STUDENTS' CORNER
RESEARCH ARTICLE

Prevalence, predictors, and consequences of workplace violence among female healthcare workers in tertiary care hospitals: A cross-sectional study in Pakistan

Qurat Ul Ain Muhammad[1], Muhammad Ibrahim[2], Faizan Fazal[3], Hadia Eiman[4], Alishba Shezal[5], Saeed Lehrasab[6]

Abstract

Objective: To determine the prevalence, predictors and perpetrators of violence, and its impact on the mental health of female healthcare workers.

Method: The cross-sectional study was conducted from June to October 2022 at three tertiary care hospitals after approval from the ethics review board of Rawalpindi Medical University, Rawalpindi, Pakistan, and comprised female healthcare workers, including doctors, nurses and paramedical staff. Data was collected regarding workplace violence using a structured questionnaire adopted from literature. The incidence of verbal, physical and sexual violence in the preceding 12 months was noted, and predictors were analysed. Data was analysed using SPSS 25.

Results: Of the 140 subjects with an age range of 16-60 years, verbal violence was experienced by 102(72.9%) and physical violence by 26(18.6%), while verbal and physical forms of sexual violence were reported by 33(23.6%) and 13(9.3%), respectively. Those in the Medicine department had significantly lower odds of experiencing verbal violence compared to those from the Surgery department (adjusted odds ratio=0.223; 95% confidence interval: 0.078-0.036; p=0.005). Those in the Emergency department had significantly greater odds of experiencing physical violence compared to those in Surgery (adjusted odds ratio=8.716; 95% confidence interval: 1.693-44.87; p=0.01). Violence had a significant detrimental impact on the mental health of female healthcare workers (p<0.05).

Conclusion: Violence was found to be prevalent in the healthcare sector, specifically in stressful and critical-care departments, like Emergency and Surgery.

Keywords: Workplace violence, Female healthcare workers, Sexual harassment, Physical violence. (JPMA 74: 1016; 2024)

DOI: https://doi.org/10.47391/JPMA.8417

Introduction

Female healthcare workers (HCWs) form an indispensable part of the healthcare workforce, and an unsafe work environment limits their participation. Their safety and wellbeing are extremely crucial to maintaining an effective healthcare system.

Workplace violence against HCWs is defined as any incident where HCWs are verbally abused, physically assaulted or sexually harassed at their workplace or in circumstances related to their work, involving a definitive challenge to their safety and mental wellbeing.[1] Almost a quarter of all the violence at work is contributed by violence in the health sector.[1,2] Workplace violence can be categorised as verbal abuse, like the use of words or tone to disrespect, threaten or rebuke another person, physical violence, like physical contact, beating, kicking, slapping and stabbing, and sexual violence, which includes any unwelcome conduct, verbal or physical based on sex.[3] Violence in the health sector is a significantly concerning yet neglected issue in Pakistan. According to a large-scale study conducted in Pakistan, on average, each HCW experienced 4.15 events of violence in the preceding 6 months.[1] More than one-third of the participants reported having experienced at least one form of violence in that period, of which 35.4% experienced verbal and 7.1% experienced physical violence.[1] Statistics regarding sexual violence in Pakistan are meagre, as it is considered taboo to talk about such issues. One study in Pakistan reported that 21.1% of nurses had experienced verbal sexual harassment, and 16.9% had experienced physical sexual harassment. Healthcare professionals subjected to any form of violence are at a greater risk of developing post-traumatic stress disorder (PTSD), burnout and mental health problems.[1,5,6]

Workplace violence is a significant problem in Pakistan, but there is no Pakistan-based empirical research to guide healthcare policymakers in developing effective policies to

[1-5]Final Year MBBS Student, Rawalpindi Medical University, Rawalpindi, Pakistan; [6]Department of Pathology, Rawalpindi Medical University, Rawalpindi, Pakistan.

Correspondence: Qurat Ul Ain Muhammad. e-mail: qurat6243@gmail.com

ORCID ID. 0000-0002-1771-2149

Submission complete: 15-11-2022 **Review began:** 29-12-2022

Acceptance: 20-12-2023 **Review end:** 29-11-2023

address sexual harassment.[5]

The current study was planned to determine the prevalence, predictors and perpetrators of violence, and its impact on the mental health of female HCWs.

