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Factors Associated with Workplace Violence among Nurses in Public Hospitals in Addis Ababa, Ethiopia in 2023: A Cross-Sectional Study

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Abstract

Background: Workplace violence represents a significant global health issue, and nurses, who are the backbone of healthcare provision, are particularly susceptible to this issue. Despite this, there is a lack of evidence regarding the extent of workplace violence against nurses in Ethiopia.

Objective: Examining workplace violence and its associated factors among nurses in public hospitals Addis Ababa, Ethiopia, in 2023.

Method: A facility-based cross-sectional study was undertaken involving 392 nurses employed in public hospitals across Addis Ababa, Ethiopia. Nurses were selected through a simple random sampling technique conducted within their respective workplace health facilities. Data were gathered using a pretested self-administered questionnaire. Descriptive, binary, and multivariable logistic regression analyses were conducted, and significant associations were determined using the adjusted odds ratio (AOR) with a 95% Confidence interval (CI).

Results: Among the 381 nurses who participated in the study, more than two-thirds (67.5%) reported encountering at least one form of workplace violence (WPV) in the preceding six months, with verbal abuse being the most prevalent (82.5%). Statistical analysis identified significant correlations between workplace violence and several factors: male gender (AOR=0.56, 95% CI [0.34, 0.95]), marital status (AOR=3.17, 95% CI [1.87, 5.37]), direct physical contact (AOR=5.20, 95% CI [1.43, 18.88]), and training (AOR=0.13, 95% CI [0.07, 0.23]).

Conclusion: The prevalence of workplace violence among nurses was notably high, with significant associations observed with the workers' gender, involvement in direct physical contact with patients, and completion of training. Urgent intervention is necessary to ensure a safer workplace environment. Moreover, the implementation of trainings and a formal incident reporting procedure could prove beneficial for prevention efforts.

Keywords: Factors; Violence; Nurses; Prevalence

Abbreviations: **AOR:** Adjusted Odd Ratio, **CI:** Confidence Interval, **COR:** Crude Odds Ratio; **ILO:** International Labour Office; **ICN:** International Council of Nurses; **OR:** Odd Ratio; SPSS: Statistical Package for Social Science Software; **SSA:** Sub-Saharan Africa; **WHO:** World health Organization; **WPV:** Workplace violence, **Y12HMC:** Yekatit 12 Hospital Medical College.

Background

Workplace violence (WPV) is defined as the deliberate exertion of power, whether through threats or actual actions, directed at an individual or a group within the context of their work [1]. Violence can be classified according to the nature of the behaviour, encompassing physical, sexual, psychological, and verbal forms. Additionally, it can be categorized based on the sources of violence: a) internal, which is perpetrated by employers and employees within the same company; and b) external, which is carried out by outsiders including clients and criminals [2]. Previously, emphasis has been predominantly placed on physical violence in the workplace. However, accumulating evidence has recently highlighted the harm caused by non-physical forms of violence, such as verbal and psychological aggression, in the workplace [3]. Injuries from workplace violence (WPV) can manifest as physical, psychological, or a combination of both. Both physical and psychological WPV can lead to various repercussions, such as emotional distress, burnout, dissatisfaction with one's job, substance abuse, and other psychological impacts. These effects ultimately jeopardize the well-being of the victims, leading to decreased performance and productivity losses [4].

Additionally, sexual violence, as a form of aggression, exerts a profound influence on both the workplace and society as a whole. Given the intricate potential consequences of sexual violence on both physical and mental well-being, survivors may require time away from their duties. Moreover, instances of sexual violence within the workplace can foster an atmosphere of fear, diminishing productivity, work performance, and overall staff well-being [5,6].

Worldwide, various studies have indicated that workplace violence (WPV) presents a significant challenge for nurses, with over 50% of nurses reporting experiencing at least one incident of violence within the past 12 months [7-9]. According to the findings of the International Labour Office (ILO), nurses experienced a higher incidence of violence compared to other healthcare professionals [10]. Because nurses have direct contact with patients, they face a higher risk of violence compared to other hospital staff [11]. Nurses as front-line care providers serve in a wide variety of settings caring for individuals who face all types of trauma, suffering, and life-altering events [12].

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Various evidence indicates that diverse socio-demographic factors and work-related elements impact the prevalence of workplace violence (WPV) against nurses [13-15].

