Original Research

Prevalence And Characteristics Of Violence Among Health Care Workers In Mashhad

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Abstract

Background: Workplace violence against healthcare workers is an important global issue with significant implications for occupational health.

Method: This cross-sectional study was conducted in the emergency department of Hashminejad, Ghaem and Imam Reza hospitals in Mashhad in 2022-2023. The World Health Organization (WHO) workplace violence questionnaire was used to collect data. A sample of 206 health care workers from different health care centers in Mashhad participated in this study. Data related to demographics, occupational roles, and experiences of physical, verbal, and psychological violence in the past 12 months were collected.

Results: This study showed that most of the participants were male (62.62%), who were mostly married (87.38%), nurses were the largest professional group (87.38%) and doctors were the smallest (12.62%). Half (50%) of the participants reported recent physical violence, while a significant majority reported verbal abuse (87.37%) and nearly half reported bullying (49.51%). Female gender, non-minority race, lower level of concern about violence, and the presence of formalized reporting methods were associated with a higher likelihood of experiencing physical violence in the past year. However, no significant results were observed for any of the demographic variables in the regression analysis to predict the occurrence of verbal violence. In the case of bullying and harassment, women are more likely to experience this type of violence.

Conclusion: The results of this study identified important risk factors for different experiences of violence against medical staff, which is very important for future planning.

Keywords: Workplace violence, Health care workers, Physical violence.

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Introduction

Violence includes a set of destructive actions, including the use of physical force or power to cause harm and damage to people, groups or property of others (1). The incidence of violence against healthcare workers around the world varies in different studies. A 2020 systematic review study found a one-year prevalence of physical workplace violence against health care professionals in 30 countries to be 19.33% (2). A systematic review during the coronavirus pandemic estimated a prevalence of 40% at the beginning of the pandemic to 47% in the final years of the pandemic for violence against medical staff (3). Risk factors for violence against health care workers include a complex set of factors in health care environments. Psychiatric illnesses, personality disorders, medical problems, and general stress in patients may lead to violent incidents in health care settings (4,5). Lack of staff can increase tensions (6). High work pressures, excessive stress, and poor working conditions are prominent risk factors (7). Violence against healthcare workers has far-reaching consequences, as evidenced by various sources. It compromises the quality of patient care and the continuity of health care delivery (8). Underreporting of workplace violence is an important issue. Many health care workers may hesitate to report incidents due to fear of retaliation or other concerns (9). Preventing violence against healthcare workers, both by patients and their companions, is essential to ensure the safety and well-being of healthcare professionals. Strategies include using an electronic health record labeled for patients with a history of violence and including detailed documentation of the incident (10-12). Early detection mechanisms, combined with education, help identify potential attackers and implement preventive measures (11). Although a large number of studies have been published on this topic, ongoing and continuous evaluation of the epidemiology of violence against health care workers is important because a comprehensive understanding of the prevalence, patterns, and determinants of this issue in different health care settings, the profession offers and areas. This knowledge is essential for identifying high-risk groups, tracking time trends, and recognizing changes, thereby allowing the development of appropriate preventive strategies. So, this study was conducted with the aim of investigating the prevalence and characteristics of violence among health care workers in Mashhad in 2023.

Methods

This retrospective analytical cross-sectional study was conducted in the emergency department of Hashminezhad, Ghaem and Imam Reza hospitals in Mashhad in 2023. Confidentiality and anonymity were maintained according to the regulations developed by the Faculty's Research Ethics Committee. Sampling was done in the form of a census and available from all doctors (including specialists and assistants) and nurses working in the emergency department. The conditions for entering the study included the following: (i) Participants (doctors and nurses) must have at least one have worked in the emergency department for years. (ii) Have a desire to cooperate. (iii) Proficiency in the English language. The exclusion conditions included incomplete completion of the questionnaire (if more than 50% of the questionnaire was completed).

Violence against medical staff was collected through a standard questionnaire prepared by the World Health Organization. Violence against medical staff was collected through a standard questionnaire prepared by the World Health Organization. The questionnaire was given to the participants in English.

