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Original Article

Workplace violence in health care settings and adverse mental health outcomes among health care workers of Nepal: A cross-sectional study

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ABSTRACT

Introduction: Violence against health care workers (HCWs) is an emerging problem which has a wide range of impact on physical and mental health, standard of care giving, and work productivity of health professionals. The major aim of the present study was to determine workplace violence (WPV) and its associated variables carrying the risk of undergoing mental health disorders (stress, anxiety and depression).

Methods: From May 2023 to October 2023, a cross-sectional survey was conducted in hospital settings amongst 367 HCWs working in various hospitals of Nepal by using the Standard Depression, Anxiety, and Stress Scale (DASS-21) tool. Bivariable and multivariable logistic regression, as well as descriptive analysis, were done.

Results: WPV among study participants was 46%. Verbal violence (42.2%) was the most common. Males (AOR: 2.8), staying in joint/extended family (AOR: 1.7), and perceiving work as stressful (AOR: 2.6) were more likely to experience WPV. HCWs experiencing at least a form of violence were more likely to face depression (COR: 3.3), anxiety (COR: 3), and stress (COR: 3.3) later on.

Conclusion: WPV is a threat soaring among the HCWs. Male gender, type of family, and the stressful nature of work were the determining factors for experiencing WPV. Violence among HCWs increased the chance of acquiring depression, anxiety and stress. It is imperative to establish evidence-based strategies to prevent workplace violence and foster a positive workplace culture to preserve psychological well-being among HCWs.

Keywords: Anxiety, Depression, Doctors, Health care workers, Nurses, Stress, Workplace violence

Introduction

Workplace violence (WPV) is a critical human rights issue that has emerged over the recent decade, affecting the dignity of each worker.[1] Physical abuse, verbal abuse, and threats are ubiquitous across all workplaces, including healthcare settings, which have raised serious concerns around the world.[1,2] Globally, 61% health care workers (HCWs) are victims of WPV[3] and approximately 75% health care settings have reported violence each year.[4] Moreover, health workers are four times more likely to be victimized compared to other workers.[5] More than fifty percent of workers had experienced at least one episode of physical or nonphysical violence in the year before, within the health care premises of seven different nations.[6]

Any form of violence against HCWs significantly impacts mental health, quality of care giving, and productivity of health care professionals.[2,6] Evidence showed that doctors or nurses who went through WPV had reduced job performance[7], decreased job satisfaction[8], negative effects on physical and mental health[9], a change in turnover intentions, and influenced quality of life.[10] Moreover, it imparts a negative impression among all healthcare professionals.[11] As violence among health workers increases, stress, anxiety, and depression also increase.[9,12-14] Violence is predominant among the professional group of doctors and nurses, especially prevailing highly among the latter. Nearly a quarter of workplace violence occurs in the health sector.[1,9] It is becoming more and more apparent how much violence at work and issues with mental health at work cost individuals, the workplace, and society as a whole.[1,15] Globally, a projected 12 billion working days are lost annually due to depression and anxiety, accounting for 1 trillion US$ as lost productivity.[15] The growing attention in the prevention of violence and promotion of mental health at the workplace is supported by various international organizations such as the World Health Organization (WHO), the International Council of Nurses (ICN), the Public Services International (PSI), and the International Labor Organization (ILO).[1]

Workplace violence against HCW was recently reported in various Nepalese media, stating that around a dozen HCW were inflicted with verbal and physical assault during working hours.[16-17] However, the exact nationwide estimation is not known. Few studies have shown a varied range of WPV from 65% to 100%.[18-19] The common factors responsible for WPV in Nepal are health workers related factors,[1,4] patient/visitor factors,[1,6] and environment related factors.[1,4] Studies also reported that gender,[9] age,[18] marital status,[19-20] work experience, work load, salary, types of hospital,[20] types of working wards[18-20] and work shift are the determining factors for workplace violence.[20]

Even though workplace violence and mental health issues are booming, sufficient evidence is lacking due to limited focused research and low violence reporting rates, especially in Nepal. Hence, in this context, the present study was performed to identify WPV and its associated mental health outcomes (anxiety, stress, and depression) among health care workers.