Subjects and Methods

This cross-sectional study was conducted from June to October 2022 at three tertiary care hospitals after approval from the ethics review board of Rawalpindi Medical University, Rawalpindi, Pakistan.

The sample size was calculated using Cochrane's sample size formula:[7]

$$n = \left[\frac{z\alpha}{d}\right]^2 \times p\,(1-p),$$

In the formula, n was the sample size, zα was the confidence interval (CI) 1.96, d was taken as 0.05 and *p* was the probability (30.5%) based on an earlier study.[8] The calculated sample size was 322. The sample was raised using convenience sampling technique. Those included were female HCWs of all cadres, including doctors, nurses and paramedics, from the departments of Medicine, Surgery, Gynaecology, Paediatrics and Emergency. Those employed for <6 months were excluded.

After obtaining informed consent from all the subjects, data was collected using a structured questionnaire adopted from the Joint Programme on Workplace Violence in the Health Sector which is a collaborative initiative of the International Labour Organisation (ILO), International Council of Nurses (ICN), World Health Organisation (WHO) and Public Services International (PSI).[9] The questionnaire was modified according to the needs of the current research. The questionnaire consisted of 4 parts. The first part collected participants' demographic and occupational characteristics, like age, professional category, and department of work. Regarding the professional category, the category 'Physician' was subdivided into three categories: medical officer, resident / house officer, and consultant. A medical officer, often referred to as a general practitioner (GP) or medical doctor, was taken as a licensed primary care physician who provides general medical care and diagnoses in healthcare settings, typically serving as an early-career doctor. Residents were doctors who are undergoing postgraduate training in a specific field. House officers were the interns or junior doctors who had recently graduated from medical schools. Consultants or 'attendings' were all the specialist doctors in their specific fields. The second, third, and fourth parts of the questionnaire inquired about their experiences with verbal, physical and sexual violence, respectively. All three types of violence were defined in clear terms using the WHO definitions[9] of all the three types of violence. The number of times they encountered and witnessed such incidents, the perpetrators, and the effect of such incidents on their mental health were inquired. A brief 6-item questionnaire was used to assess the impact of violence on the mental health of HCWs. The questionnaire was based on the literature.[8,9]

After three iterations, the questionnaire was finalised following discussions with the supervisor and senior faculty of the Community Medicine department. A pilot study was conducted on 20 HCWs to assess the clarity and reliability of the questionnaire. No changes were made, and the responses gathered during the pilot study were included in the final data analysis. Data was collected using Google Forms after approaching the subjects personally.

Data was analysed using SPSS 25. Data was presented as frequencies and percentages. Chi-square test was applied to find the association between demographic characteristics and types of violence. Binary logistic regression was used to compute adjusted odds ratios (AORs) with 95% CIs to identify the predictors of the three types of violence experienced. P<0.05 was considered significant.

Results

Of the 295 HCWs approached, 140(47.4%) participated. There were 54(38.6%) subjects aged 16-26 years, 61(43.6%) 27-37 years, 17(12.1%) 38-48 years, and 8(5.7%) 49-60 years. There were 18(12.9%) medical officers, 52(37.1%) residents / house officers, 5(3.6%) consultants, 57(40.7%) nurses and 7(5%) paramedics. There were 18(12.8%) subjects working in the Emergency department (ED), 22(15.7%) in the gynaecology department, 47(33.5%) in Medicine and allied, 19(13.6%) in Paediatrics, and 34(24.3%) in Surgery and allied (Table 1). There were 90(63.6%) HCWs who dealt with patients of both genders in an equal ratio, 39(27.9%) dealt mostly with female patients, and 11(7.9%) dealt primarily with male patients.

Overall, 60(42.9%) HCWs reported that they had experienced verbal abuse many times in the preceding 12 months. The number of HCWs who reported experiencing verbal violence 'once or twice' was 42(30%). A vast majority of the participants, i.e., 112(80%) reported having witnessed verbal violence and considered it a typical incident at the workplace. Regarding the perpetrators of verbal violence, attendants of the patient 69(49%) were the most common perpetrators, followed by staff members and colleagues 25(18%), patients themselves 21(15%), management and administration 17(12%) and the general public 9(6%).

