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Violence against healthcare workers in Kenya: a cross-sectional sub-analysis of the global vishwas study

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Abstract

Background Global concern exists for workplace violence against healthcare workers (HCWs), especially in low and middle-income nations. This violence includes physical, verbal, or sexual abuse and has a significant impact despite initiatives like Occupational Safety and Health Administration (OSHA) guidelines. We conducted a study in Kenya to address this issue.

Methods We did a cross-sectional survey that collected responses during June 6th to August 9th, 2022, focused on healthcare professionals in Kenya within the global ViSHWaS study. Violence against healthcare professionals in multiple Kenyan counties was analysed. The study reached participants through social media, emails, and other channels using a snowball sampling technique.

Results The survey included 1,458 HCWs, primarily females (66.5%), aged 36–45 (42.4%), and of African race, representing 40 counties, with the majority from Nairobi (28.9%) and working in government academic (35.5%) and private academic institutions (20.6%). Most had over 11 years of healthcare experience (64.4%), and registered nurses were the most common cadre (27.8%). Approximately half of enrolled participants (49.9%) reported experiencing violence, with verbal violence (80.6%) and emotional abuse (78.6%) being common. Online harassment was reported by only 3.5%, mainly on Facebook (63.2%), involving hate speech (92.1%). Patients or their relatives were the most common aggressors (44.7%), while supervisors accounted for 12.5%. The frequency of violence varied, and 80.2% noted an increase after the COVID-19 pandemic. Only 41.2% of incidents were reported. Most were familiar with safety guidelines (93.6%). Self-violence was associated with familiarity with guidelines, concern about violence, preparedness, and night shifts, while colleague violence was associated with age, gender, race, work experience, training, preparedness, and night shifts.

Conclusion Our Kenya-based cross-sectional sub-analysis highlights that a significant number of HCWs experienced violence, especially during the COVID-19 pandemic, which negatively affected job satisfaction. Although most HCWs were familiar with OSHA guidelines, there were difficulties in their practical implementation.

Keywords Violence against healthcare workers, Violence, Healthcare workers, Kenya, Physician abuse, Nurses abuse

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Background

Workplace violence targeting healthcare professionals such as physicians and nurses is an escalating concern globally, affecting both developing and developed nations [1]. In low and middle-income countries (LMICs), these acts of violence frequently remain unattended, largely because of the lack of strong government regulations and policies safeguarding healthcare workers (HCWs). Workplace violence is defined by the National Institute for Occupational Safety and Health as “any violent action, including physical assaults or threats of assaults, directed at individuals while at work or on duty” [2, 3]. These acts of violence can take the form of physical, verbal, or sexual abuse, with verbal assaults being the most frequently experienced type [4]. In uncommon instances, violence can escalate to severe harm, posing a threat in any department of the hospital, occurring unpredictably and without any consideration or regard for the location or the vulnerable patients present [2]. Workplace violence can manifest due to a range of factors, such as breakdowns in communication, unrealistic expectations, and perceptions of inadequate care. Additionally, reported causes encompass extended wait times and the inability to meet patient and family expectations [5].

According to the World Health Organization (WHO), 8–38% of healthcare professionals experience physical abuse at some point during their employment, and many more face verbal abuse [6]. In 2018, within the United States, 73% of nonfatal occupational illnesses and injuries were attributed to violence against healthcare workers (HCWs) [7]. Within the country, 70–74% of workplace assaults occur in healthcare settings [8]. A study focusing on home healthcare workers in Israel revealed that 41% experienced verbal abuse, leading to emotional exhaustion and burnout. Additionally, other factors such as lack of social and legal rights, dependency on the care recipient and their family, and working in isolated environments were also responsible for this vulnerability. The COVID-19 pandemic has further led to an increase in violence in this sector.

The increasing violence targeting HCWs led to the issuance of employer guidelines by the Occupational Safety and Health Administration (OSHA) in 1996. These guidelines aim to assist healthcare facilities in creating a safer working environment for their staff and reducing the risk of violent incidents [7]. OSHA places significant emphasis on implementing a zero-tolerance policy towards workplace violence. This policy should extend its coverage beyond HCWs to encompass patients, clients, visitors, contractors, and anyone else who may encounter healthcare facility employees. Furthermore, OSHA recommends that healthcare employers establish a comprehensive Workplace Violence Prevention Program and form multidisciplinary committees to address

and mitigate violence-related issues involving healthcare workers. Similarly, in Kenya through its Directorate of Occupational Safety & Health Services (DOSHS), ensures workplace safety across Kenya. DOSHS offers services such as workplace and plant registration, inspections, and accident investigation under the Occupational Health and Safety Act of 2007, akin to OSHA guidelines in the USA [9].

