ANNALS OF MEDICINE
2025, VOL. 57, NO. 1, 2470955
https://doi.org/10.1080/07853890.2025.2470955

RESEARCH ARTICLE

OPEN ACCESS Check for updates

Prevalence, pattern, and predictors of WPV against medical interns in Southwest Nigeria: a cross-sectional study

Nicholas Aderinto[a], Gbolahan Olatunji[b], Peter Olaniyi[a], Samson Afolabi[a], Kamil Ajagbe[a], Ismaila Ajayi Yusuf[c], Deborah Ojo[b], Samuel Olatunji[b], Adedamola Awodun[d], Tsele Toritseju[e], Kadiri A. Olamide[b], Grace Ijitade[f] and Oluwatosin Samson Jegede[g]

[a]Department of Medicine and Surgery, Ladoke Akintola University of Technology, Ogbomoso, Nigeria; [b]Department of Medicine and Surgery, University of Ilorin, Ilorin, Nigeria; [c]Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, Nigeria; [d]Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria; [e]University College Hospital, Ibadan, Nigeria; [f]Department of Biostatistics and Epidemiology, College of Public Health, East Tennessee State University, Johnson City, TN, USA; [g]The Herbert Wertheim School of Public Health and Human Longevity Science, University of California San Diego, San Diego, CA, USA

ABSTRACT

Background: Workplace violence (WPV) is a significant occupational hazard threatening the safety and well-being of medical interns in Nigeria. Despite its critical impact, there is a notable research gap regarding the prevalence, patterns, and influencing factors of WPV among medical interns in Southwest Nigeria. This study aims to fill this gap by investigating these aspects.

Methods: This cross-sectional study utilized online questionnaires to collect data from 379 medical interns at ten hospitals in Southwest Nigeria. The data were analyzed using descriptive statistics and logistic regression.

Results: The study found that 62.5% of medical interns had experienced WPV. Verbal abuse was the most common type of violence (63.3%), followed by threats (50.4%), physical assault (24.3%), verbal sexual harassment (13.2%), and physical sexual abuse (2.6%). The primary perpetrators were patients' relatives (81.9%) and patients (61.2%). WPV predominantly occurred in the afternoon (68.8%) and in emergency rooms (70.5%). The primary triggers were long waiting times (64.6%) and unmet patient needs (54.9%). Female interns had higher odds of experiencing WPV, with an adjusted odds ratio of 3.01 (95% CI: 0.82–11.03, $p=0.01$) than their male counterparts.

Conclusion: WPV is prevalent among medical interns in Southwest Nigeria, with patients as the main perpetrators. Healthcare organizations must implement measures such as promoting a culture of respect, establishing zero-tolerance policies, training interns to recognize and address WPV, and providing support for victims.

ARTICLE HISTORY
Received 18 August 2023
Revised 5 December 2024
Accepted 21 January 2025

KEYWORDS
WPV; medical interns; Nigeria

Background

Workplace Violence (WPV) is a significant public health concern that affects healthcare workers globally. According to the World Health Organization (WHO), WPV is defined as 'incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health' [1]. In healthcare settings, WPV is a pervasive issue affecting healthcare workers across all levels of care [2]. Violence and harassment affect all health worker groups and work settings in the health sector. Up to 62% of health workers have experienced WPV [2]. Verbal abuse (58%) is the most common form of non-physical violence, followed by threats (33%) and sexual harassment (12%) [2]. WPV in healthcare settings has significant mental and psychological consequences on healthcare workers [1]. This includes conditions such as Post-Traumatic Stress Disorder (PTSD), anxiety, depression, and burnout.

Recent studies indicate a high prevalence of WPV during the early stages of medical careers [3,4]. Medical interns are a particularly vulnerable group regarding WPV [3]. Interns are healthcare professionals in the early stages of their careers and are still learning the ropes of the healthcare system [4]. They

CONTACT Nicholas Aderinto Nicholasoluwaseyi6@gmail.com Department of Medicine and Surgery, Ladoke Akintola University of Technology PMB 5000, Ogbomoso, Nigeria

Supplemental data for this article can be accessed online at https://doi.org/10.1080/07853890.2025.2470955.

are often responsible for performing critical clinical tasks and making important decisions about patient care [4]. However, they often need more experience and confidence to handle difficult situations and manage challenging patients and families [5]. This puts them at a higher risk of experiencing WPV [6]. In addition to the above, the healthcare system in Nigeria is facing several challenges, including a shortage of healthcare workers from a perennial brain drain, inadequate funding, and a high disease burden [7]. These challenges contribute to WPV in healthcare settings [8].

Moreover, WPV among medical interns may have broader implications for the healthcare system, including patient safety and quality of care. Despite the significant impact of WPV on healthcare workers, more research needs to be done on this issue in Nigeria, particularly among medical interns. To date, there is no documented healthcare policy targeted towards WPV among healthcare workers in Nigeria. Understanding the prevalence and predictors of WPV among medical interns in Nigeria is crucial to developing effective interventions to mitigate the issue and improve the well-being of healthcare workers. This study is the first to assess the prevalence and pattern of WPV among medical interns in Nigeria. This study aims to determine the prevalence, pattern, and predictors of WPV among medical interns in Southwest Nigeria.

