



Prevalence, pattern and factors associated with workplace violence against healthcare workers in Nigeria: A systematic review

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Abstract

Context: Workplace violence (WPV) against healthcare workers (HCWs) is mostly endured, underreported, or neglected in Nigeria.

Objective: This study aimed to describe the prevalence, pattern, and predictors of WPV against HCWs in Nigeria.

Methods: A systematic review was conducted using pre-defined keywords. The review was performed in line with the PRISMA guidelines on PubMed, Google Scholar, Scopus, and Web of Science. The population, intervention, comparator, and outcome (PICO) elements for this study were as follows:

Population: Nigerian Healthcare workers; **Intervention:** Exposure to WPV; **Comparator:** Non-exposure to WPV; **Outcome:** Mental and Physical health outcomes of exposure to WPV. Of the 18,140 articles retrieved, 15 cross-sectional studies met the inclusion criteria and were included in the review. In all, 3,245 HCWs were included, and consisted majorly of nurses and doctors.

Results: The overall prevalence of WPV (Physical > Verbal/Psychological > Sexual) against HCWs ranged between 39.1%-100%. The predictors of WPV are younger ages (AOR = 2.513, p = 0.012), working in psychiatric unit (AOR = 11.182, p = 0.006), and increased frequency of interaction with patients, and mostly perpetrated by patients and their relatives. Many health facilities lacked a formal reporting system and policies to protect HCWs from WPV.

Conclusion: WPV against HCWs is a public health problem in Nigeria with dire implications on HCWs; the victims, and the aggressor. Administrators of health facilities should design protocols for WPV reporting, recognition, and management. Patient and 'relatives' education on the 'facilities' policy against WPV should be undertaken, while orientation sessions on the risk factors for HCWs are scheduled.

Keywords: Healthcare workers, Workplace violence, Occupational risk, Occupational health, Nigeria

Introduction

Workplace violence (WPV) has been defined by the International Labour Organization as an array of cruel acts perpetrated in workplaces. These include homicide, verbal abuse, physical assault, bullying,

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sexual harassment, and psychological stress.^{1,2} WPV is defined by the US National Institute for Occupational Safety and Health as "violent acts, including physical attacks, intended against a person at work or on duty".³ Violence exists in many workplaces, but doctors and nurses are often on the frontline of healthcare and have the most direct contact with patients and their families.^{4,5} There

exists increasing evidence of WPV against different cadres of HCWs. Thus, WPV is now considered a major occupational hazard, especially in the healthcare sector across many continents, including Africa.⁵⁻⁷ In most African countries, the regulations on the safety and health of workers do not include psychosocial risks and occupational violence among those that the employer must prevent.⁸ The main piece of legislation regulating employment relations in Nigeria is the Labour Act. Its use is restricted to workers employed in the private and public sectors under a contract for manual labor or office work.⁹

Inadequate human resources for health are a serious problem in most African countries is one of the leading contributors to the continent's poor health indices.^{10,11} These human resource issues have been connected to underfunding in the healthcare system, loss of job satisfaction, WPV, and retention.¹² For example, Nigeria has just 0.38 physicians per 1,000 patients and 1.5 nurses per 1,000 population compared to the WHO standard of 2.28 HCWs per 1,000 population.^{13,14} Unfortunately, a higher proportion of Nigerian HCWs has migrated to developed countries in search of greener pastures.¹⁵ The remaining few are increasingly exposed to WPV, which could motivate their unintended exit from the healthcare system.¹⁶

WPV is a worrisome phenomenon in the Nigerian health system, where it is mainly endured, underreported, or neglected.¹⁷ A study conducted in a psychiatric hospital reported that nearly 50% of mental health professionals had been physically assaulted at least once in the psychiatric facility WPV events puts a lot of strain on the institution and its employees and raises the likelihood of an occupational hazard.^{17,18} In Nigeria, the perceived disparity in media coverage of violent treatment of patients versus WPV against HCWs further favours patients and other perpetrators of WPV, leaving HCWs, often at the receiving end, at a complete loss.¹⁸

To the best of our knowledge, most studies conducted in Nigeria have focused more on patients. In contrast, only a few literature have described the safety of HCWs. Suppose the paucity of literature on WPV against HCWs continues, healthcare providers will continually experience this occupational hazards. A study of this nature is

particularly important to increase the knowledge of WPV against HCWs and propose strategies to combat this undesirable trend. This study therefore aimed to describe the prevalence and pattern of WPV against HCWs in Nigeria, as well as the factors associated with WPV in Nigerian healthcare settings.