The questionnaire consists of 4 sections. The first part of questionnaire is about personal and workplace characteristics, including age, marital status, education, occupational class,

working period and working hours. The second part is about verbal abuse at work in the last 12 months. The third part is related to physical violence. Sexual violence as the fourth section includes inappropriate touching ('inappropriate touching by patients' and 'inappropriate touching by visitors'), sexual harassment, and sexual abuse.

Data analysis will be done using spss software version 27 and using descriptive statistics (mean and standard deviation, frequency and frequency percentage). The comparison of the frequency of violence according to the background variables investigated was investigated using appropriate statistical tests (chi-square, t-test, ANOVA). All tests were two-sided and 0.05 was considered as the level of significance, Univariable regression was used to assess the risk factors.

Results

In this study, 206 people were examined. Among the respondents, the most common age group is 25-29, comprising 25.24% of the sample, while 40-44 is the least prevalent, comprising only 12.62%. In terms of gender, men are the majority with 62.62% and women are the minority with 37.38%. Marital status shows that married people were the most frequent with 87.38%, while single people were the lowest with 12.62%. All respondents claim that they are not immigrants (100%). The race of people in the country category was the majority with 88.83% of the majority. In terms of race, 77.18% were the majority in the community. In work environments, the majority was dominant with 63.59% and the minority category is 36.41%. Nurse with 87.38% and doctor have the least role of the treatment staff with 12.62%. In career stages, staff/employees are the majority with 87.38%, while students are the minority with 12.62%. The most common years of experience are in the range of 1-5 (37.86%) and the lowest are in 16-20 (12.62%).

In the past 12 months, a total of 206 participants were surveyed about their experiences of physical assaults at work. Exactly half (n=103, 50%) reported having experienced such an event, while the other half (n=103, 50%) had not. Among those who experienced an assault, all reported that the incident did not involve the use of a weapon and occurred inside a hospital. When asked if they considered this incident to be a typical occurrence of workplace violence, 51 respondents (24.76%) answered no, while 52 respondents (25.24%) agreed. Regarding the agent, 51 participants (24.76%) identified the patient as the attacker and 52 participants (25.24%) identified the visitor as the attacker. Other details of this kind of violence are shown in Table 2. Finally, according to follow-up, all 103 participants who experienced an assault reported no formal investigation into the causes of the incident, and 51 participants (24.76%) reported that there were no consequences for the attacker. Satisfaction with the control of physical violence that occurred was not achieved in HCWs (51% dissatisfied, 26% moderately satisfied, 26% very dissatisfied).

The results of this study show workplace verbal harassment, focusing on incidents that occurred in the past 12 months. Among these 180 participants, 87.37% reported this type of harassment. Of those who were affected, 50 percent saw repeated incidents, and according to 103 respondents, co-workers were the main culprits. Additionally, 128 participants believed that these incidents could be prevented, while 77 did not take any action in response. Emotionally, 77 respondents reported mild distress, 77 were moderately distressed, and 52 were less affected. 71.6% of HCWs were very dissatisfied with the control of events related to verbal violence and the rest were dissatisfied.

Of the 206 respondents, 49.51 percent reported experiencing bullying and aggression at work, while 50.48 percent were lucky enough not to

experience it. For those who did experience it, nearly half noted its recurring nature. Patients' companions were identified as the primary source of these incidents. Unfortunately, a significant proportion of respondents chose to take no action in response, while a similar number addressed the abuser directly. It is worth mentioning that 37.37% considered these incidents to be normal in their workplace. Worryingly, almost half of the participants stated that there had been no formal investigation and no consequences for the perpetrators. 75.5% of HCWs were very dissatisfied with the control of events related to verbal violence and the rest were dissatisfied. None of the participants reported sexual violence.

Females reported experiencing physical violence and bullying/aggression at significantly higher rates than their male counterparts, with 66.23% of females reporting incidents of physical violence and 66.23% of incidents of bullying or aggression. Notably, verbal abuse was experienced by all male participants, while a smaller percentage of females experienced it (P<0.01).