Methodology

Study design

This study employed a cross-sectional design to determine the prevalence, pattern, and predictors of WPV against medical interns in Southwest Nigeria.

Study setting

The study was conducted between 1 March and 30 April 2023, in the southwestern region of Nigeria. A total of ten hospitals were selected as the study sites using a simple random sampling method (we assigned an unique number to each hospital on our list and then used a random number generator to select ten hospitals) to ensure a representative sample of the qualified hospitals for medical internship training in Southwest Nigeria. The selection of hospitals was undertaken carefully, considering factors such as accessibility, infrastructure, and patient load to ensure a diverse representation of healthcare facilities and medical interns. We employed a proportionate sampling method to select participants from the various hospitals, with the selection criteria being based on the total number of participants available in each hospital. The medical interns were contacted and recruited via online messengers to explain the study's objectives individually and obtain informed electronically written consent to participate. This was done via the official WhatsApp platform of each hospital's medical intern group with the help of the center's medical interns representative. Following this phase, the online questionnaire via Google form was shared with them to complete.

Study participants

The sources of participant selection were primarily the identified hospitals where medical interns were undertaking their training. The eligibility criteria for this study include being a medical doctor working in the selected hospitals in Southwest Nigeria, currently enrolled as a medical intern actively involved in patient care at the selected hospitals, and providing voluntary informed consent to participate. Medical officers were excluded from the study. The sample size was determined based on a similar study's estimated prevalence rate of 18.3% [9]. Considering a prevalence rate of 18.3%, a desired confidence level of 95%, and a margin of error of 5%, the required sample size was calculated using the formula $n = (Z^2 * p * q)/E^2$.

Using a Z-score of 1.96 (for a 95% confidence level), an estimated prevalence rate of 18.3%, and a margin of error of 5% ($E = 0.05$), the sample size is calculated as

$$n = \left(1.96^2 * 0.183 * 0.817\right) / 0.05^2$$

$$n \approx 340.81$$

Study variables

The variables of interest in this study included the prevalence of WPV against medical interns (outcome variable). At the same time, demographic characteristics, such as age, sex, marital status, and educational background, were considered predictor variables.

Data sources/measurement

Data for this study were primarily collected using online questionnaires distributed to the medical interns. The questionnaires included the adapted WPV Scale, which measured physical assault, verbal abuse, threat, verbal sexual harassment, and sexual assault. The scale was adapted from a previously validated

instrument by Wang et al. for measuring the prevalence of WPV among medical staff in China [10]. The Cronbach's alpha of the scale is 0.793, and the KMO value is 0.768 [10]—Supplementary File 1.

Bias

To minimize bias, the study randomly selected hospitals and ensured voluntary participation. Informed consent was obtained, and the confidentiality of data was assured. However, potential biases such as self-reporting, social desirability, and non-response bias cannot be completely ruled out.

Quantitative variables

Quantitative variables collected in this study included demographic characteristics (age, Sex, marital status, educational background) and responses to the WPV Scale questions. These variables were used to describe the study population and analyze the prevalence and predictors of WPV.

Statistical methods

We analyzed our dataset using IBM Statistical Package for the Social Sciences (SPSS) version 25.0. Descriptive statistics, including frequencies and percentages, were used to summarize the demographic characteristics of the study population. Logistic regression analysis was conducted to identify the predictors of WPV against medical interns. Variables included in our model were factors associated with WPV from previous studies [2,3,9,11,12]. The variables were age, gender, marital status, gender of the perpetrator, time of violence, hospital ownership, perpetrator, and hospital level. Before model fitting, we recategorized perpetrators into two groups (health workers or patients/patients' relatives). We fitted the best model using a stepwise backward likelihood ratio and presented adjusted odds ratios (AORs) and their corresponding 95% confidence intervals (CIs) in Table 3. We assessed for collinearity using a correlation matrix and removed workplace (hospital) from the model because of a high correlation between workplace (hospital) and hospital level ($r = 0.813$). The model chi-square value and p-value (Omnibus Tests of Model coefficients) are presented as a footnote in Table 3.

Ethics approval and consent to participate

Participants received information on the purpose and scope of the study. The respondents were informed that their participation was voluntary and that they would not suffer any consequences if they discontinued the study. Permission requirements of WhatsApp were adhered to and data were anonymized. Ethical approval was received from the ethical review board of Adeoyo state hospital (LTH/OGB/EC/2022/120), BUTH, EKSUTH, FMC IDO, LASUTH, LTH, LUTH, OAUTH, UCH, and UTH. This study adhered to the principles of the Declaration of Helsinki.