While numerous surveys have documented incidents of violence against HCWs, they often concentrate on specific countries or occupations [8, 10]. There is a notable scarcity of research offering a holistic understanding of the extent and nuances of this issue within Kenya. Furthermore, there is currently a lack of published literature addressing violence against healthcare workers (HCWs) during the COVID-19 pandemic specifically in Kenya, a gap that our survey has aimed to address. To fill this void, we carried out an extensive survey involving healthcare professionals in this region. This study was designed to investigate the diverse dimensions of healthcare-related violence, encompassing its types, gender-related variations, occupational aspects, and its impact specifically within Kenya. An initial version of the manuscript abstract has been submitted and accepted at The CHEST International conference in Honolulu, HI, USA in October 2023 [11]. Furthermore, multiple regional subsets of the Violence Study of Healthcare Workers and Systems (ViSHWaS) manuscript have been submitted and accepted as abstracts for presentation at various national and international conferences [12–15].

Methods

Study design and data collection

This research employs an observational cross-sectional survey methodology, spanning a duration of eight weeks, commencing on June 6th, 2022, and concluding on August 9th, 2022, during which healthcare workers were asked about violence throughout their careers as HCWs. The Violence Study of Healthcare Workers and Systems (ViSHWaS) study employed a “hub and spoke model” for team assembly aimed at optimizing participant responses. The central team appointed country leads, who subsequently enlisted regional collaborators. Communication among collaborators was facilitated through a dedicated research WhatsApp group and weekly video conferences to distribute the survey effectively. Country leads, appointed by the central team, undertook the responsibility of extending the survey within their respective networks to ensure a diverse representation of responses from healthcare professionals globally. Moreover, digital survey banners and social media platforms such as Twitter and LinkedIn were utilized to broaden engagement across a wider audience spectrum. While the original ViSHWaS study encompassed information from

over 105 countries, this subgroup analysis delves specifically into data sourced from Kenya within the overarching global dataset [16]. The IRB approval was received from Aga Khan University, Nairobi Institutional Scientific and Ethics Review Committee (ISERC) Ref: 2022/ISERC-59(v2) as well as National Commission for Science, Technology, and Innovation (NACOSTI) License no: NACOSTI/P/22/19,975.

Study setting

Kenya is a country located in East Africa, bordered by Tanzania, Uganda, South Sudan, Ethiopia, and Somalia. It is divided into 47 counties, each comprising several sub-counties. The healthcare system in Kenya is structured with both public and private healthcare facilities, ranging from primary healthcare centres to tertiary hospitals. Community hospitals provide essential services at the grassroots level, while government academic hospitals focus on education and research. Government non-academic hospitals offer clinical care to the public. Private academic hospitals offer advanced services and contribute to research, while private non-academic hospitals provide high-quality care. Military hospitals cater to military personnel, and mission hospitals prioritize compassionate care and community collaboration. The distribution of healthcare workers varies across counties, with some regions having higher concentrations of healthcare professionals compared to others. Nairobi, the capital city, typically has a higher density of healthcare workers due to its status as the economic and administrative hub of the country.

Data management and analysis

This study analysed violence against healthcare professionals in Kenya. The target population included physicians, nurses, administrative workers, auxiliary/support staff, dentists, pharmacists, respiratory therapists, physical therapists, fellows in training, medical students, researchers, and other allied health professionals. Participants were reached through various channels including social media, emails, and direct messaging platforms such as WhatsApp employing a snowball sampling technique for data collection. The questionnaire was adapted from the global ViSHWAS study. The questions comprised of experiencing workplace violence, questions on preparedness such as reporting procedures, training, familiarity with guidelines, questions on probable causes and risk factors of violence, and demographic characteristics such as age, gender, race, county, institution type, experience and primary area of work. Summary statistics were presented as frequencies and percentages for categorical data. Univariate analyses were performed for group comparisons using Fishers Exact test for categorical data. A *p* value of less than 0.05 was considered statistically

significant. All analyses were done using the SPSS software (IBM Version 20). This study was approved by the Institutional Scientific and Ethics Review Committee (ISERC) at the Aga Khan University, Nairobi (Ref: 2022/ISERC-59 (v2)) and NACOSTI (NACOSTI/P/22/19975).