Table-1: Descriptive characteristics of healthcare workers (HCWs along with frequencies and types of violence faced.

Variable	n (%)	Verbal Violence n (%)	*p*-value	Physical Violence n (%)	*p*-value	Sexual Violence n (%)	*p*-value
Age (years)							
16-26	54 (38.6)	36 (66.6)	0.94	11 (20.3)	0.83	21 (44.4)	0.24
27-37	61 (43.6)	43 (70.4)		11 (18.0)		21 (34.4)	
38-48	17 (12.1)	12 (70.5)		2 (11.7)		3 (17.6)	
49-60	8 (5.7)	5 (62.5)		2 (25.0)		3 (37.5)	
Professional Category							
Resident/ House Officer	52 (37.1)	33 (63.4)	0.03*	10 (19.2)	0.39	17 (32.6)	0.85
Medical Officer	18 (12.9)	14 (77.8)		1 (5.5)		7 (38.8)	
Consultant	5 (3.6)	1 (20.0)		0 (0)		1 (20.0)	
Nurse	57 (40.7)	44 (77.1)		13 (20.8)		23 (40.3)	
Paramedical Staff	7 (5.0)	4 (57.1)		2 (28.5)		3 (42.8)	
Department of Work							
Emergency	18 (12.8)	16 (88.9)	0.001*	8 (44.4)	0.01*	10 (55.5)	0.22
Gynaecology and obstetrics	22 (15.7)	17 (77.2)		5 (22.7)		7 (31.8)	
Medicine and allied	47 (33.5)	21 (44.6)		5 (10.6)		14 (29.7)	
Paediatrics	19 (13.6)	16 (84.2)		5 (26.3)		5 (26.3)	
Surgery and allied	34 (24.3)	26 (76.4)		3 (8.8)		15 (44.1)	

Table-2: Predictors of violence against healthcare workers (HCWs).

	Verbal Violence Adjusted ORs (95% CI)	*p*-value	Physical Violence Adjusted ORs (95% CI)	*p*-value	Sexual Violence Adjusted ORs (95% CI)	*p*-value
Age (years)						
18-25 (n=54)	1.62 (0.22 to 11.5)	0.62	1.50 (0.19 to 11.4)	0.69	3.02 (0.42 to 21.55)	0.46
26-35 (n=61)	1.79 (0.26 to 12.07)	0.54	0.82 (0.116 to 5.85)	0.84	1.40 (0.20 to 9.45)	0.80
36-45 (n=17)	4.84 (0.48 to 48.5)	0.17	0.51 (0.04 to 5.44)	0.58	0.55 (0.55 to 5.61)	0.45
45-60 (n=8)	1	1	1	0.61	1	0.31
Job Title						
Resident	1	1	1	0.51	1	0.55
Consultant	0.15 (0.01 to 2.2)	0.16	<0.001	0.99	0.77 (0.56 to 10.64)	0.84
Medical Officer	2.23 (0.59 to 9.09)	0.22	0.15 (0.16 to 1.44)	0.10	1.69 (0.50 to 5.67)	0.39
Nurse	1.66 (0.61 to 4.59)	0.32	1.11 (0.370 to 3.32)	0.85	2.00 (0.81 to 4.94)	0.13
Paramedic	0.20 (0.02 to 1.96)	0.16	0.71 (0.064 to 7.94)	0.78	0.88 (0.13 to 6.97)	0.91
Department						
Surgery	1	0.004*	1	0.035*	1	0.57
Emergency	3.11 (0.43 to 22.16)	0.25	8.71 (1.693 to 44.87)	0.01*	1.52 (0.42 to 5.50)	0.51
Gynaecology and Obstetrics	1.15 (0.21 to 6.25)	0.86	6.89 (0.749 to 63.41)	0.08	0.73 (0.15 to 3.58)	0.70
Medicine	0.22 (0.07 to 0.03)*	0.005*	1.58 (0.340 to 7.35)	0.55	0.63 (0.23 to 1.70)	0.36
Paediatrics	1.15 (0.24 to 5.47)	0.85	6.01 (1.107 to 32.07)	0.038*	0.50 (0.13 to 1.87)	0.30
Gender of Patient dealt with most often						
Male	1	0.61	1	0.84	1	0.20
Female	0.54 (0.12 to 2.86)	0.46	0.72 (0.112 to 4.67)	0.73	0.28 (0.07 to 1.16)	0.08
Both	0.36 (0.49 to 2.70)	0.32	0.48 (0.043 to 5.55)	0.56	0.26 (0.04 to 1.49)	0.13