Methods

Study design, sample and setting: This was a systematic review of literature conducted in accordance with the PRISMA guidelines.¹⁹

Population, Intervention, Comparator, and Outcome elements: The population, intervention, comparator, and outcome elements for this study were as follows:

Population: Nigerian Healthcare workers;

Intervention: Exposure to WPV; Comparator: Non-exposure to WPV; Outcome: Mental and Physical health outcomes of exposure to WPV.

Search strategy: A systematic literature search was conducted on four namely: PubMed, Google Scholar, Scopus, and Web of Science. Thus, the possibility of missing any relevant article on the subject matter of WPV among HCWs was significantly reduced. The literature search was initially conducted between June and August 2022 and repeated between September and November 2022 to ensure that all published articles have been retrieved. All studies reporting WPV episodes against Nigerian HCWs were included in this search. Articles that did not consider Nigerian workers, considered other categories of workers other than healthcare, did not contain original observations (reviews, meta-analyses, commentaries), or considered the perception of risk but did not measure the phenomena were excluded. Table 1 shows the search string and the yield obtained at each level of the literature search. The reference lists of eligible articles were also checked to ensure adequate reporting of WPV among HCWs in Nigeria. Only literature published in English and reporting WPV against one or more cadres of HCWs was included.

Literature search: Two authors (OSI and AAA) independently conducted the literature search and compared the retrieved results. In situations where OSI and AAA could not reach a consensus to include an article, FC intervened and provided guidance.

Data extraction process: The retrieved results from the literature search were extracted into Microsoft Excel. Data extracted included the article's citation, study location, data collection instrument, cadre of HCWs, type of WPV, causes of WPV, perpetrators of WPV, determinants of WPV, and presence of organizational policies guarding against the perpetration of WPV against HCWs. Figure 1 shows the flowchart describing the article selection strategy.

Quality appraisal: Quality appraisal for the articles included in this review was done using the critical appraisal tool for cross-sectional studies.²⁰ Criteria employed were based on the specificity of the study objectives, appropriateness of study design, justification of sample size, clear definition of the study population, representativeness of the study sample, description of the selection process, categorization of non-responders, appropriateness of outcome variables to the study aims, correct measurement of outcome variables using standard instruments, clear statement on the level of statistical significance, sufficiency of statistical methods to ensure repeatability, adequate description of basic data, response rate, description of non-respondents, internal consistency of the results, presented of results whose analyses were described in the methods section, justification of the results in the discussion, explanations of the limitations of the study, statements on conflicts of interests, and receipt of ethical approval. Each question had a maximum score of "1" for "Yes" and "0" for "No". A total quality score of 20 was obtainable for each article. Each article was scored by two authors (AAA and OSI) using the twenty elements of the quality assessment tool.

Results

Overview: The instrument used for measuring WPV varied: Some articles used the ILO/ICN/WHO/PSI WPV, while others used a self-developed WPV questionnaire. Not all studies included used the same definition of WPV. Some articles listed only physical attacks, others verbal ones. Not all included articles considered sexual assault. Some studies considered only violence perpetrated by patients or visitors against staff. Furthermore, the retrospective period varied: in some studies, violence was investigated in the last year, in others