Results

Demographic characteristics

A total of 1,458 HCWs responded to the survey, and 96.2% (*n* = 1,402) consented to be part of the survey. Of the ones that consented, 84.6% (*n* = 1,186) partially or completely filled the survey and were included in the analysis. More than half (66.5%, 787/1183) of the participants were females, 42.4% (502/1184) were in the age category of 36–45 years, and 95.9% (1134/1182) were of African race. Representation of the participants covered 40 counties, and the majority (28.9%, 340/1176) were from Nairobi, followed by 10.9% (128/1176) from Kiambu. Bomet, Embu, Kwale, Muranga, and West Pokot had the least number of participants (Fig. 1). Based on the type of institution, 35.5% (417/1182) represented Government academic and 20.6% (243/1182) from Private academic institutions. More than half of the participants, 64.4% (762/1183), had more than 11 years of experience in the healthcare field. The most common cadre of the participants was registered nurses at 27.8% (330/1185), followed by attending physicians at 18.4% (218/1185), and the most common primary area of work was emergency medicine at 13.2% (113/853), followed by obstetrics and gynaecology at 8.6% (73/853). Detailed demographics are presented in Table 1.

Violence characteristics

About half of the participants (49.9%, 592/1186) reported experiencing violence themselves at their workplaces, and from those respondents not experiencing violence themselves at their workplaces, 83.1% (493/593) reported violence against their colleague(s). From those who experienced violence either themselves or against their colleagues, verbal violence (80.6%, 874/1085) and emotional abuse (78.6%, 853/1085) were the most common form of violence (Fig. 2). Interestingly, only 3.5% (38/1085) reported online/virtual/cyber harassment, where 63.2% (24/38) reported Facebook being the most common platform and 92.1% (35/38) reported hate speech, bad-mouthing, and dissing as a form of online harassment. Among those who reported experiencing violence, whether directed at themselves or their colleagues, 44.7% (483/1083) identified patients or their relatives as the most frequent aggressors, 12.5% (135/1085) mentioned supervisors, and 35.2% (381/1083) reported encountering more than one type of aggressor.

Of the 590 HCWs reporting violence against themselves, 40.7% (240/590) described facing violence once