The least common form of violence reported by HCWs was physical violence; with 23(16.4%) HCWs reporting having experienced it 'once or twice' in the preceding 12 months, and 3(2.1%) having faced it 'many times.' The majority 114(81.4%) had never experienced physical violence. About 56(40%) HCWs had witnessed physical violence and considered it a typical incident of workplace violence. The attendants of the patients 76(54%) were the primary perpetrators of physical violence, followed by the patients themselves 24(17%) and the general public 20(14%).

Further, 33(23.6%) HCWs had experienced verbal sexual harassment, and 13(9.3%) reported having experienced sexual violence of physical nature in the preceding 12 months. The attendants of patients 41(29%) were the most common perpetrators, followed by physicians 34(24%) and paramedical staff 34(24%).

In the case of verbal violence, HCWs from the Medicine department had significantly lower odds of experiencing verbal violence compared to HCWs from the Surgery department (AOR=0.223; 95% CI: 0.078-0.036; p=0.005). HCWs aged 36-45 years had 4.85 times higher odds of experiencing verbal violence; but the association was not significant (p>0.05).

In the case of physical violence, ED HCWs had significantly higher odds of experiencing violence compared to HCWs from the Surgery department (AOR=8.716; 95% CI: 1.693-44.87; p=0.01). HCWs from the Paediatrics department also had significantly higher odds of experiencing physical violence than those from the Surgery department (AOR=6.019; 95% CI: 1.107-32.07; p=0.038). No significant relationship was found between the frequency of physical violence experienced by HCWs and age, professional category, and the gender of patients dealt with most often (p>0.05).

In the context of sexual violence, HCWs aged 18-25 years had 3.0 times higher odds of violence exposure than those aged 46-60 years. Nurses exhibited 2.0 times higher odds of experiencing sexual violence compared to the residents.

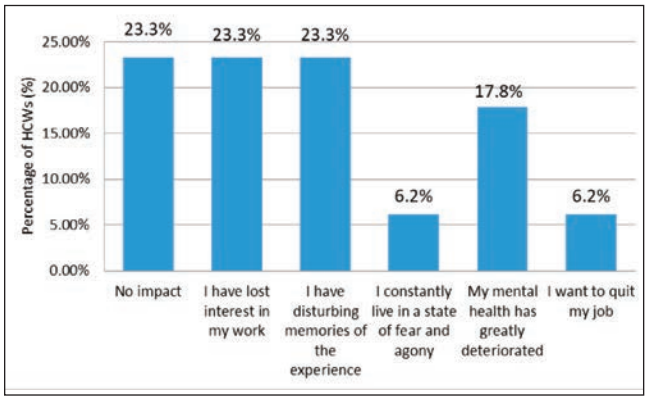

Figure: Impact of violence on the mental health of healthcare workers (HCWs).

Regarding department affiliation, HCWs in the Medicine and Paediatrics departments had 0.6 and 0.5 odds, respectively, of sexual violence exposure compared to those in the Surgery department. HCWs attending to an equal mix of male and female patients showed 0.3 odds of sexual violence compared to those primarily treating male patients, but these odds were not statistically significant (Table 2).

The impact of exposure to any of the three kinds of violence on the mental health of HCWs was significant (Figure). An equal number of HCWs i.e. 32(23.28%) reported to 'have lost interest in their work' and 'have disturbing memories of the experience'. There were 24(17%) HCWs who claimed that 'their mental health has greatly deteriorated following the incident'. An equal number of HCWs 10(6.16%) claimed that 'they constantly live in a state of fear and agony', and that they 'want to quit their job'. There were 32(23.3%) HCWs who stated that the incidents of violence had no impact on their mental health.