Methods

A health facility-based cross-sectional study was conducted among doctors and nurses working in the medical, surgical, emergency, and inpatient departments of six public and private hospitals in Nepal from May to October 2023. We chose doctors and nurses because they were actively involved in patient care and were common victims of WPV in the healthcare setting.[9,15] We selected 3 public (Mental hospital, Lagankhel; Narayani Regional Hospital, Birgunj and Sukraraj Tropical & Infectious Disease Hospital) and 3 private hospitals (Nisarga Hospital, Dhangadi; Devdaha Medical College, Rupandehi: Chitwan Medical College, Chitwan) from major cities of Nepal.

Sample size of present study was determined by Cochran formula considering 68% prevalence of workplace violence among health care worker at

95% level of confidence and 5% acceptable margin of error.[19] The calculated sample size was 369; however, the sample size was rounded to collect data from 370 doctors and nurses from the selected hospitals. Quota sampling techniques were applied to select the respondents. Firstly, we obtained the list of HCWs from the administrative office of each selected hospital, which contained a total of 1502 HCWs. Hence, the quota was slotted based on the proportion for each hospital. Based on quota assigned, 9.98% (36) of the participants were selected from Nisarga Hospital, 23.3% (86) were from Devdaha Medical College, 22.7% (83) were from Chitwan Medical College, 5.75% (21) from Mental Hospital, 18.3% (67) were from Narayani Regional Hospital and 19.97% (73) from Sukraraj Tropical & Infectious Disease Hospital. The doctors and nurses who provided direct treatment to the patients and who were able to understand the Nepalese language were chosen using a convenience sampling technique.

The Depression, Anxiety and Stress Scale (DASS-21) was used to assess depression, anxiety, and stress.[21] DASS has been shown to demonstrate good psychometric properties across cultures with versions translated and validated in several languages, including Nepal.[21] The dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia scales measure depression. The autonomic arousal, skeletal muscle effects, situational anxiety, and subjective sensation of anxious affect are all measured by the anxiety scale. The persistent nonspecific arousal levels are sensitive to the stress scale. It evaluates issues with relaxation, nervousness, and a tendency to become easily irritated, upset, or impatient.[22] The three DASS-21 scales each have seven items that are broken down into subscales which are graded on a 4-point Likert scale from 0 to 3 (0: "Did not apply to me at all," 1: "Applied to me to some degree, or some of the time," 2: "Applied to me to a considerable degree, or a good part of time," 3: "Applied to me very much, or most of the time".[22-24] Levels of depression, anxiety and stress were coded based on the total score as per the standard guidelines.[23] For depression, a total score from 0 to 9 was considered as normal, 10 to 13 (mild), 14 to 20 (moderate) and 21 to 28 (severe), and above 28 (extremely severe). The anxiety subscales were considered as normal (0-7), mild (8-9), moderate (10-14), severe (15-19), and extremely severe (20-42). The total stress subscale was considered as normal (0-18), mild (15-18), moderate (19-25), severe (26-33), and extremely severe (34-42). It was further classified into dichotomous variables for each domain as no depression, no anxiety, and no stress by combining normal and mild categories, and for depression, anxiety, and stress by merging moderate, severe, and extremely severe categories.

WPV in this study was measured by using self-reported questionnaire of past 12 months which was developed and validated by World Health Organization (WHO), International Council of Nurse (ICN), Public Services International (PSI) and International Labor Organization (ILO) in 2003.[1] We chose the Nepalese version of this tool previously used in Pandey et al., study 2018.[18] The questionnaire asks about personal and professional details, the frequency of physical, verbal, and sexual violence, and the characteristics of each type of violence. Different questions, for instance, measured every kind of violence: have you experienced physical/sexual/ psychological WPV in the past 12 months, and answers were recorded in yes/no format. We considered the evidence of WPV among respondents experiencing at least one form of violence (physical, verbal, bullying/Mobbing and sexual) in the past 12 months.