In Ethiopia, guidelines concerning occupational safety and health (OSH) were expected to be issued by the Ministry of Labor and Social Affairs (MoLSA). According to Article 92 of the Ethiopian Labour Proclamation No. 377/2003, employers are legally required to safeguard the health and safety of their employees. However, there was a lack of a national OSH policy and a professionally established body or association responsible for determining how incidents should be managed and monitored [16]. However, the absence of evidence supporting this concern stems from a lack of information regarding the workplace violence among nursing professionals in developing countries such as Ethiopia. Consequently, this study aims to investigate the factors associated to workplace violence among nurses employed at public health facilities in Addis Ababa, Ethiopia.

Method and Materials

A facility-based cross-sectional study was carried out in April 2023 among nurses employed in public health facilities located in Addis Ababa, Ethiopia, which serves as the capital city of the country. The study encompassed all public health facilities falling under the jurisdiction of the Addis Ababa City Administration Health Bureau, including Gandhi Memorial Hospital, Menelik II Referral Hospital, Ras Desta Damtew Memorial Hospital, Tirunesh Beijing General Hospital, Zewditu Memorial Hospital, and Yekatit 12 Hospital Medical College.

Nurses employed for a minimum of six months in public hospitals within Addis Ababa were included in the sampling process. Those nurses on maternity, sick, or annual leave during the study period were excluded. The sample size was determined using the double population proportion formula, with Epi-Info version 7.2.4.0 software, considering individual factors at a 95% significance level, with a 5% margin of error, 80% power, and a 2:1 ratio of exposed (48.7%) to unexposed (32.4%) with an odds ratio of 1.98. Accounting for a 10% non-response rate, the final sample size was 392. This calculated sample size was then distributed proportionally among the nurses working in each targeted hospital. A sampling frame was compiled by listing all nurses employed in the targeted hospitals, and participants were selected using a simple random sampling technique in accordance with the allocated sample size.

Data were gathered through a structured and pretested self-administered questionnaire, adapted from the International Labor Office (ILO), International Council of Nurses (ICN), World Health Organization (WHO), and Public Services International country-based survey questionnaire [17]. The questionnaire comprised four sections: socio-demographic characteristics (consisting of more than 17 questions), physical workplace violence (with over 3 questions), psychological workplace violence (including verbal abuse, bullying/mobbing, and sexual harassment, each with 12 questions), and health sector employer-related inquiries (comprising more than 6 questions). Two nurses were employed in respective public hospitals to facilitate data collection. These nurses, chosen for their prior data collection experience, were excluded from the sampling frame. The principal investigator provided a brief orientation to the data collectors, covering study objectives, sampling procedures, consent, data privacy, and ensuring data clarity and completeness. Collected data underwent thorough checks for completeness, consistency, and overall quality assurance. To ensure data quality, a pre-test was conducted with 10% of the total sample size, and both data collectors and supervisors received a two-day training session. The data collection process was supervised by the investigators.

The outcome variable measurement for Workplace Violence (WPV) entails instances where a nurse has encountered at least one form of physical, psychological, or sexual violence, encompassing verbal abuse, sexual harassment, or bullying/mobbing, within the 12 months preceding the survey [18].

The collected data were entered into Epi-Info 7.2 and then exported to SPSS (version 28) for cleaning and analysis. Bivariate and multivariable logistic regression analyses were conducted to explore the association between the explanatory variables and the outcome variable (Workplace violence). Among the 15 explanatory variables, six exhibited a p-value < 0.2 in bivariate analysis and were subsequently included in the multivariable logistic regression analysis. Assumptions for logistic regression, such as multicollinearity (evaluated through correlation coefficient, VIF, and tolerance) between the explanatory variables, were assessed. The Hosmer–Lemeshow goodness-of-fit model was employed to test multivariate fitness, yielding a result of 0.45. In the multivariate analysis, the Adjusted Odds Ratio (AOR) with a 95% Confidence Interval (CI) and a p-value less than 0.05 was considered indicative of a statistically significant association.

Results

The socio-demographic profile

Of the total estimated sample size (n = 392), 381 participants (97.2%) consented to and completed the self-administered questionnaire. More than half of the participants (58.5%, n = 223) identified as females, and 187 (49.1%) were married. The age of respondents ranged from 26 to 54 years, with a median age of 31.54 (±SD = 5.496) years. The majority (82.4%) held a Bachelor of Science degree in Nursing (Table 1).