Discussion

The current study is one of the very few to touch the topic of violence in the healthcare sector in Pakistan. Therefore, it is pivotal to contextualise our findings within the broader landscape of research on workplace violence among HCWs. While the study primarily emphasised violence against female HCWs in Pakistan, it is instructive to consider the methodologies and findings of other researchers in this domain. Previous studies have adopted various study designs, ranging from cross-sectional surveys and mixed methods studies to systematic reviews. The studies done in Pakistan mainly used cross-sectional[1,4] and mixed-methods approaches.[8] However, only one study conducted in Pakistan focussed on sexual violence faced by HCWs.[4] This study included female nurses, and the sample size achieved was about 704. Moreover, another study used a mixed-methods approach.[8] While the researchers achieved a larger sample size of about 800 HCWs, sexual violence was not included among the facets of violence in the study.[8] Lastly, a study based in Turkey used a quantitative questionnaire-based approach for data collection and achieved a sample size of about 300 HCWs.[5]

Out of all the three types of violence that the current study explored, verbal violence was the most prevalent. These findings are similar to studies conducted in South Korea[6] and Saudi Arabia.[10] A retrospective study in Italy showed that female HCWs experienced more verbal violence (insults) than male HCWs, while male HCWs were more commonly subjected to violence of a physical nature.[11]

The violence of physical nature was the least common form of violence experienced by female HCWs. The finding was in line with a large-scale study conducted in Bangladesh.[12]

The results regarding the incidence of sexual violence were also particularly concerning in the current study that matched the findings of a small-scale study conducted on nurses in Pakistan.[4]

Regarding perpetrators of the three types of violence, understandably, attendants were found to be the chief perpetrators in each case. The finding was supported by literature.[1,13-15]

The current study also focussed on identifying the possible predictors for each form of violence. No significant association was found between the personal factors of HCWs, like age and job title, and the frequency of violence experienced. This suggests that the prevalence of violence did not depend on personal factors of an HCW, but rather on institutional factors, like the department of work, public or private setting and security index of a healthcare setting. The results showed that HCWs from the Medicine department were significantly less likely to experience verbal violence than those from the Surgery department. This points out the need to find all possible ways to reduce the frequency of verbal violence faced by HCWs in the Surgery department of hospitals. It was also observed that HCWs who dealt with female patients or both male and female patients in equal ratios were less likely to experience violence compared to HCWs who mostly dealt with male patients.

As for the predictors of physical violence, HCWs from ED were significantly more likely to experience violence compared to those from the Surgery department, and HCWs from the Paediatrics department were significantly more likely to experience physical violence than those from the Surgery department. The increased frequency of physical violence faced by ED HCWs highlights the need to devise strategies to safeguard HCWs working in ED. A systematic review on violence against physicians and nurses concluded that those who worked in Psychiatry,

Emergency and Geriatric departments were more likely to be exposed to physical violence.[16,17]

With regards to sexual violence, the current study showed that HCWs falling aged 18-25 years had 3.023 greater odds of being exposed to sexual violence compared to those aged 46-60 years. Nurses had 2.001 odds of being exposed to sexual violence compared to the residents. In a United States survey of 1,066 academic medical staff, 30% of women reported having experienced sexual violence in the workplace compared to only 4% of men.[17] In Nepal, 42% of 190 female health workers in a survey on sexual harassment reported having experienced sexual harassment in the form of verbal and physical abuse, and almost two-thirds reported being harassed by senior male colleagues.[18]

The current study also assessed the impact of violence on the mental health of female HCWs which was negative. In a survey by Swiss researchers among several public hospitals and rehabilitation clinics, a 9-item questionnaire was employed. The mental health correlation was measured through items derived from the Swiss Health Survey, which was composed of 100 questions and took 30 minutes to complete. The researchers concluded that prevalence rates and ORs for strong sleep disorders, strong stress feelings and increased burnout symptoms were between 3 and 4 times higher among the most exposed compared to the non-exposed group of hospital employees.[19]

A study among nurses in Rwanda concluded that psychological problems were the first consequences of workplace violence.[20] Reducing and eliminating violence will certainly improve HCWs' quality of life, increasing their efficiency at work.