Other variables included in this study were age, sex, religion, ethnicity, types of family, per month salary, marital status, educational status, current working wards, work experience, profession, place of residence, working hours, types of hospital currently working, level of the hospital work, training on communication skills, and doing shift work.

Self-administered anonymous semi-structured questionnaires and the DASS-21, a validated standard depression, anxiety, and stress scale, were used to collect data. All the participants were invited to participate in the study by their respective medical superintendents. Doctors and nurses who willingly came in contact with the researcher from the selected hospitals were considered respondents. Those respondents with less than six months of working experience or without direct involvement in patient care were excluded from the study. A total of 370 participants from various hospitals were asked to participate in the study. All respondents were pre-informed to complete the questionnaire to avoid confusion. However, a total of 367 respondents, including 67 doctors and 300 nurses, participated in the survey, with a response rate of 99%.

For analysis, all of the collected data were entered into Microsoft Excel, and IBM SPSS Version 20 was used for the study of data. Descriptive statistics were performed in the form of frequencies and percentages. Multivariable logistic regression was performed to identify the factors that contribute to WPV. Results from multivariable logistic regression were adjusted for sex, type of family, education, working hours per shift, and perceived nature of work, working wards, and type of profession. Bivariate logistic regression was done to establish an association between workplace violence and mental health problems like depression, anxiety, and stress. The results from bivariable analysis were stated in the form of crude odds ratio (COR) and the results from multivariable analysis were presented as adjusted odds ratio (AOR) with 95% confidence intervals (CI). To detect interdependence between predictive variables, the test of multicollinearity was done. There was no relationship among the independent variables. Those variables whose p-value was less than 0.05 were considered significant.

The Institutional Review Board of Nepal Health Research Council had authorized the study protocols with registration number (179/2023), and they were carried out in compliance with ethical standards of the Declaration of Helsinki. Each participant had signed a written consent form attached to a self-administered questionnaire after receiving complete information about the study. The information obtained from the participants was kept private and anonymous.

Results

Table 1 describes the general profile of the included participant.

Table 1. General profile of the included participants (n= 367)

Characteristics	n (%)	Workplace violence n (%)
Age		
≤ 30 years	307(83.7)	139(45.3)
>30 years	60(16.3)	30(50)
Mean age ±SD	29.51±6.63	
Gender		
Female	301(82)	126 (41.9)
Male	66 (18)	43 (65.1)
Religion		
Hindu	331(90.2)	157(47.4)
Others (Buddhist, Muslim)	36(9.8)	12(33.3)
Ethnicity		
Brahmin/Chhetri (Upper caste groups)	186(50.7)	92(49.5)
Others (Janajati, Madheshi) (Lower caste groups)	181(49.3)	77(42.5)

Type of Family		
Nuclear	220(59.9)	91(41.4)
Joint/Extended	147(40.1)	78(53)
Marital status		
Single	166(45.2)	81(48.8)
Married	201(54.8)	88(43.8)
Per month income (Rs.)		
≤ 30,000	183(49.9)	83(45.4)
>30,000	184(50.1)	86(46.7)
Education		
Diploma (Intermediate)	141(38.4)	53(37.6)
Undergraduate	152(41.4)	75(49.3)
Postgraduate and above	74(20.2)	41(55.4)
Profession		
Doctor	67(18.3)	40(59.7)
Nurse	300(81.7)	129(43)
Working wards		
Emergency	49(13.4)	28(57.1)
IPD (Inpatient Department)	221(60.2)	107(48.4)
OPD (Outpatient department)	97(26.4)	34(35.1)
Working Hours per shift		
6 hours	139(37.9)	63(45.3)
8 hours	189(51.5)	80(42.3)
12 or more than 12 hours	39(10.6)	26(66.7)
Level of hospitals		
Tertiary	133(36.2)	65(48.9)
Others (Secondary and primary)	234(63.8)	104(44.4)
Perceived nature of work		
Stressful	226(61.6)	126(55.8)
Not stressful	141(38.4)	43(30.5)

Note: n (%) means number (frequency)