Results

The study included 379 participants, summarizing their sociodemographic characteristics in Table 1. The age distribution of the participants showed that 87 individuals (23.0%) were between 20 and 25 years old, while the majority, consisting of 292 individuals (77.0%), were older than 25. Regarding Sex, 238 participants (62.8%) identified as male, while 141 (37.2%) identified as female. Regarding marital status, most participants, totaling 331 individuals (87.3%), reported being unmarried, while 48 individuals (12.7%) were married.

The participants were employed in various hospitals, each with a different number of participants. Adeoyo state hospital had 9 participants (2.4%), BUTH had 14 participants (3.7%), EKSUTH had 12 participants (3.2%), FMC IDO had 15 participants (4.0%), LASUTH had 57 participants (15.0%), LTH had 27 participants (7.1%), LUTH had 70 participants (18.5%), OAUTH had 66 participants (17.4%), UCH had 76 participants (20.1%), and UTH had 33 participants (8.7%). Regarding hospital level, 11 participants (2.9%) were affiliated with secondary hospitals, while the majority, 368 participants (97.1%), were affiliated with tertiary hospitals. The ownership of the hospitals where the participants worked was predominantly governmental, with 364 participants (96.0%) employed in government-owned hospitals. A small portion of 15 participants (4.0%) worked in non-governmental hospitals.

The participants' self-perceived health status varied. Among the participants, 18 individuals (4.7%) reported their health as poor, 162 individuals (42.7%) reported their health as fair, and the majority, comprising 199 individuals (52.5%), reported their health as good. Regarding chronic medical conditions, 53 individuals (14.0%) reported having a chronic medical condition, while the remaining 326 individuals (86.0%) did not report any chronic medical conditions. Figure 1 shows the proportion of participants who reported exposure to WPV. Two hundred thirty-seven individuals (62.5%) reported experiencing WPV, while 142 individuals (37.5%) reported no such incidents.

The distribution of the different types of WPV among the study participants is summarized in Figure 2. The most commonly reported type of WPV was verbal abuse, with 240 individuals (63.3%) reporting such incidents, followed by threats reported by 191 individuals (50.4%). Other types of WPV included physical assault reported by 92 individuals (24.3%), verbal sexual harassment by 50 individuals (13.2%), and physical sexual abuse by ten individuals (2.6%).

Table 1. Sociodemographic characteristics of study participants.

Variables	Freq (379)	Percentage (%)
Age (years)		
20–25	87	23.0
>25	292	77.0
Sex		
Male	238	62.8
Female	141	37.2
Marital status		
Unmarried	331	87.3
Married	48	12.7
Workplace (hospital)		
Adeoyo state hospital	9	2.4
BUTH	14	3.7
EKSUTH	12	3.2
FMC IDO	15	4.0
LASUTH	57	15.0
LTH	27	7.1
LUTH	70	18.5
OAUTH	66	17.4
UCH	76	20.1
UTH	33	8.7
Hospital level		
Secondary	11	2.9
Tertiary	368	97.1
Ownership		
Governmental	364	96.0
Non-governmental	15	4.0
Self-perceived health status		
Poor	18	4.7
Fair	162	42.7
Good	199	52.5
Chronic medical		
Yes	53	14.0
Condition		
No	326	86.0

LUTH: Lagos University Teaching Hospital; LASUTH: Lagos State University Teaching Hospital; LTH: LAUTECH Teaching Hospital; UCH: University College Hospital; OAUTHC: Obafemi Awolowo University Teaching Hospital Complex; EKSUTH: Ekiti State University Teaching Hospital; BUTH: Bowen University Teaching Hospital; UTH: UniOsun Teaching Hospital; FMC IDO: Federal Medical Center, Ido Ekiti; ADEOYO: Adeoyo State Hospital.

Figure 3 shows WPV incidents based on different types of WPV reported by participants. Most physical assault incidents occurred once, accounting for 64.1% of reported incidents (59). Additionally, 33.7% of incidents involved two or three occurrences (31), while a small proportion, 2.2%, involved more than three (9). Among reported incidents of verbal abuse, 9.2% occurred once (22 incidents), while 15.8% involved two or three occurrences (38). The highest proportion, 75%, involved more than three instances (180). Incidents involving threats showed that 5.3% occurred once (20), 10% involved two or three occurrences (60), and 47.5% involved more than three instances (111). For incidents of verbal sexual harassment, 46% occurred once (23), 42% involved two or three occurrences (21), and 12% involved more than three instances (6). Most reported physical and sexual abuse incidents occurred once, accounting for 90% (9 incidents), while 10% involved two or three occurrences (1 incident).