The current study has limitations, like the low response rate, which was merely 47.4%, presumably due to various apprehensions of the female HCWs. Despite all possible efforts to assure the participants regarding the confidentiality of their responses, the most commonly documented reservation was the fear of retribution from the employer or seniors in the department. Blando et al. described bullying by senior colleagues as one of the most important causes of underreporting of workplace violence.[21] Additionally, there is a stigma associated with discussing issues related to sexual harassment, especially in a conservative society, like that in Pakistan. Consequently, many HCWs seemed hesitant to take part in the study. Violence of a sexual nature is considered a taboo topic and is rarely discussed openly. To the best of our knowledge, the current study is the first in Pakistan to have addressed sexual violence against HCWs of all cadres. Some HCWs also expressed concerns regarding the lack of evidence of violence experienced. They claimed that they did not have any evidence to substantiate the events of violence, and, hence, should not report them. Other factors, such as time constraints, survey fatigue and the lack of incentives, also contributed to the low response rate. The second limitation was the under-reporting or over-reporting bias, which is part of all response-based studies. Thirdly, the study utilised a questionnaire that, while carefully designed to address the research objectives, was not derived from a previously validated instrument for evaluating the effect of workplace violence on the mental health of HCWs. Lastly, the reasons for violence and effective interventions to reduce violence were not explored.

Future research should incorporate large-scale, qualitative, and mixed-methods approaches to provide a more comprehensive perspective. Future studies should also focus on designing interventions to reduce violence at multiple levels.

Conclusion

Violence in the healthcare sector is a prevalent yet neglected issue, seriously impacting the mental health and job efficiency of HCWs. Violence of verbal and sexual nature was found to be more common among female HCWs. Additionally, HCWs in Emergency, Surgery, and Paediatrics departments were at a greater risk of facing violence. Attendants were the most common perpetrators of violence. The healthcare authorities should take action towards building a safer and more reliable working environment for all HCWs, especially female HCWs. Moreover, HCWs should be trained to deal with such incidents in an effective way.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Shaikh S, Baig LA, Hashmi I, Khan M, Jamali S, Khan MN, et al. The magnitude and determinants of violence against healthcare workers in Pakistan. BMJ Glob Health 2020;5:e002112. doi: 10.1136/bmjgh-2019-002112.
2. Bambi S, Foà C, De Felippis C, Lucchini A, Guazzini A, Rasero L. Workplace incivility, lateral violence and bullying among nurses. A review about their prevalence and related factors. Acta Biomed 2018;89:51-79. doi: 10.23750/abm.v89i6-S.7461.
3. Zhang L, Wang A, Xie X, Zhou Y, Li J, Yang L, et al. Workplace violence against nurses: A cross-sectional study. Int J Nurs Stud 2017;72:8-14. doi: 10.1016/j.ijnurstu.2017.04.002.
4. Shaikh MA. Sexual harassment in medical profession--perspective from Pakistan. J Pak Med Assoc 2000;50:130-1.
5. Demirci Ş, Uğurluoğlu Ö. An Evaluation of Verbal, Physical, and

Sexual Violence Against Healthcare Workers in Ankara, Turkey. J Forensic Nurs 2020;16:E33-41. doi: 10.1097/JFN.0000000000000286.