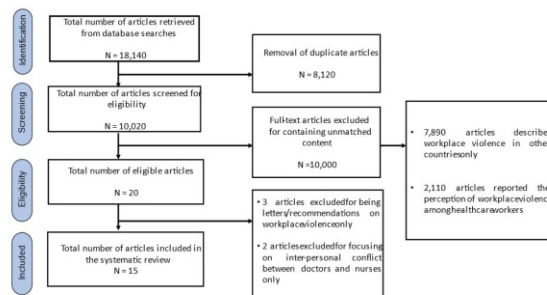


Figure 1: PRISMA flowchart showing the article selection strategy

Table 1: Search string employed for the systematic review of the literature

Search	Query	Results
#7	Search: #5 AND #6	18,140
#6	Search: #1 OR #2 OR #3 OR #4	11,251,115
#5	Search: Nigeria*[Mesh]	32,284
#4	Search: cases*[tiab] OR event*[tiab] OR incident*[tiab] OR report*[tiab]	6,840,747
#3	Search: "Health facilities"[Mesh] OR hospital*[tiab] OR clinic*[tiab] OR "hospital unit"[tiab] OR "hospital admission"[tiab] OR "in-patient services"[tiab] OR "out-patient services"[tiab]	6,252,556
#2	Search: "Health care workers"[tiab] OR "Health workers"[tiab] OR "Health personnel" OR "Health professional"[tiab] OR "Health provider"[tiab] OR "Health care provider"[tiab] OR "Health care providers"[tiab]	267,799
#1	Search: "Workplace Violence"[tiab] OR violence*[Mesh] OR "Bullying"[Mesh] OR "occupational stress"[Mesh] OR "workplace harassment"[tiab] OR "psychological violence"[tiab] OR "mental violence"[tiab] OR "physical violence"[tiab] OR "verbal violence"[tiab] OR "emotional violence"[tiab] OR "threat"[tiab] OR "occupational injury"[tiab]	393,538

over the entire working life. These differences make it difficult to estimate an average prevalence. Table 2 shows the summary of data extracted from each included article. Overall, 15 cross-sectional articles were retrieved on WPV against HCWs in Nigeria. Five studies were conducted in the Southwest, four in Northern Nigeria, two were conducted in the South-South, two were conducted in the Southeast, and the remaining two were conducted in multiple geopolitical zones. In all, 3,245 HCWs were included in the studies, and this study population consisted majorly of nurses and doctors. Other cadres of HCWs studied included dental technologists, dental record officers, dental therapists, laboratory scientists, physiotherapists, pharmacists, and other support staff. Azodo et al. reported that 18.2% of dental professionals had been bullied and hit, 75.4% had been exposed to verbal violence, and 6.8% had been exposed to sexual violence. Long waiting time, cancellation of appointment, alcohol

