors and dentists. This study sought to assess the phenomenon of WPV against doctors and dentists during the pandemic (type, characteristics of the aggressor, the victim, and the setting, subsequent actions) and to evaluate the opinions of the HCWs on the role of the pandemic on the WPV. *Methods:* An online survey was conducted from February to May 2022 among physicians and dentists registered with any medical board in Lombardy, the Italian region most affected by the pandemic. The survey included questions on demographic information, experiences of WPV in the past 12 months, and views on the pandemic's impact on WPV. *Results:* Out of 1,295 respondents, 38.2% reported experiencing WPV, predominantly verbal harassment and threats, mainly from patients and their relatives. Incidents were more frequent on weekdays and in the afternoon. A significant portion of HCWs believed that the COVID-19 pandemic contributed to an increase in WPV. *Conclusions*: The findings call for the implementation of targeted interventions, including improved communication training, enhanced support and reporting mechanisms, organizational changes to mitigate the risk factors for violence, and personal defense tools. (www.actabiomedica.it)

Key words: workplace violence, WPV, HCWs, healthcare workers, COVID-19

Introduction

Workplace violence (WPV) against healthcare workers (HCWs) is a significant and escalating global concern, impacting individual safety, well-being, and the capacity to perform duties (1,2). HCWs are particularly susceptible to diverse forms of WPV. This issue is globally recognized and has generated extensive scientific literature, underscoring its severity and prevalence (1,3–24). The COVID-19 pandemic has significantly altered the landscape of healthcare delivery, potentially influencing the dynamics of violence in healthcare settings (8,10,12,14,18,25–27).

WPV encompasses a broad spectrum of negative behaviors or actions in relationships, marked by aggression that can be recurrent and/or unexpected. The World Health Organization (WHO) defines WPV in the health sector as "incidents where staff are abused, threatened, or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being, or health" (28). In healthcare, third parties, mainly patients, their relatives, or visitors, often perpetrate such violence (7,15,20). The terminology surrounding violence is extensive, including abuse, assault, threats, harassment, sexual harassment, racial

harassment, and bullying or mobbing, each carrying its own connotations and implications (28,29).

Quantifying the prevalence and specifics of workplace violence, particularly in the healthcare sector, is challenging due to underreporting and ineffective census systems (1,7,8,10,12,16,19,23,24). Nevertheless, data from international literature indicate that it is a significant and escalating problem worldwide. High-risk environments like emergency departments and psychiatric wards see a significant percentage of staff subjected to physical assaults, threats, and verbal abuse (6,24).

In the Italian context, while most studies have traditionally concentrated on the nursing profession, increasing attention is being paid to physicians. However, the actual number of incidents might be underreported due to a lack of reporting or seeking help at the moment of aggression. Studies across different Italian regions indicate a high prevalence of verbal and physical aggression towards HCWs (15,17,23). Recent data from Italy's National Institute for Insurance against Accidents at Work (INAIL) highlight the issue's severity, with thousands of cases of injury following violent episodes, predominantly affecting female HCWs (30,31).

The COVID-19 pandemic has introduced unique and unprecedented challenges to societies and healthcare systems globally, significantly influencing WPV (26). Studies from various countries report a general rise in violent incidents during the pandemic, attributed to increased wait times, anxiety, and altered mental states due to the pandemic's novelty, and the inability to treat severe patients due to COVID-19 constraints (25). However, some studies note a decrease in violence, due to reduced hospital visits or increased public appreciation of HCWs' efforts against COVID-19 (27).

To effectively prevent and mitigate violence against HCWs, it is crucial to early recognize and address the risk factors. The Occupational Safety and Health Administration (OSHA) and other institutions have identified additional risk factors and provided prevention guidelines, advocating for zero-tolerance policies, targeted interventions, and the dissemination of good practices. Training programs, a supportive organizational culture, and adequate mental health resources are essential for preventing and addressing workplace violence (32,33).

The aim of this study was I) to assess the phenomenon of WPV against doctors and dentists during the pandemic (type, characteristics of the aggressor, the victim, and the setting, subsequent actions) and II) to evaluate the opinions of the HCWs on the role of the pandemic on the WPV.