The pattern of exposure to WPV among the study participants is summarized in Table 2. The perpetrators of WPV were identified as patients by 145 individuals (61.2%), patient's relatives by 194 individuals (81.9%), colleagues by 36 individuals (15.2%), senior colleagues by 185 individuals (78.1%), the general public by 41 individuals (17.3%), and visitors by 58 individuals (24.5%). It was also noted that nurses, medical laboratory scientists, administrative personnel, and other

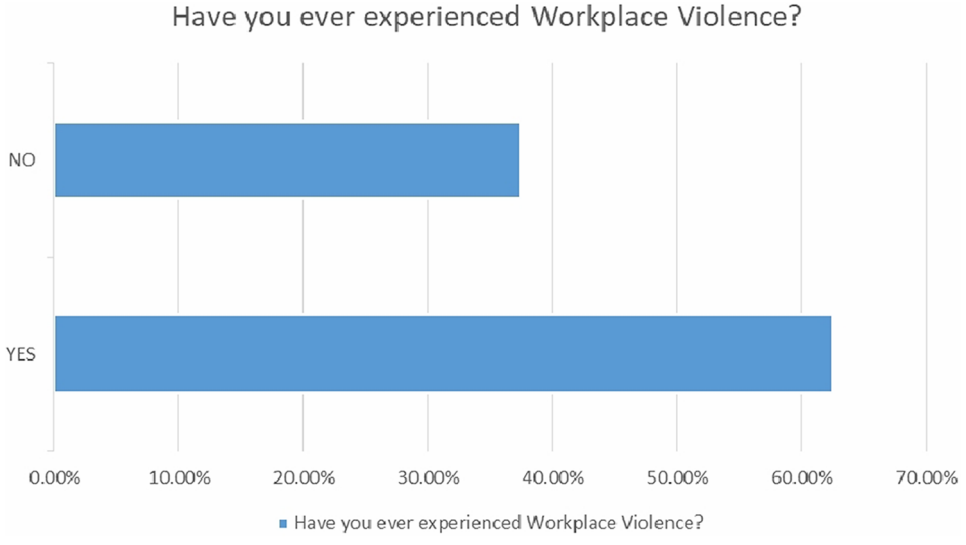

Figure 1. Prevalence of any form of WPV in study participants.

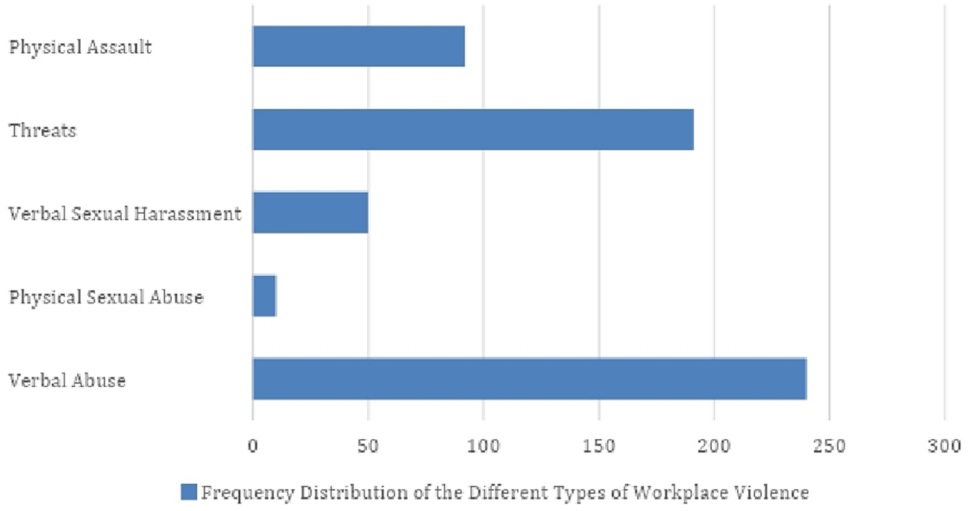

Figure 2. The distribution of the 5 types of WPV among the study participants.

health team members were identified as perpetrators. Among the perpetrators, 28 individuals (12.1%) were identified as male, 15 individuals (6.5%) as female, and 189 individuals (81.5%) reported to have been assaulted by both male and female perpetrators.

WPV was reported to occur at various times of the day, with 89 individuals (37.6%) reporting incidents in the morning, 163 individuals (68.8%) in the afternoon, and 206 individuals (86.9%) during call duty hours. The settings where WPV took place included hospital wards, as reported by 206 individuals (86.9%); doctor's offices, as reported by 76 individuals (32.1%); nurse stations, as reported by 86 individuals (36.3%); emergency rooms as reported by 167 individuals (70.5%), and incidents occurring on the way to hospital or clinic as reported by 13 individuals (5.5%). Additionally, 12 individuals (5.1%) reported incidents in other settings.

In their opinion, our respondents gave some reasons why they could have experienced WPV. The most frequently reported reasons were long waiting times, identified by 153 individuals (40.4%), and unmet patient needs, reported by 130 individuals (34.3%). Dissatisfaction with doctor's services was cited by 93 individuals (24.5%), while dissatisfaction with nurses' services was mentioned by 33 individuals (8.7%). Concerns regarding treatment effectiveness were reported by 97 individuals (25.6%), and the unfortunate event of a patient's death was mentioned by 100 individuals (26.4%). Mental disorders of the perpetrators were reported in 33 cases (8.7%), and self-perceived high medical costs were identified as a reason by 76 individuals (20.1%). Other contributing factors cited by the participants included appealing compensation issues (16 individuals, 4.2%), incidents linked to alcohol or drug abuse (11 individuals, 2.9%), and other reasons reported by 19 individuals (5.0%).