Table 2: Summary of articles retrieved from the systematic review

S/N	Source literature (country)	Objective	Type of healthcare worker (Sample size)	Instrument	Prevalence of workplace violence (WPV)	Type of WPV	Causes of WPV	Perpetrators of WPV against HCWs
i.	Azodo et al., 2011 (Ibadan, Lagos, Benin, and Ilorin) ²¹	To determine the prevalence of WPV in oral health facilities in the past 12 months	Dental professionals: dentists (58.0%), dental nurses (18.1%), dental technologists (12.3%), dental therapists (8.0%) and dental record officers (3.6%) (Sample size = 175)	Structured self-developed questionnaire	Overall prevalence: 39.1%	Physical (Bullying and hitting): 18.2% Verbal: 75.4% (Loud shouting: 50.0%, Threat: 22.7%, Swearing: 2.3%) Sexual violence: 6.8%	Long waiting time (27.3%), Cancellation of appointment (13.6%), Alcohol intoxication (11.1%), Outcome of treatment (9.1%), Patients' psychiatric state (6.8%), Patients' bill (4.5%)	Patients (54.5%), Patients' relatives (18.2%), Colleagues (22.7%), Supervisor (2.3%), Non-medical hospital staff (2.3%)
ii.	Ukpong et al., 2011 (Yaba, Lagos) ¹⁸	To determine the frequency and type of physical assault by individuals with mental disorders against HCWs	Nurses and Doctors (Sample size = 101)	A self-developed semi-structured questionnaire	Overall prevalence: 97% (Nurses: 82.3%, Doctors: 44.3%)	Physical violence (97%): (Push: 41%, Hits with an object (28%), Tearing of clothes (15%), Strangling (10%), and Sexual violence (3%))	-	-
iii.	Ogunipe et al., 2012 (Ado-Ekiti, Ido-Ekiti, Owo, Adanawa, Lokoja, Ilorin) ²²	To determine the prevalence of violence in the emergency department	Nurses (Sample size = 81)	A self-developed semi-structured questionnaire	Overall prevalence: 65.0% (Nurses: 100%, Doctors: 10-13%, Patients: 10-14%, Both nurses and doctors: 10-44%)	Physical violence (15%)	Overcrowded emergency rooms, long waiting time, and inadequate security	Patients (10-36%), Patients' relatives (60-100%), or both patients and their relatives (8-12%)
iv.	Abiodunrin et al., 2014 (Osogbo, Osun State) ²³	To determine the prevalence of WPV among health professionals in a secondary and tertiary health facility	Doctors/Dentists, Nurses, Laboratory scientists, Physiotherapists, and Pharmacists (Sample size = 242)	A self-developed semi-structured questionnaire	Overall prevalence of WPV: 66.1% (Doctors: 21.4%, Nurses: 53.5%, Others: 25.1%)	Physical: 35.4% Verbal and Psychological: 64.6%	Long waiting time (80.6%), Perceived insulting approach received from HCWs (61.8%), Non-availability of medications (19.4%) or HCW during call/shift (43.1%), and loss of patients (4.9%)	Patients (46.1%), Patients' relatives (49.5%), and healthcare workers (4.4%)
v.	Yunusa et al., 2018 (Sekoto State) ¹⁹	To determine the prevalence and factors associated with WPV in tertiary health facilities	Doctors, Nurses, and Medical laboratory scientists (Sample size = 180)	A self-developed questionnaire	Overall prevalence of WPV: 18.3% (Doctors: 23.1%, Nurses: 22.1, and Medical laboratory scientists: 10.5%)	Physical: 35.4% Verbal and Psychological: 64.6%	Dissatisfaction with waiting time	Patients (12.5%), Patients' relatives (65%), Co-workers (12.5%), Others (10%)
vi.	Abdullahi et al., 2018 (Katsina State) ²²	To determine the prevalence of WPV in the Katsina General Hospital in the immediate past twelve months	Nurses (Sample size = 150)	Self-developed structured questionnaire	Overall prevalence of WPV: 100.0%	-	-	Patients (9.8%), Patients' relatives (87.2%), other HCWs (3%)
vii.	Seun-Fadipe et al., 2019 (Ile-Ife, Nigeria) ¹⁷	To determine WPV, risk for psychiatric morbidity, and associated factors among health workers in a tertiary healthcare setting in Nigeria	Doctor, Nurses, and Support staff (Sample size = 361)	The ILO/ICN/WHO/PSI Workplace Violence Questionnaire and the 12-item General Health Questionnaire	Overall prevalence: 40.0%	Physical violence (25.7%), Verbal abuse (75.9%), Sexual harassment (8.3%)	-	Patients (20.3%) and patients' relatives were the main perpetrators of physical violence and verbal abuse (20.3% vs. 23.1% respectively), while staff and supervisor were the main perpetrators of sexual harassment (32.1% vs. 24.5%)