A total of 206 observations were included in the univariate regression analysis that examines the relationship between gender and the experience of physical violence incidents in the last 12 months. Logistic regression model and odds ratio show that compared to men, women are approximately 2.90 times more likely to report incidents of physical violence within 1 year ($p < 0.001$). The 95% confidence interval for this odds ratio ranged from 1.61 to 5.23.

In a univariate regression analysis examining the association between minority ethnicity at work and experiencing a physical incident in the past month, the odds ratio for minority ethnicity showed that individuals belonging to a minority ethnic group at work were approximately 31% more likely to report incidents of physical violence compared to their non-minority peers. The 95% confidence interval for this odds ratio ranged from 0.17 to 0.56. These results emphasize the significant association between minority ethnic status in the workplace and reduced likelihood of physical violence incidents in the past month.

The odds ratio for the worry variable was estimated at 0.41 with a 95% confidence interval for this odds ratio from 0.299 to 0.57. This indicated that for every one unit increase in worry level, subjects were approximately 41% more likely to report incidents of physical violence in the past 12 months ($p < 0.001$). It was variable. These results indicate a significant inverse relationship between the level of concern about violence and the likelihood of experiencing physical violence incidents in the past 12 months. As the level of concern increases, the probability of experiencing such incidents decreases.

The odds ratio for the presence of reporting methods was 2.90, with a 95% confidence interval of 1.611821 to 5.234217. This showed that compared to those without access to reporting procedures, those who had such procedures were approximately 2.90 times more likely to report physical incidents in the past 12 months ($p < 0.001$).

In examining all demographic items in the regression to predict the occurrence of verbal violence, no test showed significant results.

The odds ratio for female to male gender was equal to 3 with a 95% confidence interval from 1.663626 to 5.40987. It shows that compared to men, women are three times more likely to report being affected by bullying incidents ($P < 0.001$). The variable of these results shows a significant relationship between gender and the possibility of experiencing bullying incidents. Women had a significantly higher risk compared to men.

Discussion

Comparing the prevalence of violence in several studies, in our study, which included 206 participants, a comprehensive review of

different forms of violence was conducted, which showed that 50% of physical violence, 87.37% of verbal violence, 49.51% of bullying and aggression were reported in While sexual violence has not been reported and 12.13% faced ethnic/racial violence. The global study "ViSHWaS" found that approximately 55% of healthcare workers worldwide experienced violence, although it did not specify the types (13). Abdullah et al.'s 2017 cross-sectional study focused on emergency department personnel and reported that 59.7% experienced physical violence, 58.2% verbal abuse, and did not specify other types. Which was less than our study (14). The study by Rossi et al. and systematic review in the Eastern Mediterranean region showed different prevalence rates of different types of violence (15).

The prevalence of workplace violence in a total of 10,821 healthcare workers in Turkey was found to be 1.2%. In terms of types of workplace violence, 71.9% were verbal and 28.1% were physical (16). This amount is much less than our study, which requires policies to reduce violence in our hospitals. However, a review has reported that the overall prevalence of violence among HCWs is as high as 78.9% (17). A meta-analysis showed that in Eastern Mediterranean countries 63.0% (95% CI: 46.7-79.2) of health care professionals experience verbal violence and 17.0% (95.0% CI: 14.0-21.0) experience physical violence, which is similar to the study yogurt (4).