Four out of five eligible respondents (83.7%) were under 30 years old. The majority of the study participants were female (82%) and Hindu (90.2%). More than half (54.8%) were married, while others were grouped as single (widowed, divorced, separated). The majority of the respondents were nurses (81.7%) and doctors 67, 18.3%). More than one third of the workers (38.4%) had completed a diploma level, passed undergraduate study (41.4%), and 20.2% had finished a postgraduate degree or above. More than half (60.2%) of the study participants had worked in the Inpatient department (IPD), followed by 26.45% in the outpatient Department (OPD), and 13.4% in the emergency department. Out of the study participants, more than half (51.5%) were working 8-hour shifts per shift, 37.9% were doing 6-hour shifts, and 10.6% were employed for 12 hours or more per shift. Nearly three out of five respondents (61.6%) perceived their work as stressful (Table 1).

The current prevalence of overall workplace violence (physical, verbal, bullying/mobbing and sexual) among study participants was 46%. A higher prevalence of WPV was noticed among males than females (65.1% vs 41.9%). The proportion of participants facing WPV increased with higher education level from 37.6% (diploma) to 55.4 % (postgraduate and above). Similarly, workplace violence was higher among the doctors as compared to the nurses (59.7% vs 43%). The respondents who worked in emergency rooms reported the highest rate of workplace violence (57.1%), followed by IPD (48.4%) and OPD (35.1%) setups. Regarding the working hours, respondents who worked for 12 hours or more had also experienced other forms of violence (66.7%) (Table 1)

Table 2: Frequency of workplace violence, Depression, Anxiety and Stress (n=367)

Type of Violence	Experienced in past 12 months (%)	Depression n=66	Anxiety n =115	Stress n =42
Experienced at least any one form of violence	169 (46)	46(69.6)	74(64.3)	30(71.4)
Physical violence	33(9)	15(27.7)	21(18.3)	8(19)
Verbal violence	155(42.2)	45(68.2)	68(59.1)	27(64.3)
Bullying/mobbing	49(13.4)	22(33.3)	26(22.6)	13(30.9)
Sexual violence	11(3)	3(4.54)	7(6.1)	4(9.5)

Note: n (%) means number (frequency)

Table 2 represents the magnitude of WPV and burden of depression, anxiety, and stress among the people who experienced different forms of WPV. Overall, 169(46%) HCWs had reported WPV in the past 12 months. The proportion of verbal insult was highest 155(42.2%) among HCWs followed by bullying/mobbing 49(13.4%), physical assault 33(9%) and sexual violence 11(3%). Overall, 115(31.3%) of the total population suffered from anxiety, followed by depression 66(18%) and stress 42(11.4%). Nearly seven out of ten respondents who faced depression 46(69.6%), anxiety 74(64.3%), and stress 30(71.4%) had exposure to at least one form of WPV. Depression 45(68.2%), anxiety 68(59.1%), and stress 27(64.3%) were also common among the HCWs who had experienced a verbal form of violence. The proportion of depression, anxiety, and stress among the health workers who experienced physical violence was 15(27.7%), 21(18.3%), and 8(19%), respectively. Similarly, the proportion of depression, anxiety, and stress among the study participants who were bullied/mobbed was 22(33.3%), 26(22.6%), and 13(30.9%), respectively (Table 2).

Table 3: Regression analysis of workplace violence associated with socioeconomic and work-related status

Variables	Workplace Violence-Yes	COR (95% CI)	p value	AOR (95%CI with p)	p value
Gender					
Female	126(41.9)	1		1	
Male	43(65.2)	2.6[1.49-4.52]	0.004*	2.8(1.22-6.22)	0.01*
Family type					
Nuclear	91(41.4)	1		1	
Joint/Extended	78(53.1)	1.6(1.05-2.44)	0.021*	1.7 (1.10-2.70)	0.030*
Education					
Diploma	53(37.6)	1			
Undergraduate	75(49.3)	1.6(1.02-2.58)	0.042*		
Postgraduate and above	41(55.4)	2.1 (1.12-3.65	0.025*		
Perceived nature of work					
Stressful	126(55.8)	2.9(1.84,4.48)	0.0001*	2.6(1.60,4.1)	0.0001*
Non stressful	43(30.5)	1		1	
Working hours per shift					
6 hours	63(45.3)	1			
8 hours	80(42.3)	0.885(.569-1.37)	0.082		
12 hours and above	26(66.7)	2.4 (1.15-5.08)	0.030*		