viii.	Akanni et al., 2019 (Benin, Ido State, South-South Nigeria) ²⁰	To describe the prevalence, factors, and consequences of physical violence by mentally ill patients HCWs	Mental health professionals (Sample size = 124)	A structured self-developed questionnaire	Overall prevalence: 62.1% (Nurses: 62.3%, Psychiatrists and trainees: 28.6%, and other mental health professionals: 9.1%)	Hitting: 26.54%; Pushing: 32.9%; Shaking: 13.2%; Striking with an object: 7.7%; Kicking: 6.6%; Attempted strangling: 6.6%; Biting: 4.4%; Spitting: 2.2%	-	-
ix.	Douglas and Enikanoselu, 2019 (Osun State) ¹⁷	To determine the prevalence of WPV among nurses in general hospitals	Nurses (Sample size = 200)	Adapted checklist of a structured, closed-ended, self-administered questionnaire	Overall prevalence: 66.0%	Verbal: 60.7%; Threat: 25.5%; Bullying: 8.5%; and Sexual harassment: 5.3%	Lack of communication (26.0%), Absence of strong violence prevention programs and protective regulations (17.5%), Long waiting time (15.0%), Shortage of staff (12.5%), or misperception of patients or caregivers (29.0%)	Patients (73.0%), Patients' caregivers (18.0%) and HCWs (9.0%)
x.	Garba et al., 2020 (Northern Nigeria) ²³	To determine the incidents and factors associated with occupational violence among HCWs	Pharmacists (Sample size = 263)	Checklist for Reporting Results of Internet I-Surveys (CHIRRI-S), and guidelines for good practice in the conduct and reporting of online research	Overall prevalence: 92.7%	Physical only (16.3%), Verbal only (71.5%), Both verbal and physical (12.2%)	Long waiting time (36.5%), Refusal to fulfil aggressor's demand (22.1%), Poor communication (21.7%); Use of enforcement personnel (1.9%); and financial constraint (1.5%)	Patients (73.0%), Patients' caregivers (18.0%) and HCWs (9.0%)
xi.	Ogbohodo and Okojie, 2020 (Benin City, Edo State, South-South Nigeria) ²⁹	To determine the prevalence and pattern of WPV in tertiary health facilities	Nurses, doctors, and other healthcare workers (Sample size = 386)	Pre-tested structured questionnaire adapted from the International Labor Organization/World Health Organization joint program on workplace violence in the health sector confidential survey WPV in the Health Sector Country Case Study Questionnaire	Overall prevalence: 83.7%	Physical (73.8%); Verbal (69.2%); Sexual (34.5%); and Emotional violence (26.9%)	-	-
xii.	Arinze-Onyiah et al., 2020 (Enugu, Southeast Nigeria) ³⁰	To determine the prevalence and pattern of psychological and physical violence among healthcare workers in a public tertiary health facility	Nurses (Sample size = 320)	Questionnaire adapted from the framework against workplace violence in the health sector developed by ILO/ICN/WHO/PSI	Overall prevalence: 52.2%	Physical: 22.7%; Psychological: 73.9%; Sexual: 3.4%	-	Patients (13.0%), Patients' relatives (76.1%), staff (8.7%), and Supervisor (2.2%)
xiii.	Chinawa et al., 2020 (Enugu, Southeast Nigeria) ³¹	To determine the prevalence of psychological WPV among employees of a public tertiary health facility	Doctors and nurses (Sample size = 412)	A self-administered semi-structured questionnaire on workplace violence in the health sector adapted from the International Labor Organization, International Council of Nurses, World Health Organization, and Public Services International (ILO/WHO/PSI)	Overall prevalence: 49.7%	Verbal violence (82.0%), Bullying/Mobbing (14.1%), and Sexual violence (3.9%)	-	Patients (13.7%), Patients' relatives (55.6%), Staff (23.4%), and Supervisor/Management (7.3%)
xiv.	Ayanmolowo et al., 2020 (Ido-Ekiti, Ekiti State) ³²	To determine the knowledge, experience, and coping strategies for WPV	Nurses (Sample size = 250)	Structured self-developed questionnaire	-	-	High cost of treatment (13.6%), Patient's death (17.5%), Long waiting time (12.1%), Delayed diagnosis and treatment (18.3%), Shortage of healthcare staff (17.5%), Communication gap between patients and healthcare providers (18.3%), and Poor interpersonal relationship between health care providers and relatives (2.7%)	Patients (100.0%)
xv.	Usman et al., (2022) (Kaduna, Northern Nigeria) ³³	To determine the prevalence of WPV among HCWs working in secondary healthcare facilities	Nurses, Doctors, Pharmacists/Lab scientists/technicians (Sample size = 177)	Questionnaire adapted from the framework against workplace violence in the health sector developed by ILO/ICN/WHO/PSI	Overall prevalence: 64.4%	Verbal: 87.7%; Physical: 13.2%; Sexual: 1.8%	-	Patients' relatives: 59.6%; Patients: 36.8%; Colleagues: 1.8%; and Management: 1.8%