Patients and Methods

We conducted an online survey from February 1st to May 31st, 2022, targeting physicians and dentists registered with any medical board in Lombardy, the Italian region most affected by the pandemic. The only criterion for inclusion was board registration. Consequently, the sample was both heterogeneous and extensive, encompassing general practitioners, pediatricians, continuity of care physicians, residents, outpatient specialists, freelance physicians, hospital physicians from both private and public facilities, as well as dentists. Data were originally collected to provide information to the boards about the phenomenon of HCWs violence among professionals registered, based on a voluntary and anonymous survey. Therefore, data were related to a public health surveillance activity, which does not require institutional review board approval. Participants received an introductory email explaining the survey. The questionnaire was self-administered, participation was voluntary, without compensation, and completely anonymous as no personal identifiers were collected. The survey questions were mainly taken from the ILO/WHO/ICN/PSI questionnaire (29). The process of translating and adapting the questionnaire from English to Italian was conducted by a team of experts, including physicians and psychologists, to ensure both linguistic and content validity. The working group also added questions specifically tailored to the context and requirements of the study. These additional questions were designed to address aspects not fully covered by the original ILO/WHO/ICN/PSI questionnaire, thereby enhancing its relevance and applicability to the study's objectives. The final Italian version of the questionnaire, including the added questions, was validated by an expert panel to confirm its suitability for use with the target Italian population. Subsequently, the questionnaire was administered to a small pilot group to assess its clarity and comprehensibility, as well as to identify any potential issues prior to full-scale administration. The final questionnaire

comprised four sections. The first section gathered respondent demographics (gender, nationality, age, length of service, occupational activity, main field of work). The second section probed whether participants had experienced any form of WPV in the preceding 12 months. We provided definitions for several types of violence to ensure clarity and uniformity in reporting, based on the ILO/WHO/ICN/PSI definitions (29). These included:

- Assault/Physical Attack: intentional behavior that harms another person physically, including sexual assault.
- Threat: promised use of physical force or power (i.e. psychological force) resulting in fear of physical, sexual, psychological harm or other negative consequences to the targeted individuals or groups.
- Harassment: any conduct based on age, disability, HIV status, domestic circumstances, sex, sexual orientation, gender reassignment, race, color, language, religion, political, trade union or other opinion or belief, national or social origin, association with a minority, property, birth or other status that is unreciprocated or unwanted and which affects the dignity of men and women at work.
- Sexual Harassment: any unwanted, unreciprocated, and unwelcome behavior of a sexual nature that is offensive to the person involved, and causes that person to be threatened, humiliated or embarrassed.
- Racial Harassment: any threatening conduct that is based on race, color, language, national origin, religion, association with a minority, birth or other status that is unreciprocated or unwanted and which affects the dignity of women and men at work.
- Bullying/Mobbing: repeated and over time offensive behavior through vindictive, cruel, or malicious attempts to humiliate or undermine an individual or groups of employees.

The third section was presented only to those reporting at least one incident of violence. It delved into specifics of the violence, including type, characteristics of the aggressor, timing, healthcare worker's response, and their perceptions. The last section, administered to all participants (regardless of whether they reported violence), consisted of questions regarding their views on the impact of the COVID-19 pandemic on WPV among HCWs.

Data analysis was performed using SAS 9.4 (SAS Institute, Cary, NC, USA). All variables were categorical and are presented as absolute and relative frequencies. Logistic regression was used in univariable and multivariable models to test the association between the WPV and variables collected (gender, length of service, and main workplace setting). An odds ratio (OR) and a 95% confidence interval (CI) were reported.

Results

A total of 1,295 physicians and dentists completed the questionnaire, with the main characteristics of the study population presented in Table 1.

Table 1. Characteristics of the study population.