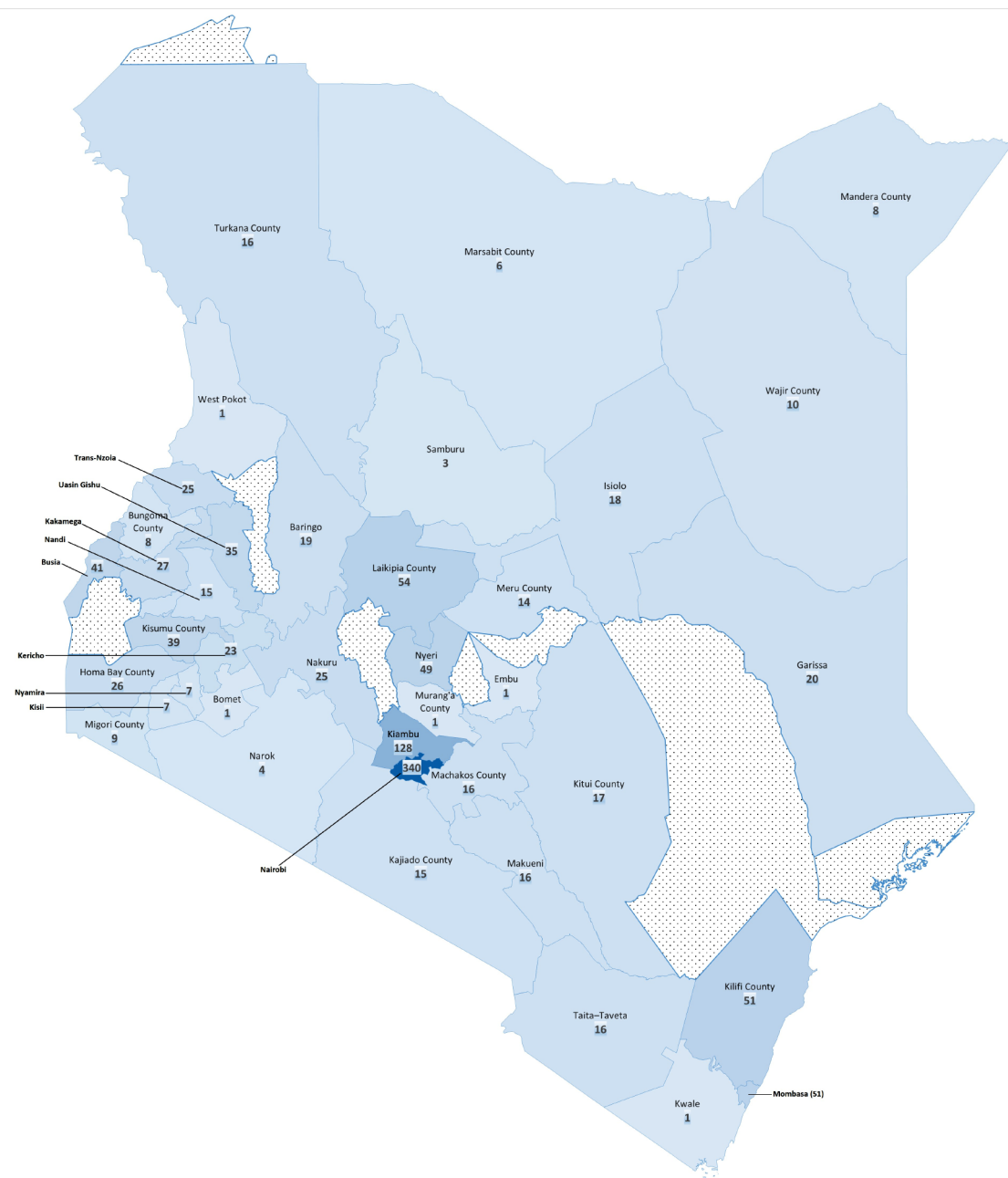


Fig. 1 Demographics representation of survey respondents in different counties of the Kenya Region

or twice a quarter, and 31.0% (183/590) described facing violence once or twice a year. Of the 493 HCWs reporting violence against a colleague(s), 49.9% (246/493) described facing violence once or twice a month, and 32.9% (162/493) described facing violence once or twice a quarter. More than three-quarters of the participants, 80.2% (749/1083), reported an increase in the frequency of violent incidents or episodes after the COVID-19 pandemic, and only 41.2% (446/1083) of the violent incidents or episodes were reported to the administration / hospital / police. The majority, 93.6% (1109/1185), were

familiar with the occupational safety and health standards and guidelines, 75.5% (895/1185) reported having reporting procedures available at their workplace, and only 50.6% (598/1182) reported having been trained on managing violence at the workplace. Only 23.4% reported being worried or very worried about violence at their workplace, and 38.9% reported being prepared to resolve a potentially violent situation. Up to 80.6% (873/1083) of the respondents felt less motivated and decreased job satisfaction as an aftermath of violence (Fig. 3).