In response to WPV, the majority of participants, 203 individuals (85.7%), were reported taking no action. However, 169 individuals (71.3%) disclosed the incidents to friends or family members, 24 individuals (10.1%) sought help from managers, 28 individuals (11.8%) sought help from unions, two individuals (0.8%) sought help from the police, and two individuals (0.8%) completed violence reports. It is important to note that there were no reported cases of prosecution, and a few individuals reported other forms of reaction to WPV. According to the classification, 65.4% of the respondents had been exposed to any WPV, 64.9% had been exposed to non-physical violence, and 24.5% had been exposed to physical violence. See Figure 4.

The present study employed logistic regression analysis to identify the predictors of WPV among the study participants. Table 3 provides the analysis results, presenting adjusted odds ratios, 95% confidence intervals, and p-values for each predictor variable. Female interns exhibited higher odds of experiencing WPV, with an adjusted odds ratio of 3.01 (95% CI: 0.82 – 11.03) and a p-value of 0.01), compared to male participants. Also, the odds of experiencing WPV from patients and patients' relatives are 78% times less likely (95% CI: 0.05, 0.98) than from a health worker at a p-value of 0.05.

Our study respondents were asked for their context-based opinions on addressing WPV at their respective workplaces. The most common recommendation was training to establish better communication skills among workers, with 251 participants (66.2%) emphasizing its importance. Additionally, 276 participants (72.8%) recommended training and education of workers

Figure 3. Frequency of occurrence of WPV by violence typology.

regarding WPV. Special training for workers in terms of coping with stress was suggested by 230 participants (60.7%), while 203 participants (53.6%) stressed the need for organizational support for the victims of WPV. Acknowledging the issue to the public and raising awareness among workers was recommended by 218 participants (57.5%). A small percentage of participants (14, or 3.7%) provided other miscellaneous recommendations.

Discussion

The study participants' demographic characteristics provide essential insights into the prevalence and impact of WPV among medical interns in Southwest Nigeria. Most respondents were over 25 years old, male, and unmarried. Tertiary hospitals and government-owned hospitals were the primary workplace locations. These

Table 2. Pattern of exposure to WPV among study participants.

Variables	Freq (379)	Percentage (%)
Perpetrator of WPV* ($N = 237$)		
Patient's relative	194	81.9
Senior colleagues	185	78.1
Nurse	129	54.4
Visitors	58	24.5
General public	41	17.3
Colleagues	36	15.2
Medical laboratory scientist	76	32.1
Administrative personnel	10	4.2
Other member of the health team	8	3.4
Sex of perpetrator		
Both	189	81.5
Male	28	12.1
Female	15	6.5
Time of violence		
Call duty hours	206	86.9
Afternoon	163	68.8
Morning	89	37.6
Setting of violence		
Wards	206	86.9
Doctor's office	76	32.1
Nurse stations	86	36.3
Emergency room	167	70.5
On the road from work	13	5.5
Others	12	5.1
Reason for violence		
Long waiting time	153	64.6
Unmet patient's need	130	54.9
Dissatisfied of doctor's service	93	39.2
Dissatisfied of nurses' service	33	13.9
Dissatisfied of treatment effect	97	40.9
Patient's death	100	42.2
Perpetrators' mental disorder	33	13.9
Self-perceived high medical costs	76	32.1
Appealing compensation	16	6.8
Alcohol/Drug abuse	11	4.6
Others	19	8.0
Reaction to violence		
Took no action	203	85.7
Told friends/families	169	71.3
Sought help from managers	24	10.1
Sought help from union	28	11.8
Sought help from police	2	0.8
Completed the violence report	2	0.8
Prosecute	0	0
Others	3	1.3

*Multiple responses allowed.

findings suggest that WPV prevention interventions targeting medical interns in Southwest Nigeria should consider the unique characteristics of this population. Of note, most participants in our study self-reported good health and the absence of chronic medical conditions. While this demographic characteristic may suggest that WPV is not exclusively linked to an individual's health status or medical history, it is essential to consider the potential impact of violence on employees' physical and mental well-being. Specifically, employees who

Table 3. Logistic regression analysis of the predictors of any form of WPV against the respondents.

Variables	AOR (95% confidence interval)	*p*-Value
Sex		
Female (ref)	1	
Male	3.01 (0.82, 11.03)	0.10
Perpetrator		
Health worker (ref)	1	
Patient or relatives	0.22 (0.05, 0.98)	0.05

AOR: Adjusted odd ratio.
Model chi-square value is 8.715 and *p*-value is 0.013.

experience WPV may develop symptoms of post-traumatic stress disorder or other mental health conditions, adversely affecting their overall health and ability to perform their job duties [11]. Moreover, while the absence of chronic medical conditions may indicate that employees are generally healthy and able to manage the demands of their jobs, it does not necessarily preclude them from the risk of WPV [13]. Thus, our findings underscore the need for comprehensive WPV prevention and intervention strategies that include all employees, irrespective of their health status or medical history.