	N	*%*
Gender		
Male	622	48.0
Female	673	52.0
Nationality		
Italian	1277	98.6
Other	18	1.4
Age		
35 yo or less	176	13.6
35 – 44 yo	234	18.1
45 – 54 yo	225	17.4
55 – 64 yo	395	30.5
65 yo and more	265	20.5
Length of service		
0 – 5 years	198	15.3
6 – 15 years	244	18.8
16 – 30 years	360	27.8
30 years or more	493	38.1
Main workplace setting		
Specialist clinics	280	21.6
Primary care	304	23.5
Hospitals	432	33.4
Dental clinics	226	17.5
Other	53	4.1

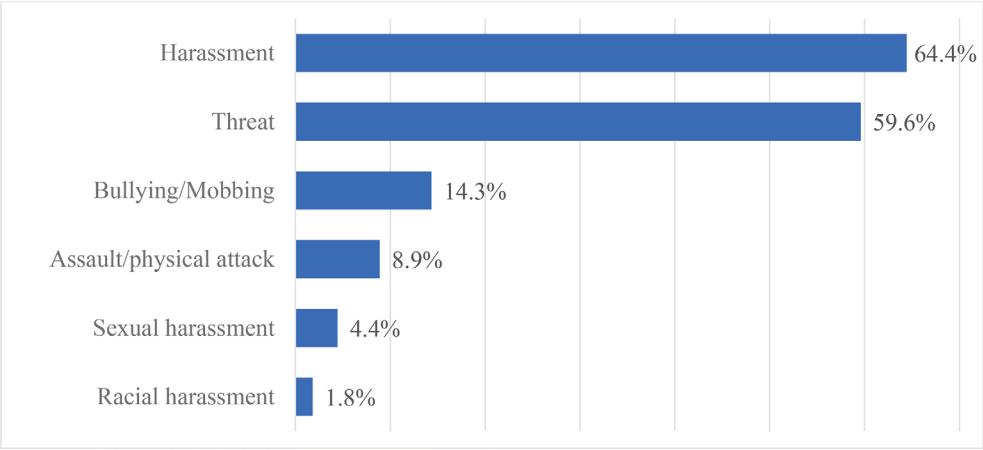

Figure 1. Types of workplace violence reported.

Approximately half of the participants were female (52.0%), and the predominant nationality was Italian (98.6%). The largest age group was 55 to 64 years (30.5%), followed by those aged 65 and older (20.5%), and 35 to 44 years (18.1%). Correspondingly, about one-third of participants had over 30 years of service. The primary work environments were hospitals (33.4%) and primary care settings (23.5%). Around two-fifths of participants (495, 38.2%) reported experiencing violence at work. Harassment/insult was the most common form (64.4%), followed by threats (59.6%). Bullying/mobbing and assault/physical attacks were reported by 14.3% and 8.9% of those victimized, respectively. Sexual and racial harassment were experienced by 4.4% and 1.8% of respondents, respectively (Figure 1).

Table 2 details the characteristics of the aggressors and the violence-related events. Most of the violence was perpetrated by patients (56.8%), followed by patients' relatives (33.5%). A smaller proportion of aggressors were colleagues/other HCWs or superiors (4.0% and 3.6%, respectively).

The aggressor was primarily male (71.1%). Most WPV incidents occurred on weekdays (91.9%), predominantly in the afternoon (54.5%) and morning (39.6%). Incidents during weekends or public holidays (8.1%) and nighttime (5.9%) were less common.

Figure 2 shows responses to a survey item on actions taken by HCWs post-violence. The most common action was discussing the event with a colleague (41%), followed by discussing it with a family member (30%) and reporting to a superior (27%). About one-quarter of participants took no action after the incident. The Local Health Authority and the Police were notified in 19% and 14% of cases, respectively.

Among HCWs who reported violence, 47.7% believed the event could have been avoided (data not shown), with 56.0% attributing it to verbal and/or

Table 2. Characteristics of the aggressor and the event.