Table 3: Factors associated with workplace violence among health workers in Nigeria

S/N	Source literature	Factors associated with WPV	Study statistics
i.	Yunusa et al., 2018 ²¹	i. Profession: Physicians had higher odds for WPV than other staff	p = 0.043
ii.	Abodunrin et al., 2014 ²³	i. Age: Younger HCWs experienced more frequent events of WPV compared to older persons ii. Sex: Females were at higher risk for WPV than males ii. Years of practice: HCWs with >10 years of working experience had experienced more episodes of WPV compared to those with ≤ 10 years of working experience	$\chi^2 = 23.1, p < 0.001$ $\chi^2 = 0.052, p = 0.819$ $\chi^2 = 4.03, p = 0.045$
iii.	Ogboghodo and Okojie, 2020 ²⁹	i. Sex: Females were more likely to experience WPV than males ii. Marital status: Being single was a significant predictor of WPV iii. Profession: Being a member of the nursing profession was a significant predictor of WPV	p = <0.001
iv.	Arinze-Onyia et al., 2020 ³⁰	Unit of engagement at a health facility: Nurses that worked with newborns experienced more episodes of physical violence compared to those that worked with children and adults Nurses that worked with newborns experienced more episodes of verbal violence compared to those that worked with children and adults	$(\chi^2 = 18.066, P < 0.001)$ $(\chi^2 = 6.765, P < 0.001)$
v.	Chinawa et al., 2020 ³¹	Years of practice: Bullying was higher among HCWs that had spent < 10 years Unit of engagement at a health facility: Verbal Violence was higher among HCWs working in children's wards Increased frequency of interaction with patients	$(\chi^2 = 3.978, P = 0.046)$ $(\chi^2 = 10.949, P = 0.004)$ $(\chi^2 = 4.757, P = 0.029)$
vi.	Seun-Fadipe et al., 2019 ¹⁷	i. Age: HCWs aged 21–30 years were 2.5 times more likely to experience WPV than those with ages >40 years ii. Sex: Female participants had 1.7 times higher odds of experiencing WPV than their male colleagues iii. Work setting: HCWs in the psychiatric unit were 11 times more likely to experience WPV compared to those providing technical services iv. Worry about WPV at workplace: Health workers who were worried about WPV were 13.1 times more likely to experience workplace violence than others	AOR = 2.513, p = 0.012 AOR = 1.657, p = 0.043 AOR = 11.182, p = 0.006 AOR = 13.148, p = <0.001

intoxication, patients' psychiatric state, and treatment outcome were the causes of WPV perpetrated against HCWs by patients themselves, 'patients' relatives, and senior members of the healthcare team.²¹ In their study, Ogundipe and colleagues reported that 65% of nurses had been physically abused either by patients and/or 'patients' relatives due to crowded emergency rooms, long waiting time, and inadequate security.²² At the Katsina General Hospital, Abdullahi and his team (2018) reported that almost 97% of nurses had been exposed to WPV meted primarily by 'patients' relatives (87.2%), and patients (9.8%).²⁵ Using the ILO/ICN/WHO/PSI WPV Questionnaire and the 12-item General Health Questionnaire at Ile-Ife, it was reported that four of every 10 HCWs had experienced physical and verbal abuse from patients and their relatives. Sexual harassment was inflicted by staff and supervisors at work.¹⁷

The overall prevalence of WPV among nurses in general hospitals in Osun State was found to be 66%, with the majority being exposed to verbal violence. Misperceptions of patients or caregivers, lack of communication, and absence of solid

violence prevention programs and protective regulations were the drivers of WPV.²⁷

Use of formal reporting system in the organization

Overall, 24.8% of WPV cases were reported in the study by Arinze-Onyia et al.³⁰ Help from professional bodies was obtained in 3.1% of cases of verbal violence, bullying (14.8%), and sexual violence (14.3%).³⁰ In the study by Chinawa and colleagues, 87.7% of WPV cases were reported either to a senior (75.4%), or to the professional union (9.2%).³¹ In comparison, 37.0% reported the incident through their organizational heads.²⁷ In the cross-sectional study in Osogbo, Osun State, 9.7% of victims reported the assault to the management, 38.9% requested the services of the hospital security officials, and 68.1% sought the intervention of respective professional bodies.²³ In a multi-centre national survey, 48.6% WPV victims reported the incident to superior personnel, 7.6% reported to a superior co-worker, 87.4% reported to the head of department/unit/management, while 18 (6.8%) reported the WPV incident to the police.²⁸ In Kaduna State however, action was not taken for 80.7% of WPV cases either because the victims felt the violent act was not serious enough (91.3%) or for fear of repercussion on the victim (2.2%), or because the perpetrator apologized (6.5%), or for lack of information on the reporting system (2.2%).³³ Usman et al. reported that no HCW had received any training on handling WPV.³³