The findings of this study reveal a high incidence of WPV experienced by medical interns in Southwest Nigeria. Most respondents reported experiencing at least one form of WPV during their internship, with verbal abuse being the most common type. This is consistent with previous research on WPV in healthcare settings, which has identified verbal abuse as a prevalent form of violence [14]. Interestingly, physical assault was the third most common form of WPV experienced by study participants. This is particularly of concern as physical assault can have severe physical and psychological consequences for the victims [15]. Additionally, a substantial proportion of respondents reported experiencing verbal sexual harassment, which can have long-term effects on the victims' mental health and well-being [16]. Notably, the vast majority of the WPV experienced by study participants was non-physical. This highlights the need for interventions that address other forms of WPV, such as verbal abuse, threats, and physical violence. It is also important to note that WPV can significantly negatively impact healthcare workers' mental health and job satisfaction, ultimately affecting the quality of care provided to patients [17].

Our study found that over an average of medical interns had experienced at least one form of WPV, with verbal abuse being the most common type. These findings are consistent with studies conducted in other countries, which suggest that verbal abuse is the most common type of WPV experienced by medical interns

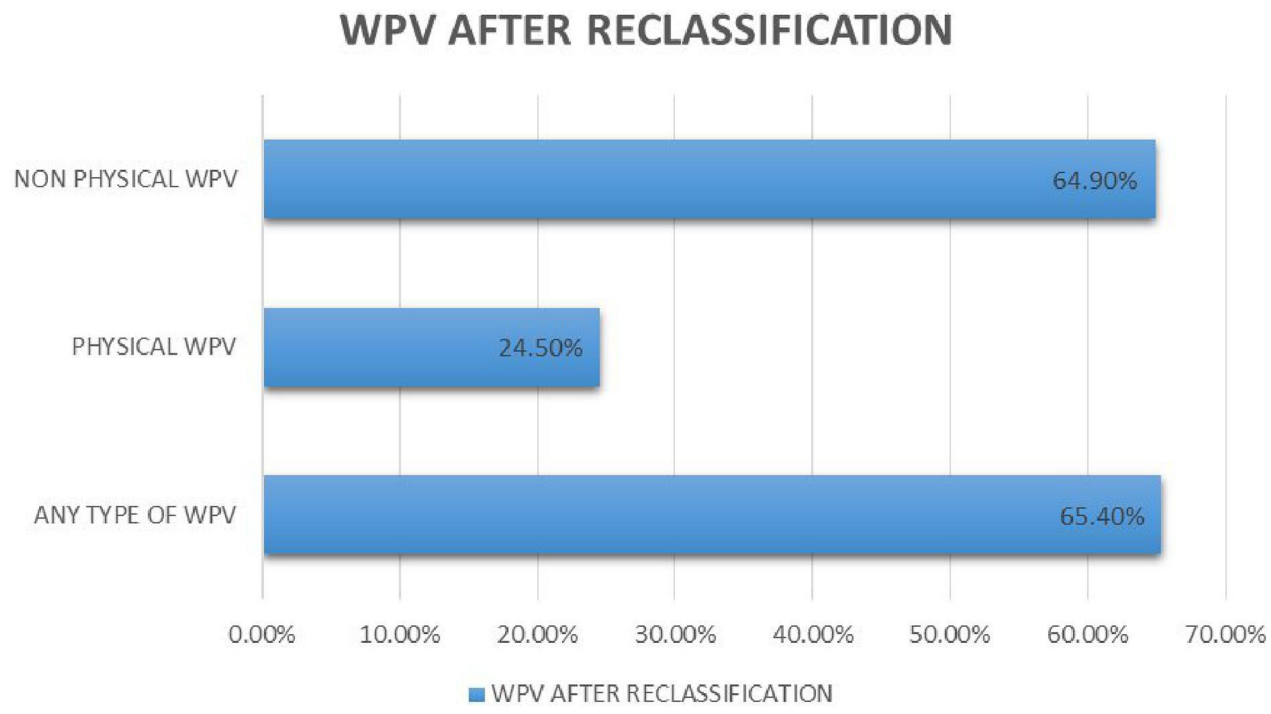

Figure 4. Distribution of WPV after grouping.

[12,18,19]. In addition, a study conducted in China reported that medical interns had experienced verbal abuse, 27.3% had experienced physical assault, and 15.2% had experienced sexual harassment [20]. Another study in Ethiopia reported that 84.2% of medical interns had experienced at least one form of WPV, with verbal abuse being the most common (82.6%), followed by physical assault (38.9%) and sexual harassment (24.2%) [21].