Workplace related characteristics

The overwhelming majority of participants (92.4%, n = 352) were employed in shifts, with nearly half (45.7%) working in departments where 5–10 staff members operated simultaneously. Three hundred fifty-three participants (92.7%) stated that their duties entailed direct contact with patients, and among them, 337 (88.5%) were involved in tasks like washing, turning, lifting, and conducting physical examinations. Adults constituted the most encountered patient demographic, with 285 respondents (74.8%) primarily interacting with this group. Furthermore, nearly half (41.2%, n = 157) reported working with both male and female patients. Regarding addressing WPV, 298 respondents (78.22%) affirmed the importance of providing training to healthcare professionals (Table 2).

Table 1: The socio-demographic characteristics of nurses employed in governmental public hospitals in Addis Ababa, Ethiopia, in 2023.

Variable Characteristics	Frequency (n=381)	Percent (%)
Sex		
Male	158	41.5
Female	223	58.5
Age		
26-30	200	52.49
31-35	107	28.1
36-40	74	19. 42
Marital status		
Single	194	50.9
Married	187	49.1
Educational status		
Diploma	6	1.6
Degree	314	82.4
Masters	61	16.0

Table 2: Workplace-related attributes among nurses employed in government public hospitals in Addis Ababa, Ethiopia, in 2023.

Variable Characteristics	Frequency (n=381)	Percent (%)
Work in shift		
Yes	352	92.4
No	29	7.6
Staff number on a shift		
< 5	95	24.9
5-10	174	45.7
10-15	74	19.4
> 15	38	10.0
Direct patient touch		
Yes	353	92.7
No	28	7.3
Direct Physical touch		
Yes	337	88.5
No	44	11.5
Most common patient type encountered		
Neonate/Infant(0-1yr)	37	9.7
Children/Adolescent (1-17yrs)	59	15.5
Adult (>18yrs)	285	74.8
Most commonly interacted with patient sex		
Male	90	23.6
Female	134	35.2
Both	157	41.2
Training		
Yes	83	21.78
No	298	78.22

Table 3: The extent of workplace violence (WPV) and its various types among nurses employed in government public hospitals in Addis Ababa, Ethiopia, 2023.

Variables	Frequency (n=381)	Percent (%)
Workplace violence		
Yes	257	67.5
No	124	32.5
Any experienced violence (n=257)		
Physical	66	25.68
Verbal	168	65.37
Sexual	23	8.95

Magnitude of workplace violence

Of the 381 participants, nearly two-thirds of the respondents (67.5%, n = 257) had experienced at least one form of workplace violence. Among them, sixty-six (25.68%) reported exposure to physical violence, one hundred sixty-eight (65.37%) reported verbal abuse, while twenty-three (8.95%) reported encountering sexual violence (Table 3).

Factors associated to workplace violence

In the bivariate analysis, 15 explanatory variables were examined, revealing that 6 variables (Sex, Marital status, Working in shifts, direct patient touch, direct physical touch, and Training) were associated with workplace violence (WPV). However, in the multivariate analysis at a 95% confidence interval and a p-value < 0.05, only four explanatory variables (namely sex, marital status, direct physical contact, and training) were significantly associated with workplace violence (WPV).

The multivariable analysis revealed that male nurses were 34.6% less likely to experience workplace violence than female nurses (AOR=0.56, 95% CI [0.33, 0.95]). Additionally, single nurses were almost 3 times more likely to experience WPV than married nurses (AOR=3.17, 95% CI [1.87, 5.38]). Nurses who reported having direct physical contact, such as washing, turning, and lifting patients, were 5 times more likely to face workplace violence than those who did not engage in such tasks (AOR=5.22, 95% CI [1.43, 19.05]). Furthermore, participants who received training regarding workplace violence were 8.9% less likely to experience WPV than those who did not receive training (AOR=0.13, 95% CI [0.07, 0.23]) (Table 4).

Discussion

This study aimed to examine factors associated to workplace violence. In the study setting, almost two-thirds (67.5%) of nurses experienced workplace violence (WPV) within the last 12 months. Among them, 25.68% reported exposure to physical violence, 65.37% reported verbal abuse, while 8.95% reported encountering sexual violence. This finding is consistent with rates observed in Sao Paulo, Brazil (61.6%) [19], Osun State, Nigeria (67%) [20], Kaduna (64.4%) [21], and Eastern Ethiopia [22]. Conversely, this finding is lower than that reported in a study conducted in Iran (89.6%) [23] and higher than a study conducted among five regions in Brazil during the COVID-19 pandemic (47.6%) [24] and among midwife nurses in Amhara (44.5%) [25]. The variance could be attributed to differences in research settings, socio-cultural factors, variations among professions, and differences in healthcare systems. Additionally, underreporting of violent incidents might also contribute to the observed differences.