Only two studies documented the availability and use of a formal reporting system in healthcare facilities; the incident form was completed in 1.6% of cases of WPV in the cross-sectional study by Arinze-Onyia and colleagues, and 3.1% of WPV cases in Chinawa and colleagues both in Enugu, Southeast Nigeria.^{30,31}

Availability of policies to protect healthcare workers

Only one study reported the availability of policies to protect HCWs against WPV.²⁴

Consequences of workplace violence on healthcare workers

From the findings of Azodo et al., 56.0% of incidents of WPV resulted in psychological problems among HCWs, 28.0% of WPV events impaired HCWs' job performance, while 16.0% of WPV events led to HCWs' absenteeism from work.²¹

Consequences for the aggressor

In instances where WPV was reported, action was taken in 105 (39.9%) events, and 75 (28.5%) of the aggrieved respondents disclosed that they were satisfied with the action(s) taken.²⁸ In other situations where victims' satisfaction with actions taken against the aggressor was not reported, different measures were adopted, including issuance of verbal warning and discontinuance of care.^{30,31} In other instances, the culprit was handed to the police (11.9%) and prosecuted (2.4%).^{30,31}

Overall, seven studies described the factors associated with WPV among HCWs in Nigeria. Females were found to be at a higher risk for WPV in nearly all studies compared to males, and cadre-wise, nurses were consistently found to be at a higher risk for WPV. Age differences was reported, with younger HCWs experiencing more WPV than older HCWs in some instances (AOR=1.657),²³ while working in the psychiatric ward increased HCWs' exposure to WPV by 11 folds¹⁷ (Table 3).

Quality appraisal

Overall, nine (60.0%) of the included articles had good quality, with scores ranging between 16-18^{17,21-24,28,30,31,33}, and five (33.3%) articles had moderate quality, with scores ranging between 13-15.^{18,26,27,29,32} In comparison, only one (6.7%) article had low quality.²⁵

Discussion

From this study, the prevalence of WPV against HCWs ranged between 39.1%-100%. It is, therefore, apparent that WPV is of concern in healthcare settings. The WPV rates recorded in this study are higher than the proportion of HCWs reported by the World Health Organization to be exposed to WPV at their places of primary assignment within the health facility.³⁴ From this study, we identified that a high prevalence of physical and verbal violence among HCWs compared to other types of WPV. Other studies conducted among HCWs in North-west Ethiopia (60.2%), DR Congo (53.6%), USA (49.8%), and Malawi (22%) have reported high physical WPV rates.³⁵⁻³⁸ In addition, WPV has been reported among HCWs in the United States and other countries, accounting for nearly two-thirds of all non-fatal workplace injuries and illnesses among HCWs.³⁹⁻⁴¹ Nearly all cases of WPV against HCWs take place

within healthcare settings, thus indicating that interventions are expected to be initiated within the workplace environment to protect the lives of HCWs who have sworn to uphold the integrity of providing quality care to their patients against all odds. An overarching 'societal level' for the socio-ecological model has been suggested as needful⁴⁰⁻⁴³ given that there exists a solid societal component to WPV.

We found that nurses are more exposed to WPV than other cadres of HCWs. Due to the nature of their jobs and the peculiarities of their workplaces, nurses are particularly vulnerable to WPV. There is an elevated danger due to WPV when providing care for patients during their most vulnerable moments.⁴³ Similarly, HCWs with less professional experience were found to be at high risk for WPV. Senior members of the healthcare team have likely developed strategies to handle WPV without being seriously affected by its consequences. Given that WPV incidents may not be ruled out entirely from a healthcare facility, self-designed interventions for handling WPV should be encouraged. In like manner, organizational strategies for creating a safe working environment for nurses and other HCWs should be implemented.

Patients and their relatives/escorts were described as the primary sources of violence, which is consistent with much earlier research conducted in Ghana, Egypt, Palestine, Turkey, and Iraq.⁴⁴⁻⁴⁸ Our finding is like the research findings from Jordanian hospitals that reported patients and their relatives as the primary perpetrators of violence.⁴⁹ As the main factors prompting aggressiveness from patients and their relatives, this study identified a communication gap between patients and relatives, and nurses, poor interpersonal relationships between HCWs and 'patients' relatives, delays in services owing to understaffing, and a shortage of drugs and supplies. To keep HCWs safe from aggression and its consequences, a stock-up of drugs and supplies needs to be done. Understaffing problems need to be immediately addressed, while human relationship training sessions should be organized for HCWs to interact gracefully with patients and patients' relatives.