Table 1 Demographic characteristics of all 1186 participants

Demographics		N(%)
Gender (n = 1183)	Male	389 (32.9)
	Female	787 (66.5)
	Other/ Prefer not to disclose	7 (0.6)
Age(Years) (n = 1184)	18–25	45 (3.8)
	26–35	326 (27.5)
	36–45	502 (42.4)
	46–55	238 (20.1)
	56–65	68 (5.7)
	65+	5 (0.4)
Race (n = 1182)	African	1134 (95.9)
	Asian	35 (3.0)
	Other	13 (1.1)
Type of Institution (n = 1182)	Community Hospital	77 (6.5)
	Government Academic	417 (35.3)
	Government-Non-Academic	183 (15.5)
	Private Academic	243 (20.6)
	Private Non-Academic	149 (12.6)
	Military Hospital	15 (1.3)
	Mission/Non-Profit Hospital	93 (7.9)
Years of Experience (n = 1183)	Other	5 (0.4)
	< 1	12 (1.0)
	1 to 2	54 (4.6)
	2 to 5	167 (14.1)
	6 to 10	188 (15.9)
	11 to 20	491 (41.5)
	21 to 30	205 (17.3)
Work Position (n = 1103)	< 30	66 (5.6)
	Administration	95 (8.0)
	Nurse Practitioner (ARNP)	11 (0.9)
	Attending Physician	218 (18.4)
	Auxiliary/Support Staff	46 (3.9)
	Dentist/Dental Surgeon	36 (3.0)
	EMT	20 (1.7)
	Fellow in Training	20 (1.7)
	Medical Student	97 (8.2)
	Occupational Therapist	37 (3.1)
	Pharmacist (PharmD)	52 (4.4)
	Physical Therapist	30 (2.5)
	Physician Assistant (PA)	45 (3.8)
	Registered Nurse (RN)	330 (27.8)
	Researcher	20 (1.7)
	Resident in Training/Junior Resident	31 (2.6)
	Respiratory Therapist	15 (1.3)
Primary Area of Work (n = 741)	Anaesthesiology	34 (4.0)
	Cardiology	46 (5.4)
	Critical Care Medicine	41 (4.8)
	Dermatology	6 (0.7)
	Emergency Medicine	113 (13.2)
	Emergency Medical Transport (Air or Ground)	6 (0.7)
	Endocrinology	32 (3.8)
	Family Medicine	24 (2.8)
	Gastroenterology	15 (1.8)
	Hematology/ Oncology	20 (2.3)

Table 1 (continued)

Demographics	N(%)
Infectious Disease	47 (5.5)
Internal Medicine	51 (6.0)
Nephrology	55 (6.4)
Neurology	6 (0.7)
OBGYN	73 (8.6)
Orthopedic Surgery	7 (0.8)
Otolaryngology	1 (0.1)
Pathology	23 (2.7)
Pediatrics	51 (6.0)
Physical Medicine and Rehabilitation	3 (0.4)
Plastic Surgery	1 (0.1)
Psychiatry	13 (1.5)
Radiology	29 (3.4)
Surgery	43 (5.0)
Urology	1 (0.1)

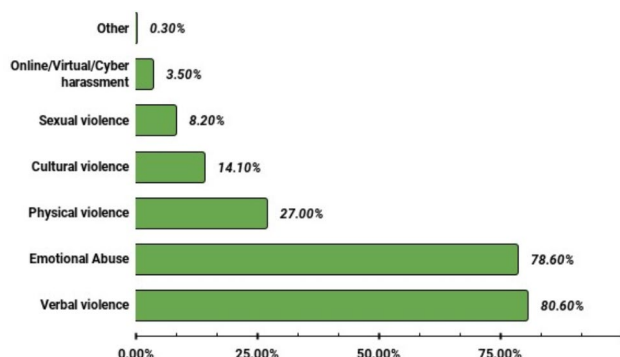
**Fig. 2** Hierarchical representation of the form of violence faced by survey respondents

Table 2 shows the details regarding the characteristics of violence.

HCWs were asked to rank the ten listed potential causes or risk factors of violence based on their perception of the importance of each factor. Lack of communication skills towards aggressive patients or family members was reported as the most important cause of violence by 30.1% of respondents, followed by unexpected patient health outcomes, news, results or prognosis (23.5%) and unmet care needs of patients or family members (20.5%). On the contrary, 21.1% considered lack of patient or family member education as the least potential cause. A comprehensive graph illustrating the ranking of the ten questions can be found in Fig. 4.

Association between self or colleague violence

Self-violence experience was associated with familiarity with OSHA guidelines, being worried about violence, being prepared to resolve a violent situation, and working night shifts. Of those who had reported self-violence, 8.1% were unfamiliar with OSHA guidelines compared to 4.7% of those who did not experience self-violence

($p=0.018$). Only 1.5% of those who did not experience self-violence were very worried about violence, as compared to 8.4% who were very worried about those who reported self-violence ($p<0.001$). Only 10.9% of those who did not experience self-violence were not prepared to resolve a violent situation, whereas 17.2% of those who experienced self-violence reported not being prepared to resolve a violent situation ($p<0.001$). About 10.4% of those who experienced self-violence reported working night shifts, whereas only 5.2% of those who did not experience self-violence reported working night shifts ($p=0.003$).