Working station			
Emergency	28(57.1)	2.5(1.22-4.99)	0.011*
IPD	107(48.4)	1.7(1.06-2.85)	0.025*
OPD	34(35.1)	1	
Profession			
Doctor	40(59.7)	2(1.15-3.37)	0.036*
Nurse	129(43)	1	

Note: 1 means reference category. Results are adjusted for sex, type of family, education, working hours per shift and perceived nature of work, working wards and profession, *** p < .001, ** p < .005, * p < .01, COR: Crude Odds Ratio, AOR: Adjusted Odds Ratio

Table 3 highlights the covariates associated with WPV in the last 12 months. The results of the bivariable logistic regression analysis showed that male (COR:2.6, 95% CI 1.49,4.52), belonging to joint/extended family (COR:1.6, 95% CI 1.05, 2.44), undergraduates (COR:1.6, CI 1.02,2.58), postgraduates or above study (COR: 2.1, 95% CI 1.12,3.65), worked 12 hours or more per shift (COR: 2.4, 95% CI 1.15, 5.08), worked in the emergency department (COR: 2.5, 95% CI 1.22, 4.99), worked in IPD (COR: 1.7, 95% CI 1.06, 2.85), doctors (COR: 2, 95% CI 1.15, 3.37) and perceiving their work as stressful (COR: 2.9, 95% CI 1.84, 4.48) were more likely to experience WPV in their premises. Similarly, the results of the multivariable regression analysis showed that males (AOR:2.8, 95% CI 1.22, 4.52), staying with joint/extended family (AOR:1.7, 95% CI 1.10, 2.70) perceived work as stressful (AOR: 2.6, 95% CI 1.60, 4.10) had an increased chance of facing WPV (Table 3).

Table 4: Regression analysis (Crude odds ratio) for depression, anxiety and stress associated with workplace violence

Variable	Depression	p value	Anxiety	P value	Stress	P value
Experienced at least any form of violence						
Yes	3.3 (1.87,5.90)	0.0001*	3(1.88,4.71)	0.0002*	3.3(1.65,6.76)	0.0001*
No	1					
Physical violence						
Yes	4.6(2.19,9.76)	0.0001*	4.5(2.11,9.44)	0.0001*	2.8 (1.18,6.8)	0.007*
No	1					
Verbal abuse						
Yes	3.7(2.10,6.57)	0.0001*	2.7(1.74,4.31)	0.0001*	2.8(1.4,5.41)	0.006*
No	1					
Bullying/Mobbing						
Yes	5.1(2.65,9.68)	0.0003*	2.9(1.57,5.36)	0.0001*	3.6(1.71,7.54)	0.0008*
No	1					
Sexual violence						
Yes	1.7(0.45,6.75)	0.089	4 (1.15,14.01)	0.034*	4.8(1.33,17.09)	0.028*
No	1					

Note: 1 means reference category, * denotes significance COR: Crude Odds Ratio

HCWs who faced even a single form of violence were more likely to suffer from depression (COR: 3.3, CI: 1.87, 5.90), anxiety (COR: 3, CI: 1.88, 4.71), and stress (COR: 3.3, CI: 1.65, 6.76). The highest odds of depression (COR: 5.1, CI: 2.6, 6.8) were found among HCWs who suffered from bullying or mobbing. The highest risk of anxiety (COR: 4.5, 2.11, 9.44) was seen among those HCWs who had experienced a physical form of violence. Similarly, the highest level of stress COR: 4.8(1.33-17.09) was found among sexually victimized HCWs. HCWs who faced physical violence had higher