In this study, direct physical contact with the patient is five times more likely to be associated with workplace violence (AOR = 5.20; 95% CI: 1.43, 18.88), especially among nurses whose job description includes tasks such as patient lifting, washing, and conducting physical examinations. This finding is consistent with a study conducted among hospital nurses in the Republic of Kazakhstan [26]. This might be due to prolonged duration of close interaction with patients, often in private settings, may provide perpetrators with a perceived opportunity to commit such acts without fear of being observed.

In our analysis, training demonstrated a significant association with workplace violence (WPV) (AOR = 0.13, 95% CI = 0.07, 0.23), indicating that individuals who received training had an 87% lower likelihood of experiencing WPV compared to those who did not receive training. This finding is corroborated by a study conducted in Nigeria's Osun State in 2019 [20], which found that training reduced the probability of verbal abuse by 40%. Additionally, in Saudi Arabia [27], 66.7% of individuals who underwent training reported that the training was somewhat effective in addressing workplace violence. Furthermore, a study in Switzerland [28], suggested that training is an effective intervention for WPV. Thus, violence prevention training is an essential component of any effective violence prevention program, providing individuals with the knowledge necessary to understand their legal rights and available reporting options. Moreover, since patients or clients and their families often visit healthcare facilities in states of stress, teaching nurses to manage such unpleasant emotions helps minimize hostile conflicts that may arise between them.

Certain socio-demographic characteristics exhibited statistically significant associations with workplace violence. The sex of the nurses revealed a significant association with workplace violence, with males exhibiting lower odds of exposure (AOR = 0.564, 95% CI = 0.336, 0.950) compared to females. This finding aligns with studies conducted in Spain [29], Italy [30], Bosnia and Herzegovina [31], China and Macau State [32] and in Ethiopia [25,33,34]. The underlying reason could be attributed to negative societal attitudes towards female empowerment and capabilities. This might be attributable to gender inequality and

Table 4: Factors associated to workplace violence (WPV) among nurses employed in government public hospitals in Addis Ababa, Ethiopia, 2023.

Variable	Workplace Violence		COR(95% CI)	AOR(95% CI)	p-value
	Yes (%)	No (%)			
Sex					
Male	89(34.6)	69(26.8)	0.422(0.273,0.654)	0.564(0.336,0.950)	0.031*
Female	168(65.4)	55(21.4)	1	1	
Marital status					
Single	157(61.1)	37(14.4)	3.692(2.332, 5.843)	3.174(1.874, 5.377)	0.000*
Married	100(38.9)	87(33.8)	1	1	
Working in shifts					
Yes	242(94.2)	110(42.8)	2.053(0.958, 4.401)	1.838(0.719,4.698)	0.204
No	15(5.8)	14(5.4)	1	1	
Direct contact					
Yes	247(96.1)	106(41.2)	4.194(1.874,9.389)	0.928(0.201, 4.283)	0.924
No	10(3.9)	28(10.9)	1	1	
Direct physical contact					
Yes	243(94.6)	94(36.6)	8.923(2.813,10.908)	5.203(1.434, 18,878)	0.012*
No	14(5.4)	30(11.7)	1	1	
Training					
Yes	23(8.9)	60(23.3)	0.105(0.06, 0.183)	0.126(0.069,0.229)	0.000*
No	234(91.1)	64(24.9)	1	1	

AOR= Adjusted Odds Ratio, **COR=** Crude Odds Ratio, **1=** Reference category

discrimination, compounded by the higher representation of female nurses compared to male nurses in the healthcare industry and among the study participants.

The marital status of nurses was also found to have a statistically linked to workplace violence, with single nurses having a threefold higher likelihood of experiencing WPV (AOR = 3.17; 95% CI = 1.87, 5.38) compared to their married counterparts. This finding is consistent with research conducted in Saudi Arabia [27] and Southeast Zhejiang Province, China [35,18]. One possible explanation for this could be that married individuals often possess stronger interpersonal communication skills than singles, along with the social and cultural respect associated with being married.

It is essential to acknowledge the inherent limitations of this study. One limitation could be recall bias, as the retrospective approach relies on nurses' recollection of workplace violence incidents over the past 12 months. Additionally, the study does not consider perpetrator factors, as perpetrators could not be identified or tracked at the time of the study. Furthermore, the study's cross-sectional design prevents it from conclusively establishing a cause-and-effect relationship.

Conclusion

In conclusion, the prevalence of workplace violence among nurses was notably high, with significant associations observed regarding the workers' sex, marital status and involvement in direct physical contact with patients, and completion of training.

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