Violence experienced by colleague(s) was associated with age, gender, race, work experience, familiarity with OSHA guidelines, violence reporting procedures, training on violence management, being worried about violence, being prepared to resolve a violent situation, and working night shifts. Of those who reported violence experienced by colleagues, 74.8% were above 36 years, as compared to 51.1% above 36 years for those who did not report colleague violence ($p<0.001$). More than half (53.8%) of those who reported colleague violence reported being trained on managing violence as compared to only 31.0% of those who did not report colleague violence. 40.7% of those who reported a colleague's violence were prepared to resolve a violent situation, as compared to 53.0% of those who did not report colleague violence to be prepared to resolve a violent situation ($p<0.001$). Details of the associations are described in Tables 3 and 4.

Discussion

As a part of the ViSHWaS study, we surveyed HCWs in Kenya. The study involved a comprehensive survey of healthcare professionals, including physicians, nurses, administrative workers, and other allied health

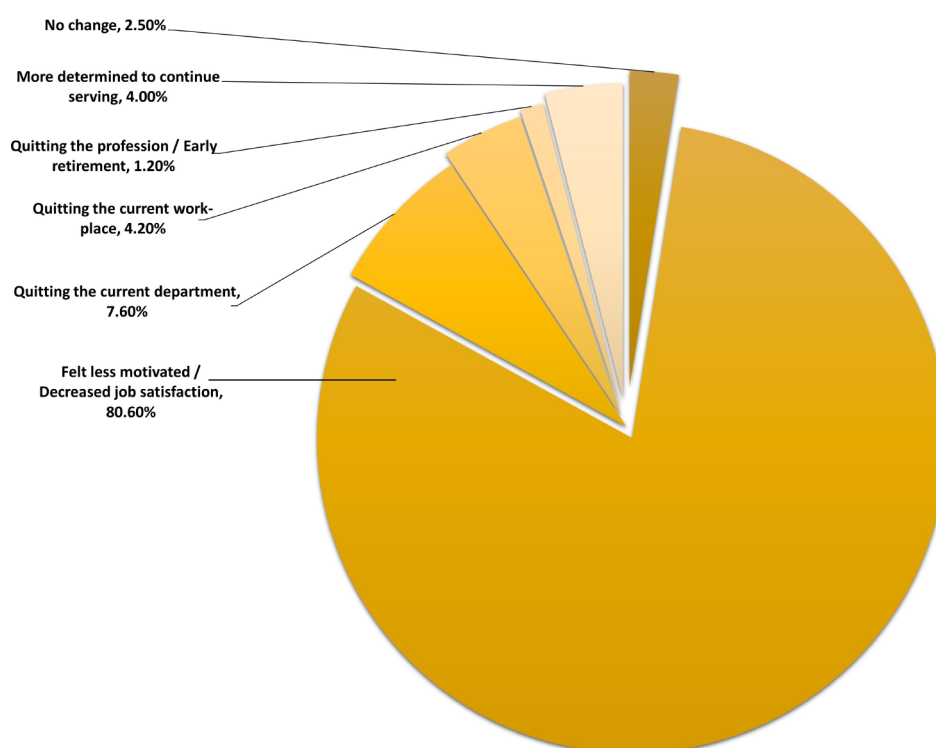


Fig. 3 Change in Perspective Towards Profession as per Survey Responses Self and Colleague

professionals. The demographic profile of the participants revealed that the majority were in the young adult age group. In terms of experience, more than half of the participants had over 11 years of experience in the healthcare field. Registered nurses were the most common cadre, and emergency medicine was the most common primary area of work. Regarding violence characteristics, nearly half of the participants reported experiencing violence themselves at their workplaces, while a significant percentage reported violence against their colleagues. Verbal violence and emotional abuse were the most common forms of violence. Interestingly, a small percentage reported online, virtual, or cyber harassment, with Facebook being the most common platform. The most common type of aggressor was the patient or a relative or family member. Verbal violence was most common, followed by emotional violence. More than half of the HCWs who encountered violence reported feeling less motivated or dissatisfied with their job as a result of these incidents.