chances of ending up with depression (COR: 4.6, CI: 2.19, 9.76) and anxiety (COR: 4.5, CI: 2.11, 9.44) as compared to stress episodes (COR: 2.8(1.18-6.8). Exposure to verbal abuse/violence increased the chance of depression, anxiety, and stress by nearly 4-fold (COR: 2.8, CI: 1.18, 6.8), 3-fold (COR: 2.7, CI: 1.74, 4.31), and 3-fold (COR: 2.8, CI: 1.40, 5.41), respectively. Respondents who experienced bullying/mobbing were 5 times,3 times and nearly 4 times likely to acquire depression (COR: 5.1, CI: 2.6, 6.8), anxiety (COR: 2.9, CI: 1.57-5.36) and stress 3.6 (COR:3.6, CI: 1.7, 7.54), respectively. Respondents who had experienced sexual violence were 4 times and 5 times likely to acquire depression (COR: 4 CI: 1.15, 14.01) and stress (COR: 4.8, CI: 1.33, 17.09), respectively (Table 4).

Discussion

WPV is becoming a serious issue among health care professionals, especially in developing nations. Thus, the current study was employed to explore the correlates of WPV and the strength of association between workplace violence and mental health issues. Overall, the reported rate of WPV among study participants was 46%. Verbal violence was the most common type of violence among healthcare workers. Male, higher education, working hours, kind of family, working wards, nature of work and the workers' profession were the determining factors for WPV. HCWs who experienced WPV had a higher chance of acquiring mental illnesses like depression, anxiety, and stress. Stress, anxiety and depression were higher among HCWs who had experienced bullying/mobbing, physical violence, and sexual violence, respectively.

The current study reported that the prevalence of WPV among Nepalese HCWs was 46% which was in line with the studies conducted by Cheung & Yip, 2018, in Hong Kong (44.6%),[25] Ismail et al, 2022, in Kuala Lumpur (44%)[26] and Bhusal et al., 2023, in Nepal (43%).[27] Still, it was slightly lower than the study by Wang et al, 2021 in China (52.2%),[28] Marte et al.,2019 in Rome (66.5%),[29] Kotti et al., 2022 in Tunisia (56.3%),[30] Pandey et al, 2018 in Nepal (64.5%),[18] Dhamala et al, 2020 in Nepal (68%),[19] and by Hossain et al., 2020 in India (55%).[23] Our result was higher than a study conducted by Feng et al. (2022 in China, who reported a 14.26% burden of WPV.[24] The possible reasons behind the varied prevalence among studies could be due to differences in study location, study subjects, types of hospital selection, and different legislations. Apart from this, WPV is primarily determined by the factors linked with overcrowded areas, lack of information, prolonged waiting hours, a decrease in the standard of care, and cultural and language differences.[31,32,33] The proportion of verbal violence was higher compared to other groups, which was in line with several studies conducted in various parts of the world, for instance, Hong Kong, Malaysia, China, Rome, Nepal, and India.[18,24-26,28-30] This pattern of variation could be attributed to variations in the healthcare system and study environment, as well as study populations' individual characteristics and cultural implications.

Regression analysis employed in the current study revealed that male HCWs were nearly three times likely to face WPVs compared to females, which was similar to other research papers conducted by Kotti et al, 2022 in Tunisia [30], Bhusal et al., 2023 in Nepal[27], Cheung & Yip, 2017 in Hong Kong,[25] Hossain et al, 2020 in India,[23] Ori J et al, 2014 in Manipur, India,[34] and Vaishali et al, 2018 in Haryana, India.[35] However, according to a study conducted by Feng et al., 2022 in China,[24] female HCWs were more susceptible to WPV. Likewise, HCWs who had been working in the emergency ward and IPD had an enhanced risk of confronting WPV by two and a half folds as per the current study. This finding coincided with several other studies conducted by Bhusal et al., 2023 in Nepal,[27] Ismail et al., 2022 in Kuala Lumpur, Malaysia,[26] Kotti et al., 2022 in Tunisia,[30] and by Hossain et al., 2020 in India.[23] Apart from this, current study revealed that work duration

per shift, profession category and higher level of education largely influence the risk of exposure to violence. Similar evidences were also portrayed from the previous studies by Cheung & Yip, 2017 in Hongkong,[25] Zhang et al., 2006 in China,[36] Bhusal et al, 2023 in Nepal.[27] Indian researches had revealed that high odds of facing violence was found among those HCWs who feel their work was stressful,[37] which was also the trend with the current study. It also depicted that stressful status and prolonged working habit was 2.6 times likely to expose peoples with work place violence.