Maran's 2019 study (18) in Italy shows that male HCWs with less than 30 years of experience did not report violent incidents that occurred at work, while male HCWs with 6 to 15 years of work experience reported incidents. Reported more violence than their female counterparts. Among HCW professions, nursing was the profession where HCWs were more likely to experience a violent episode, while male physicians were more likely than female physicians to report incidents of violence. While in our study there was no difference between doctors and nurses. Furthermore, in their study, female HCWs experienced more verbal violence (insults) than male HCWs, while male HCWs experienced more physical violence (physical contact) than female HCWs. With male healthcare workers reporting violence by age and experience. But these cases were not seen in our study. These differences are caused by the vast cultural differences between Iran and Italy. A 2022 analysis by Sun (19) compared the prevalence of different types of workplace violence among male and female health care professionals, with males having higher rates. These findings are not consistent with our study. In our study, it is evident that women reported experiencing physical violence and bullying/aggression at significantly higher rates than their male counterparts, with 66.23% of women reporting incidents of physical violence and 66.23% reporting incidents of bullying or aggression. It is worth noting that verbal abuse has been experienced by all male participants, while a smaller percentage of women have experienced this. In Zhu et al.'s study (20), among 1247 gender-specified participants, male and female physicians included 162 (13.0%) and 1085 (87.0%), respectively. During the past 12 months, about two-thirds of these doctors, regardless of gender, were verbally harassed at work. As in our study, male physicians were more likely to be verbally harassed than female colleagues (5.0% vs. 1.3%), OR 4.8, 95% CI, 1.8–13.3).

Lack of staff can increase tensions (6-8), but in our study, the number of staff in the department had no effect on the results. High work pressures, excessive stress, and poor working conditions are prominent risk factors (5,7), which are present in all emergency workers. High workload can stress health care workers. Lack of training in de-escalation

techniques and violence prevention can leave treatment staff ill-equipped to safely manage challenging situations (6-8). This issue can be well understood in our study by the impact that knowing how to use reporting systems had on the final results.

The results of this study have significant implications for the investigated hospital and health institutions. These results provide a critical basis for policy development and enable robust procedures to prevent and address workplace violence against healthcare workers. Furthermore, these findings can help design appropriate training programs, equipping professionals with the skills to recognize and respond to different forms of violence. Implementing awareness campaigns based on these statistics can foster a culture of respect and safety in the healthcare environment. Resource allocation can be optimized and resources can be directed to areas identified as the most vulnerable. Advocacy efforts can be strengthened by using data to lobby for policy change and improvement at regulatory and organizational levels. In addition, these results can serve as benchmarks for future comparative studies and enable a deeper understanding of trends over time and in different contexts. Integration into occupational health and safety programs can guide revision of protocols and implementation of protective measures.

Limitations and weaknesses of study

This study was conducted with a sample size of 206 participants, which may limit the generalizability of the findings to a larger population of healthcare workers. The cross-sectional design of this study collects data at a single time point. This limits the ability to establish causal relationships or understand changes over time. Participants may provide answers that are socially desirable, potentially leading to under- or over-reporting of certain behaviors. Participants were asked to recall experiences of violence in the past 12 months. This may be subject to recall bias, as individuals may have difficulty remembering specific events accurately. Future research on workplace violence among healthcare workers should consider conducting longitudinal studies to track trends over time and assess the long-term impact of interventions. Additionally, comparative analyzes across different healthcare settings can provide targeted insights for specific areas of improvement. Evaluating the effectiveness of interventions, such as educational programs and security measures, is crucial for evidence-based policy making. Understanding the psychological consequences of workplace violence, as well as its impact on patient care and job satisfaction of health care workers, is essential for prioritizing interventions. Examining cultural and regional changes, evaluating reporting systems, and examining the role of leadership and management are also critical areas for future research. In addition, the study of patient- and visitor-related violence, technological solutions, legal impact, and multidisciplinary approaches can contribute to a comprehensive understanding of this complex issue. Additionally, examining educational interventions, considering intersectional and vulnerable populations, and examining technology-based violence are emerging areas that warrant attention in future studies.

Conclusion

The findings of this study underscore the critical need for interventions and policies aimed at reducing workplace violence, particularly in health care settings. The prevalence of various forms of violence, including physical, verbal, and bullying/harassment, highlights the urgency of addressing this pervasive issue.

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Authors Contributions:

TG, RF, AH, and BA conceptualized the study objectives and design. RA, MF are infectious disease specialists who contributed to data collection from patients along with TG. MKR and MF drafted the study design protocols to be submitted to research centers. Data were was analyzed by MKR and RA. Manuscript was drafted by TG, RA, and MF. All authors contributed in revisions.