Our studies revealed a high incidence of workplace violence among young adults (80%) in the healthcare field, with females experiencing a greater frequency of such incidents compared to their male counterparts. This finding aligns with the results of Alshahrani et al., cross-sectional study conducted in multiple emergency departments in Saudi Arabia [17], where over 90% of their study participants fell within the 20–39 age group. They also

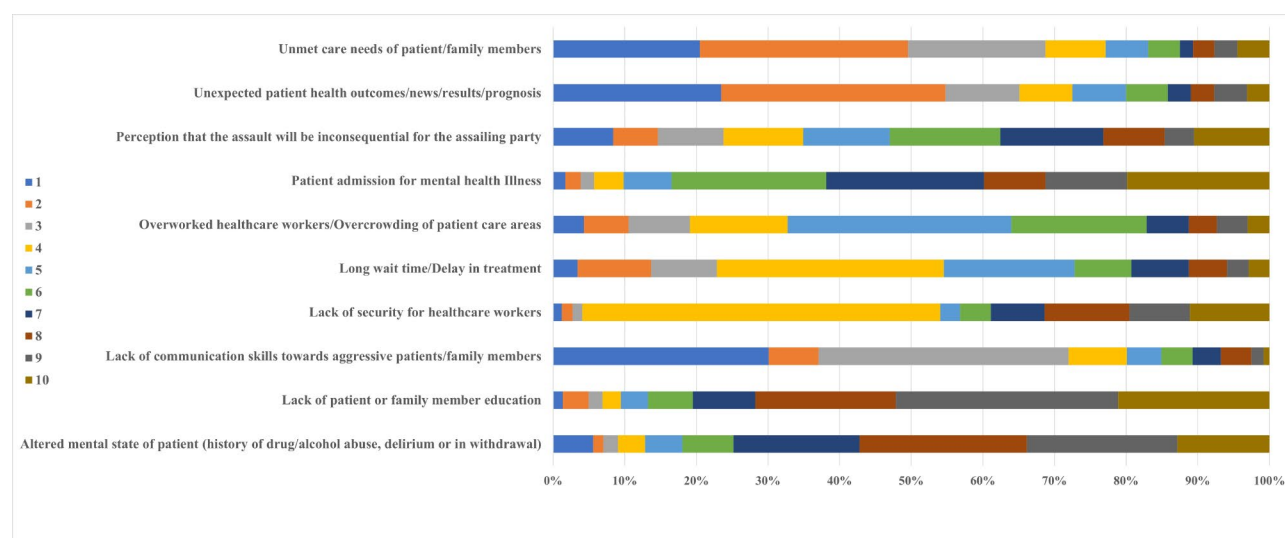
noted that 80% of the respondents acknowledged the existence of violence reporting procedures within their institutions, with only one-third of the respondents indicating that they had not utilized any of these measures. In contrast, our study revealed that nearly two-thirds of the respondents affirmed the existence of violence reporting procedures within their institutions, while fewer than 50% mentioned reporting workplace-related violence to either the police or their institution's administration. Numerous studies have examined the connection between HCW gender and the likelihood of encountering violence. While some studies have discovered no disparity in the occurrence of violence based on gender, others have suggested that male HCWs might have a heightened risk of experiencing violence. On the contrary, certain studies have indicated that female HCWs are more prone to encountering various forms of violence. Gender has emerged as a noteworthy predictor of violence, even after accounting for potential confounding factors such as age. A similar trend of females experiencing a greater frequency of workplace violence than their male counterparts was observed in a large public Italian hospital [18], where female HCWs encountered a higher incidence of verbal violence in the form of insults compared to their male counterparts, while male HCWs experienced more physical violence (bodily contact) than female HCWs did [14]. A meta-analysis conducted by Byon et al., aimed to determine the prevalence of workplace violence (WPV)