Regarding the reasons for WPV, a study conducted in Pakistan found that long waiting times and poor communication with medical staff were the main reasons for violence in healthcare settings [22]. This is similar to our study, which found that long waiting times and unmet patient needs were the most common reasons for WPV. Our study also found that patients were the foremost perpetrators of physical and non-physical violence, consistent with other studies conducted in different countries [2,23]. However, it is essential to note that in some studies, healthcare staff members were reported as the perpetrators of WPV [24]. This highlights the need for interventions to train healthcare staff on communication skills, conflict resolution, and stress management.

Our study provides novel insights into the potential factors contributing to WPV against healthcare workers. Specifically, our logistic regression analysis revealed significant associations between demographic factors such as sex. Our findings are consistent with previous research indicating that female healthcare workers are at increased risk of experiencing WPV [25]. These findings highlight the need for targeted interventions tailored to the unique characteristics of healthcare workers and their work environment. Interventions focusing on prevention, management, and support for medical interns who experience WPV are essential to mitigate the impact of WPV on this vulnerable population. These interventions should also address the underlying structural and cultural factors contributing to WPV in healthcare settings to create a safer and more supportive work environment for medical interns and other healthcare workers.

It should be noted, however, that this study has some limitations that should be considered when interpreting the results. The sample size is limited to medical interns in the West and Nigeria, so the findings may not be generalizable to other populations or settings. Additionally, the study relies on self-reported data, which may be subject to biases or underreporting of WPV incidents. Future research could address these limitations by using larger, more diverse samples and objective measures of WPV.

Conclusion

WPV is a vital public health issue among medical interns in Southwest Nigeria. Patients were found to be the main perpetrators of physical and non-physical violence. Long waiting times, unmet patient needs, dissatisfaction with doctor service or adverse effects of treatment, and

high medical costs were identified as the commonly cited reasons for violence. Our study revealed a finding of significant concern that despite the high prevalence of WPV, the majority of participants did not take any action in response to these incidents. This issue warrants further exploration to understand the underlying reasons for this lack of action. Our study contributes to the growing body of evidence on WPV against healthcare workers and emphasizes the need for urgent action to address this critical public health issue. In light of our findings, healthcare organizations in Southwest Nigeria must take steps to prevent and address WPV. This could include developing and implementing policies and procedures that promote a culture of respect and zero tolerance for violence, training staff on identifying and responding to WPV, and offering support and resources for victims of WPV.

Acknowledgement

No funding was received for this study.

Ethical approval

Informed consent was obtained from study participants, and the study was conducted in line with the principles of the Declaration of Helsinki.

Authors contributions

Nicholas Aderinto, Samson Afolabi, Peter Olaniyi & Gbolahan Olatunji: Conceptualization, methodology, software all authors: data curation, writing- original draft preparation. Oluwatosin Samson Jegede: Visualization, investigation. Oluwatosin Samson Jegede & Grace Ijitade: Supervision. Nicholas Aderinto: Software, validation. Nicholas Aderinto, Gbolahan Olatunji, Peter Olaniyi, Samson Afolabi, Kamil Ajagbe, Ismaila Ajayi Yusuf, Deborah Ojo, Samuel Olatunji, Adedamola Awodun, Tsele Toritseju, Kadiri A. Olamide, Grace Ijitade, Oluwatosin Samson Jegede: Writing, Reviewing and Editing. Nicholas Aderinto, Gbolahan Olatunji, Peter Olaniyi, Samson Afolabi, Kamil Ajagbe, Ismaila Ajayi Yusuf, Deborah Ojo, Samuel Olatunji, Adedamola Awodun, Tsele Toritseju, Kadiri A. Olamide, Grace Ijitade, Oluwatosin Samson Jegede contributed to interpreting the findings, revised the manuscript critically, and approved the final version. NA is the corresponding author and takes full responsibility for the integrity of the work as a whole, from inception to publication.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The author(s) reported there is no funding associated with the work featured in this article.

Data availability statement

Data supporting evidence of this study is available upon reasonable request from the corresponding author.