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Tables:

Table 1: Characteristics of HCWs included in study

Demographic information		N	%
Age	20-24	26	12.62
	25-29	52	25.24
	30-34	51	24.76
	35-39	51	24.76
	40-44	26	12.62
Gender	Female	77	37.38
	Man	129	62.62
Marriage status	married	180	87.38
	Single	26	12.62
Migrant	no	206	100
Occupation	Nurse	180	87.38
	Doctor	26	12.62
Occupation status	Employee	180	87.38
	Student	26	12.62
Experience	1-5 years	78	37.86
	11-15 years	51	24.76
	16-20	26	12.62
	6-10 years	51	24.76
Type of employment	Full-time	129	62.62
	part time	77	37.38
	Having a night shift	206	100
	Verbal communication with patients at work	181	87.86
	Physical contact with patients at work	154	74.76
Patients' type	Adolescents/adults/seniors	154	74.76
	Adults/elderly	26	12.62

	Babies / Infants / Children / Teenagers	26	12.62
	the elderly	51	28.33
	Physically disabled / terminally ill	129	71.67
The number of people burning in the department	More than 15	180	87.38
	one to five	26	12.62

Table 2. Characteristics of each type of violence against HCWs

type of violence		Physical		Verbal		Harassment and bullying	
		N	%	N	%	N	%
Have you been assaulted at work in the last 12 months?		103	50	180	87.37	102	49.51
Have you witnessed someone being physically assaulted at work in the past 12 months?		129	62.62				
How many times?	once	25	12.14				
	Two to four times	52	25.24				
	Five to ten times	52	25.24				
	sometimes			77	37.38		
	Always			103	50	102	49.51
Unarmed attack		103	50				
Do you think this is a typical incident of violence in your workplace?	Yes	52	25.24	128	62.14	77	37.37
Who attacked?	Patient	51	24.76	103	50	0	0
	accompanying the patient	52	25.24	51	24.76	102	49.51
	Partners			26	12.62	0	0
Time	Morning	25	12.14				
	Evening	52	25.24				
	the night	26	12.62				
Response	Has not taken any action	26	12.62			51	24.75

	He/she pretended it never happened	25	12.14	78	37.86		
	He/she told the person to stop	26	12.62	77	37.38	51	24.75
	Inform the department manager	26	12.62	25	12.14		
The accident could have been avoided		51	24.76	128	62.14	51	24.75
get annoyed	get injured	103	50		0		
	not at all	26	12.62	26	12.62		
	a little	25	12.14	77	37.38		
	relatively	26	12.62	77	37.38		
Sad memories	at all	52	25.24	77	37.38		
	a little	26	12.62	78	37.86		
	relatively	25	12.14	25	12.14		
Avoid thinking about the accident	at all	52	25.24	52	25.24		
	a little	51	24.76	128	62.14		
being a guard	at all	26	12.62	52	25.24		
	relatively	77	37.38	128	62.14		
proper effort	at all	52	25.24	26	12.62		
	a little	51	24.76	103	50		
Leave due to assault	no	103	50		0		
Investigating the causes of the accident	no	103	50	26	12.62	102	49.51
Consequences for the attacker	no	51	24.76	51	24.76	102	49.51
No reporting		52	25.24				
The reason for not informing others	useless	77	37.37				
	doesn't matter	26	12.62				

Table 3: Univariate regression analysis of relationship between gender and the experience of physical violence incidents

violence	factor	reference	OR	95% CI(lower-upper)	P-value
physical	gender	male	2.9	1.61 - 5.23	<0.001
physical	worries	-	0.41	0.30 - 0.57	<0.001
physical	reporting processes	no	2.9	1.61 - 5.23	<0.001
verbal	-	-	-	-	-
Harassment and bullying	gender	female	3	1.66 - 5.41	<0.001
Harassment and bullying	reporting processes	no	0.33	0.18 - 0.60	<0.001
Harassment and bullying	knowing how to use reporting processes	no	2.08	1.08 - 4.01	0.047