	N	%
Aggressor		
Patient	281	56.8
Patient's relatives	166	33.5
Superior	18	3.6
Colleague or other HCW	20	4.0
Other	10	2.0
Gender		
Male	352	71.1
Female	143	28.9
Day of the week		
Monday - Friday	455	91.9
Saturday - Sunday (public holiday included)	40	8.1
Time slot		
Morning	196	39.6
Afternoon	270	54.5
Night	29	5.9

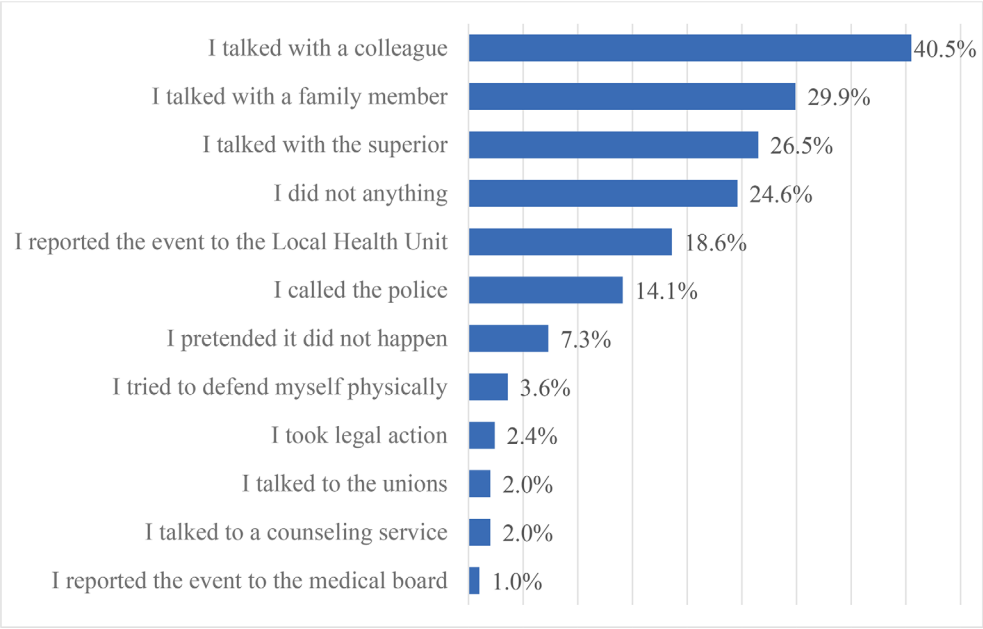

Figure 2. Actions taken by the HCW after the violence.

non-verbal communication issues (data not shown). Approximately 47.9% of respondents considered the pandemic a contributing factor to the violence experienced.

Table 3 addresses HCWs' views on violence during the pandemic. About 71.6% believed violent incidents increased during this period, while only 1.2% perceived a decrease. During some phases of the pandemic, patients' relatives were barred from entering healthcare facilities. About 59.5% of respondents viewed this restriction as a cause for increased violence, while 5.1% saw it as a violence reduction measure. Approximately 54.0% supported barring relatives from certain settings to prevent violence, with 31.3% opposing this measure.

A majority of surveyed HCWs (70%) felt that doctor-patient communication had deteriorated during the pandemic, and 49.5% believed public confidence in HCWs had declined.

Table 4 shows the association between some variables (gender, length of service, and main workplace setting) and the WPV. In the univariate analysis, the violence was associated with female gender (OR 2.07, CI 1.65-2.61), less experience – length of service < 5 years (OR 5.40, CI 3.78-7.72); length of service between 6 and 15 years (OR 4.56, CI 3.27-6.35); length of service between 16 and 30 years (OR 2.38, CI 1.76-3.22) – and with some settings as hospitals (OR 2.37, CI 1.72-3.26) and primary care (OR 2.61, CI 1.86-3.68). Moreover, dental clinics was less associated to WPV (OR 0.30, CI 0.18-0.49. The multivariate model, reported in Table 4, confirmed all these findings.

Conclusions

The findings of our comprehensive survey among 1,295 healthcare professionals in Lombardy offer significant insights into the prevalence and nature of WPV against HCWs, a problem that has gained increasing attention globally. Our study contributes to a deeper understanding of this issue, particularly in the context of the COVID-19 pandemic, since it is one of the largest studies on the WPV against HCWs during the pandemic.