6. Park M, Cho SH, Hong HJ. Prevalence and perpetrators of workplace violence by nursing unit and the relationship between violence and the perceived work environment. J Nurs Scholarsh 2015;47:87-95. doi: 10.1111/jnu.12112.
7. Charan J, Biswas T. How to calculate sample size for different study designs in medical research? Indian J Psychol Med 2013;35:121-6. doi: 10.4103/0253-7176.116232.
8. Baig LA, Shaikh S, Polkowski M, Ali SK, Jamali S, Mazharullah L, et al. Violence Against Health Care Providers: A Mixed-Methods Study from Karachi, Pakistan. J Emerg Med 2018;54:558-66. doi: 10.1016/j.jemermed.2017.12.047.
9. International Labour Office (ILO), International Council of Nurses (ICN), World Health Organization (WHO), Public Services International (PSI). Workplace Violence in the Health Sector - Country Case Study Research Instruments - Survey Questionnaire. [Online] 2003 [Cited 2022 April 12]. Available from URL: https://www.who.int/publications/m/item/workplace-violence-in-the-health-sector---country-case-study-research-instruments---survey-questionnaire
10. Alsaleem SA, Alsabaani A, Alamri RS, Hadi RA, Alkhayri MH, Badawi KK, et al. Violence towards healthcare workers: A study conducted in Abha City, Saudi Arabia. J Family Community Med 2018;25:188-93. doi: 10.4103/jfcm.JFCM_170_17.
11. Acquadro Maran D, Cortese CG, Pavanelli P, Fornero G, Gianino MM. Gender differences in reporting workplace violence: a qualitative analysis of administrative records of violent episodes experienced by healthcare workers in a large public Italian hospital. BMJ Open 2019;9:e031546. doi: 10.1136/bmjopen-2019-031546.
12. Shahjalal M, Gow J, Alam MM, Ahmed T, Chakma SK, Mohsin FM, et al. Workplace Violence Among Health Care Professionals in Public and Private Health Facilities in Bangladesh. Int J Public Health 2021;66:1604396. doi: 10.3389/ijph.2021.1604396.
13. Sisawo EJ, Ouédraogo SYYA, Huang SL. Workplace violence against nurses in the Gambia: mixed methods design. BMC Health Serv Res 2017;17:311. doi: 10.1186/s12913-017-2258-4.
14. Fallahi-Khoshknab M, Oskouie F, Najafi F, Ghazanfari N, Tamizi Z, Afshani S. Physical violence against health care workers: A nationwide study from Iran. Iran J Nurs Midwifery Res 2016;21:232-8. doi: 10.4103/1735-9066.180387.
15. Kahsay WG, Negarandeh R, Dehghan Nayeri N, Hasanpour M. Sexual harassment against female nurses: a systematic review. BMC Nurs 2020;19:58. doi: 10.1186/s12912-020-00450-w.
16. Harthi M, Olayan M, Abugad H, Abdel Wahab M. Workplace violence among health-care workers in emergency departments of public hospitals in Dammam, Saudi Arabia. East Mediterr Health J 2020;26:1473-81. doi: 10.26719/emhj.20.069.
17. Jagsi R, Griffith KA, Jones R, Perumalswami CR, Ubel P, Stewart A. Sexual Harassment and Discrimination Experiences of Academic Medical Faculty. JAMA 2016;315:2120-1. doi: 10.1001/jama. 2016. 2188.
18. Bhusal A, Adhikari A, Singh Pradhan PM. Workplace violence and its associated factors among health care workers of a tertiary hospital in Kathmandu, Nepal. PLoS One 2023;18:e0288680. doi: 10.1371/journal.pone.0288680.
19. Stahl-Gugger A, Hämmig O. Prevalence and health correlates of workplace violence and discrimination against hospital employees - a cross-sectional study in German-speaking Switzerland. BMC Health Serv Res 2022;22:291. doi: 10.1186/s12913-022-07602-5.
20. Musengamana V, Adejumo O, Banamwana G, Mukagendaneza MJ, Twahirwa TS, Munyaneza E, et al. Workplace violence experience among nurses at a selected university teaching hospital in Rwanda. Pan Afr Med J 2022;41:64. doi: 10.11604/pamj.2022.41.64.30865.
21. Blando J, Ridenour M, Hartley D, Casteel C. Barriers to Effective Implementation of Programs for the Prevention of Workplace Violence in Hospitals. Online J Issues Nurs 2015;20:5.

Author Contribution:

QM: Design, drafting, final approval and agreement to be accountable for all aspects of the work.

MI, HE: Data analysis, revision, final approval and agreement to be accountable for all aspects of the work.

FF, AS: Data interpretation, revision, final approval and agreement to be accountable for all aspects of the work.

SL: Design, revision, final approval and agreement to be accountable for all aspects of the work.