This review identified that working in neonatal and psychiatric departments posed the most significant risk for WPV to HCWs. The results of this study are

similar to reports of studies conducted in Italy and South Ethiopia where HCWs working in high tension zones such as the emergency and psychiatric department are at a high risk of exposure to WPV.⁵⁰⁻⁵³

This posits that a lack of self-control among psychiatric patients, non-satisfaction with 'relatives' health states, and non-certainty about the management outcome of patients being managed in psychiatric and neonatal wards are likely to pose occupational hazards to HCWs. Therefore, these zones should be mounted with suitable security measures, while HCWs posted there are sensitized early enough.

The consequences of WPV are numerous and harmful to both the victim (HCWs) and the perpetrator, that is, patients and their relatives. HCWs' psychological states could be negatively affected, causing depression, post-traumatic stress disorder, and anxiety. In addition, job performance declines, which is likely to reduce patients access to quality and timely care. Emotional exhaustion and depersonalization rates were high among HCWs in Lebanon, while the rate of psychological distress was high in Palestine.^{54,55} This provides evidence that both the perpetrator(s) and victim(s) suffer dire consequences of WPV. To forestall such occurrences, a formal system for caregivers to report their non-satisfaction with HCWs or the type and quality of care provided for their loved one(s).

We identified the lack of WPV policies as one possible factor promoting this grave act's perpetration. Due to this current lack, a formal channel for reporting acts of WPV is absent, alongside documented stipulated punishment for the offender(s). Thus, many WPV incidents go unreported, leaving the violent person feeling justified for his action and leaving HCWs continually vulnerable to experiencing violence at their workstations. Numerous interventions have been suggested in the literature, from zero-tolerance policies to talking to violent offender. In other instances, prosecution of the aggressor has also served as a deterrent to others. However, there exists no proof that this action reduces WPV against HCWs.⁵⁶ Rather than declaring their stand against WPV against HCWs, many healthcare facilities design programs that concentrate on handling them.

Conclusion

Based on the results of this study, WPV against HCWs is a public health problem in Nigeria with dire implications for HCWs; the victims, the aggressor; the patient and patients' relatives. Working in high-tension zones, such as the psychiatric or neonatal wards, being females, and lack of organizational WPV policies and reporting system are major drivers of WPV against HCWs. These findings demonstrate the necessity of creating protocols for WPV reporting, recognition, management, and strategy formulation, as well as the use of additional problem-solving techniques. To identify hazards, develop interventions, and decrease such incidences, hospital administration must address the crucial problem of underreporting. The orientation sessions for HCWs should include a crucial component of education on the risk factors for WPV. These techniques may make healthcare staff more effective while at work, enhancing the quality of the services they provide. Education of patients and their relatives in handling issues that could lead to an assault on HCWs should be considered by the management of healthcare facilities in Nigeria.

Limitations

The limitations of this study essentially derive from the initial investigations. The researchers referred to non-homogeneous definitions of violence, and periods ranging from one month to the whole working life, using non-validated self-constructed questionnaires for data collection. The samples examined were always relatively small, and the authors did not always indicate the criteria they had adopted for selecting the participants. All these conditions prevented us from performing a meta-analysis and, therefore, an estimation of the average rates of violence in healthcare settings in Nigeria. Furthermore, the studies are all cross-sectional and this prevents not only a causal evaluation of the associations found between violence and effects for health and work capacity, but also an understanding. Due to the perceived minimal effect of many WPV events, and recall bias of such, the severity of WPV among HCWs may have been underestimated. But the use of unvalidated questionnaires on convenience samples does not rule out the possibility that they are overestimated, as is certainly the case for literature that have published a

100% prevalence

This was only a systematic review of literature on WPV against HCWs in Nigeria. We acknowledge that a meta-analysis would have provided richer evidence on the subject matter.

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