The first important finding is that about 38% of participants have experienced violence during their work activity. The literature reports a wide

Table 3. Opinions of participants about the relationship between violence and pandemic.

In your opinion…		
	N	**%**
…during the pandemic, events of violence against HCWs were:		
Increased	927	71.6
Decreased	16	1.2
The same as before the pandemic	140	10.8
I don't know	212	16.4
…did the prohibition of access to health care facilities for patients' family members have an impact on the violence?		
Yes, the episodes of violence increased	771	59.5
Yes, the episodes of violence decreased	66	5.1
No	135	10.4
I don't know	323	24.9
…the prohibition of access to health care facilities for patients' family members should be continued to protect HCWs?		
Yes	699	54.0
No	405	31.3
I don't know	191	14.7
…during the pandemic, did the doctor-patient communication deteriorate?		
Yes	906	70.0
No	324	25.0
I don't know	65	5.0
…during the pandemic, the public confidence in HCWs was:		
Increased	214	16.5
Decreased	641	49.5
The same as before the pandemic	333	25.7
I don't know	107	8.3

range of different prevalence of WPV among HCWs since it is difficult to collect homogeneous data due to underreporting and ineffective census systems (1,7,8,10,12,16,19,23,24). Moreover, most studies on this topic are related to HCWs in general and include mainly nurses and other HCWs, whilst physicians and dentists are usually less represented and could have a different prevalence of WPV episodes (10,16,17,23).

However, our data appears similar to the prevalence of WPV reported by Italian National Institute for Insurance against Accidents at Work (INAIL) (30).

Most violent incidents reported are of a verbal nature, such as harassment and threats, aligning with global trends that highlight verbal abuse as the most common form of violence against HCWs (7,12,4 4). On the contrary, assault/physical attacks are less frequent than verbal abuse and this is consistent with the literature data (7,10,12,4).

In addition to the type of violence, our study provides valuable insights into the profile of the aggressors. The data shows that patients themselves are the primary perpetrators, especially male. This finding, which is confirmed in the literature (7,15,20), underscores the need for strategies focused on managing patient-HCW interactions, including conflict resolution training and measures to address patient

Table 4. Univariate and multivariate analysis of variables associated with workplace violence.

	Univariate model			Multivariate model*		
Variables	**OR**	**95% CI**		**OR**	**95% CI**	
Gender						
Male	Ref	-	-	Ref	-	-
Female	**2,07**	**1,65**	**2,61**	**1,26**	**1,04**	**1,64**
Length of service						
30 years or more	Ref	-	-	Ref	-	-
16 – 30 years	**2,38**	**1,76**	**3,22**	**2,33**	**1,68**	**3,24**
6 – 15 years	**4,56**	**3,27**	**6,35**	**3,97**	**2,77**	**5,70**
0 – 5 years	**5,40**	**3,78**	**7,72**	**4,60**	**3,15**	**6,73**
Main workplace setting						
Specialist clinics	Ref	-	-	Ref	-	-
Hospitals	**2,37**	**1,72**	**3,26**	**1,81**	**1,29**	**2,55**
Primary care	**2,61**	**1,86**	**3,68**	**2,61**	**1,82**	**3,75**
Dental clinics	**0,30**	**0,18**	**0,49**	**0,30**	**0,18**	**0,50**
Other	1,04	0,55	1,98	1,13	0,58	2,22

grievances more effectively. Improving the patient-HCW relationship can therefore be the first step of intervention to reduce the phenomenon of WPV.

Another significant aspect revealed by our study is the timing and setting of violent incidents. The higher incidence of violence during weekday afternoons, as opposed to nights and weekends, suggests a correlation with peak patient activity times in healthcare facilities. This observation might point to the potential role of environmental and organizational factors, such as patient flow and staffing levels, in contributing to these incidents (4).