Nearly seven out of ten workers who suffered from depression, anxiety or stress during their work period had experienced at least one form WPV. This finding was supported by a large number of literatures.[38-39] A review paper done by Mei Ching Lim highlighted that WPV contribute for negative psychological wellbeing and increased the wide range of mental health issues particularly anxiety, depression and stress.[38] Reliable report published put evidences that large number of HCWs were having high level anger, fear, depression and guilt who frequently encountered with different forms of WPV.[1-2] Similarly, International council of Nurses further strengthened our finding revealing the fact that the victims of WPV experienced a high level of stress.[39] Negative psychological emotions due to WPV can have the following possible impacts: increased absenteeism and use of sick leave; decreased employee morale and motivation, adverse impact on employee performance, which could further promote the vicious cycles of WPV and adverse mental health issues. Besides, people's access to basic health services could be threatened in case HCWs had to drop out of employment due to an imminent threat and stress. This scenario would particularly affect the health care service in developing countries where the number of HCWs are not adequate to deal with the needs and demand of the population.[1,2,39]

There were higher odds (more than 3) of acquiring depression, anxiety and stress among the HCWs who had experienced WPV in their work settings. Study from Wang et al, 2021,[28] revealed that verbal, physical and any other forms of violence increases the risk of acquiring depression by three times among HCWs which also support the present study. Significant relationship of workplace violence with depression, anxiety and stress have also been disclosed from various studies by EI-Zoghby et al., 2022, Braig et.al., 2018, Zafar et al., 2013, Stathopoulou et al., 2004, FeriP et al., 2016 and Fida R. et al., 2018.[40-42,31-33]

Based on the findings of this study, following are the recommendations for preventing and managing WPV in order to avoid negatives consequences on mental health. First of all, more unbiased evidences need to be generated using large samples to establish and extend relationship between WPV and mental health issues in Nepal. On second instance, there is a need to evaluate the existing policies, formulate standards and strict guidelines for misconduct towards HCWs. Finally, there is a requisite to provide orientation to every recruited HCWs regarding WPV overview, control and preventive mechanisms as well as need to establish a reporting system which can analyze the root cause in order to take corrective actions.

Strengths and limitations

Present study has certain strength. This study was carried out in 5 different hospitals of the major cities of the Nepal, which was likely to represent health care areas of work place violence. This is the first study which would explore the relationships between WPV and mental health according to the Nepalese context. Nonetheless, this study has limitations as well. WPV data was collected based on the participants' ability to recall past events in 12 months, potentially resulting in recall bias. Furthermore, the DASS tool used in this study has no direct implications for the allocation of patients to discrete diagnostic categories postulated in classifiable systems such as the Diagnostic and Statistical Manual of Mental Disorders (DSM) and International

Classification of Diseases (ICD). However, DASS assesses key symptoms of depression, anxiety, and stress.[22] Respondents were selected based on the convenience method; hence, the extrapolation of the findings could be compromised. Although there are limitations, this study would provide significant insights into WPV, its covariates, and the relationship with depression, anxiety, and stress.

Conclusions

Nearly half of healthcare workers in Nepal reported experiencing workplace violence, representing a public health issue. Verbal abuse emerged as the most prevalent form. Key factors associated with workplace violence included being male, possessing higher educational qualifications, working extended shifts (≥12 hours), employment in high-risk wards such as Emergency and Inpatient Departments, and being a doctor. Exposure to workplace violence had detrimental effects on mental health, increasing the likelihood of depression, anxiety, and stress. These findings highlight the urgent need for targeted awareness, recognition, and the implementation of effective prevention and control measures within healthcare settings to mitigate its harmful impact on healthcare workers in Nepal.

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Conflicts of interest

There are no conflicts of interest.

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