References

[1] ILO/ICN/WHO/PSI. WPV in the health sector country case studies research instruments – survey questionnaire. Geneva: Switzerland; 2003.
[2] Liu J, Gan Y, Jiang H, et al. Prevalence of WPV against healthcare workers: a systematic review and meta-analysis. Occup Environ Med. 2019;76(12):927–937. doi: 10.1136/oemed-2019-105849.
[3] Peng P, Liu L, Wu Q, et al. Establishment and validation of a nomogram for dropout intention in Chinese early year medical undergraduates. BMC Med Educ. 2024;24(1):868. doi: 10.1186/s12909-024-05835-y.
[4] Wang X, Peng P, Liu Y, et al. Workplace violence inflicted by patients or their family members/visitors and its relationship with suicidal ideation among undergraduate medical students during clinical training in China. Ann Med. 2023;55(2):2295027. doi: 10.1080/07853890.2023.2295027.
[5] Peng P, Yang WF, Liu Y, et al. High prevalence and risk factors of dropout intention among Chinese medical postgraduates. Med Educ Online. 2022;27(1):2058866. doi: 10.1080/10872981.2022.2058866.
[6] Warshawski S. WPV directed at nursing and medical students – what can students tell us about it? J Prof Nurs. 2021;37(6):1110–1118. doi: 10.1016/j.profnurs.2021.09.004.
[7] Angell B, Sanuade O, Adetifa IMO, et al. Population health outcomes in Nigeria only compared with other west African countries, 1998–2019: a systematic analysis for the Global Burden of Disease Study. Lancet. 2022;399(10330):1117–1129. doi: 10.1016/S0140-6736(21)02722-7.
[8] Ogbonnaya GU, Ukegbu AU, Aguwa EN, et al. A study on WPV against health workers in a Nigerian tertiary hospital. Niger J Med. 2012;21(2):174–179.
[9] Yunusa, et al. Prevalence and factors associated with WPV against health workers in tertiary hospitals. J Clin Res Anal. 2023;10(3):145–156. https://www.journalcra.com/article/prevalence-and-factors-associated-workplaceviolence-against-health-workers-tertiary
[10] Wang X, Cui C, Zhang X, et al. Relationship between hospital violence and depressive symptoms among medical staff. J China Med Univ. 2021;50:63–67.
[11] Lei Z, Yan S, Jiang H, et al. Prevalence and risk factors of WPV against emergency department nurses in China. Int J Public Health. 2022;67:1604912. doi: 10.3389/ijph.2022.1604912.
[12] Mambrey V, Ritz-Timme S, Loerbroks A. Prevalence and correlates of WPV against medical assistants in Germany: a cross-sectional study. BMC Health Serv Res. 2023;23(1):350. doi: 10.1186/s12913-023-09331-9.
[13] Leijten FR, van den Heuvel SG, Ybema JF, et al. The influence of chronic health problems on work ability and productivity at work: a longitudinal study among older employees. Scand J Work Environ Health. 2014;40(5):473–482. doi: 10.5271/sjweh.3444.

[14] Vento S, Cainelli F, Vallone A. Violence against healthcare workers: a worldwide phenomenon with serious consequences. Front Public Health. 2020;8:570459. doi: 10.3389/fpubh.2020.570459.
[15] Ferrara P, Franceschini G, Villani A, et al. Physical, psychological and social impact of school violence on children. Ital J Pediatr. 2019;45(1):76. doi: 10.1186/s13052-019-0669-z.
[16] Schapansky E, Depraetere J, Keygnaert I, et al. Prevalence and associated factors of sexual victimization: findings from a national representative sample of Belgian adults aged 16–69. Int J Environ Res Public Health. 2021;18(14):7360. doi: 10.3390/ijerph18147360.
[17] Dadfar M, Lester D. WPV (WPV) in healthcare systems. Nurs Open. 2021;8(2):527–528. doi: 10.1002/nop2.713.
[18] Alsmael MM, Gorab AH, AlQahtani AM. Violence against healthcare workers at primary care centers in Dammam and Al Khobar, Eastern Province, Saudi Arabia, 2019. Int J Gen Med. 2020;13:667–676. doi: 10.2147/IJGM.S267446.
[19] Mohamad O, AlKhoury N, Abdul-Baki MN, et al. WPV toward resident doctors in public hospitals of Syria: prevalence, psychological impact, and prevention strategies: a cross-sectional study. Hum Resour Health. 2021;19(1):8. doi: 10.1186/s12960-020-00548-x.
[20] Wu S, Zhu W, Li H, et al. WPV and influencing factors among medical professionals in China. Am J Ind Med. 2012;55(11):1000–1008. doi: 10.1002/ajim.22097.
[21] Shahjalal M, Gow J, Alam MM, et al. WPV 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.
[22] Khan MN, Haq ZU, Khan M, et al. Prevalence and determinants of violence against health care in the metropolitan city of Peshawar: a cross-sectional study. BMC Public Health. 2021;21(1):330. doi: 10.1186/s12889-021-10243-8.
[23] Lu L, Dong M, Wang SB, et al. Prevalence of WPV against health-care professionals in China: a comprehensive meta-analysis of observational surveys. Trauma Viol Abuse. 2020;21(3):498–509. doi: 10.1177/1524838018774429.
[24] Abaate TJ, Inimgba T, Ogbonna VI, & Scientific and Research Committee of the Association of Resident Doctors, University of Port Harcourt Teaching Hospital, et al. WPV against health care workers in Nigeria. Niger J Med. 2022;31(6):605–610. doi: 10.4103/NJM.NJM_102_22.
[25] Habib RR, Halwani DA, Mikati D, et al. Sex and gender in research on healthcare workers in conflict settings: a scoping review. Int J Environ Res Public Health. 2020;17(12):4331. doi: 10.3390/ijerph17124331.