The response of HCWs to violence is another critical area highlighted by our study. A considerable proportion of HCWs chose not to report incidents of violence, indicating potential barriers in the existing reporting mechanisms and a possible culture of normalization or acceptance of violence in healthcare settings (1). WPV is often reported only to colleagues, as a confirmation of potential barriers in communicating outside one's context, perhaps due to a lack of confidence in the possible measures to address this type of event and the thought that reporting is useless (34). Anyway, this lack of reporting hinders the development of effective strategies to address the issue, as it obscures the full extent and nature of the problem. Considering our results, it would be interesting to delve deeper into this aspect, by better investigating the reasons related to underreporting.

Another very interesting data point is related to the most frequent characteristics of the assaulted HCW. Those reporting WPV are predominantly women, and HCWs with less experience. Hospitals and primary care settings are most frequently associated with violence, in contrast to dental clinics, which were less associated with such incidents. While on one hand, these results are not surprising as they align with the literature, on the other hand, they should still prompt reflection on the type of operator who is most vulnerable (8,11,20,35). The young healthcare worker, at the beginning of their career, perhaps female, is more exposed to the risk of aggression, as if the aggressor were more intimidated by raising their voice or attacking in other ways older and/or male HCWs. These findings are fundamental to develop and implement no violence strategies into healthcare facilities, with a focus on female and young workers.

The fact that dental clinics are less frequently associated with violence is confirmed by other studies, in which HCWs who work in private sector – such as

dental clinics usually are – are a lower risk to be victim of WPV (24).

The COVID-19 pandemic has further complicated the landscape of WPV in healthcare settings. Our study shows that the pandemic has been perceived as a contributing factor to the increase in violent incidents, due to heightened stress, altered patient-care dynamics, and changes in healthcare delivery models during this period. This situation calls for adaptive and resilient approaches to ensure the safety and well-being of HCWs in times of crisis.

Moreover, the study confirms the psychological impact of violence on HCWs, ranging from decreased job satisfaction to increased stress and anxiety (1,2). This impact not only affects individual HCWs but also has broader implications for the healthcare system, including staff turnover, decreased productivity, and compromised patient care.

The main limitations of this study are that the respondent rate was suboptimal, and the enrolment was on a voluntary basis, so there could be a potential oversampling of professionals victims of violence. However, the prevalence of WPV in our sample does not seem to be overestimated, if compared with the literature. Therefore, we may exclude the potential bias.

Despite these limitations, this study is one of the largest studies on the WPV against HCWs during the pandemic.

In conclusion, our study, involving a large and diverse sample of healthcare professionals in Lombardy, provides a comprehensive analysis of WPV during the COVID-19 pandemic. It highlights the multifaceted nature of this issue, underscoring the need for a holistic approach to address it effectively.

The findings call for the implementation of targeted interventions, including improved communication training for HCWs, enhanced support and reporting mechanisms, organizational changes to mitigate the risk factors for violence, and finally personal defense tools (i.e. self-defense classes).

Additionally, there is a need for ongoing research and monitoring to understand the evolving nature of this issue, particularly in the context of global crises such as the COVID-19 pandemic.

Ultimately, addressing WPV in healthcare settings is not only about protecting HCWs but also about ensuring the efficient functioning and sustainability of healthcare systems. By fostering a safer and more supportive working environment, healthcare professionals can provide high-quality care, leading to better health outcomes for the community. In this regard, our study contributes significantly to the ongoing efforts to understand WPV in HCWs, with the aim of creating a safer and more conducive working environment for all healthcare professionals.

Ethic Approval: Data were related to a public health surveillance activity, which does not require institutional review board approval.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

Authors Contribution: MB contributed to conception and design, data acquisition, data analysis and interpretation, drafted and critically revised the manuscript; MAR contributed to conception and design, data acquisition and interpretation, critically revised the manuscript; CP contributed to conception and design, data acquisition and interpretation, critically revised the manuscript; CMT contributed to conception and design, data interpretation, critically revised the manuscript; MEP contributed to conception and design, data analysis and interpretation, drafted and critically revised the manuscript. All authors gave their final approval and agree to be accountable for all aspects of the work.

Declaration on the use of AI: None.

Funding: None.

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Received: 8 July 2024
Accepted: 13 August 2024
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