Table 2 Violence characteristics of the participants

Have YOU ever experienced violence of any form at your workplace	No	594 (50.1)
	Yes	592 (49.9)
Have any of your COLLEAGUES ever experienced violence of any form at their workplace (n = 593)	No	100 (16.9)
	Yes	493 (83.1)
Form of Violence (n = 1085)	Cultural Violence	153 (14.1)
	Emotional Abuse	853 (78.6)
	Physical Violence	293 (27.0)
	Sexual Violence	89 (8.2)
	Verbal Violence	874 (80.6)
	Online/ Virtual/ Cyber Harassment	38 (3.5)
	Other	3 (0.3)
What type of aggressor did You/Your Colleague encounter most frequently? (n = 1083)	Patient	44 (4.1)
	Patient and/or Family Member	80 (7.4)
	Patient and Relative and/or Caregiver	360 (33.2)
	Colleague	83 (7.7)
	Supervisor	135 (12.5)
	More than one type of aggressor	381 (35.2)
Number of violent episodes in the past year experienced by YOU (n = 590)	Once or twice a year	183 (31.0)
	Once or twice a quarter	240 (40.7)
	Once or twice a month	108 (18.3)
	About once a week	26 (4.4)
	A few times a week	30 (5.1)
	Every day	3 (0.5)
Number of violent episodes in the past year experienced by your COLLEAGUES (n = 493)	Once or twice a quarter	162 (32.9)
	Once or twice a month	246 (49.9)
	About once a week	63 (12.8)
	A few times a week	21 (4.3)
	Every day	1 (0.2)
The platform on which you/colleague was exposed to online/virtual/cyber harassment (n = 38)	Facebook	24 (63.2)
	Twitter	14 (36.8)
	TikTok	1 (2.6)
	YouTube	1 (2.6)
	WhatsApp	7 (18.4)
	Healthcare Websites	1 (2.6)
	Other	5 (13.2)
Form of Online/Virtual/Cyber harassment (n = 38)	Discriminatory (Race, Gender, Color)	10 (6.0)
	Doxing (Leak of personal info)	3 (0.4)
	Hate speech / Bad mouthing / Dissing	1 (0.1)
	Threat (Death / Rape / Assault / Theft)	13 (1.5)
Were any of the violent incidents/episodes/events reported to the administration/hospital / police? (n = 1083)	No	637 (58.8)
	Yes	446 (41.2)
What is the frequency of violent incidents/episodes/events at your workplace during the COVID-19 Pandemic? (n = 1083)	Decreased	164 (17.6)
	About the Same	170 (18.2)
	Increased	749 (80.2)
Because of violent episodes, what have you/your colleague considered/felt for your/their profession? (n = 1083)	No Change	27 (2.5)
	Felt less motivated/ Decreased job satisfaction	873 (80.6)
	Quitting the current department	82 (7.6)
	Quitting the current workplace	45 (4.2)
	Quitting the profession / Early retirement	13 (1.2)

Table 2 (continued)

Have YOU ever experienced violence of any form at your workplace	No	594 (50.1)
Are you familiar with Occupational Safety and Health (OSH) standards/guidelines? (n = 1185)	More determined to continue serving	43 (4.0)
	Yes	1109 (93.6)
	No	76 (6.4)
Are any Violence Reporting Procedures available at your hospital/workplace? (n = 1185)	Yes	895 (75.5)
	No	290 (24.5)
Have you been trained on managing violence against healthcare workers at your workplace? (n = 1182)	Yes	598 (50.6)
	No	584 (49.4)
How worried are you about violence in your current workplace?	1 – Not worried at all	88 (7.4)
	2	305 (25.7)
	3	516 (43.5)
	4	218 (18.4)
	5 – Very worried	59 (5.0)
How prepared are you to resolve a potentially violent situation? (n = 1185)	1 – Not at all prepared	56 (4.7)
	2	111 (9.4)
	3	558 (47.1)
	4	393 (33.2)
	5 – Very much prepared	67 (5.7)
Do you work night shifts? (n = 1182)	All the time	10 (0.8)
	Most of the time	82 (6.9)
	Sometimes	557 (47.1)
	None of the times	533 (45.1)

**Fig. 4** Probable cause of violence as per survey responses in self and colleague

against HCWs, revealing a rate of 22%. Among these cases, 36% comprised non-physical acts of violence, while 10% resulted in physical harm to the HCW [15]. Similar findings have been documented in prior studies, where non-physical violence, particularly in the form of verbal abuse, was consistently identified as the most common type of violence directed towards HCWs [17–21]. Our results indicate that almost 50% of the participants identified patients or their relative's caretakers

as the individuals responsible for acts of aggression. Conversely, approximately 12.5% of the respondents experienced aggression from their supervisors, while about 7% reported mistreatment from their colleagues. Interestingly, other research studies have similarly identified patients and their family members as the primary sources of aggression, reinforcing our own findings [22–24].

According to data from the International Committee of the Red Cross, during the initial six months of

Table 3 Association between self-reporting violence experience

Variables	Category	Violence Experience (Self)		P-Value
		Yes (%) (n = 592)	No (%) (n = 594)	
Age	18–25	17 (2.9)	28 (4.7)	0.098
	26–35	181 (30.6)	145 (24.5)	
	36–45	239 (40.4)	263 (44.4)	
	46–55	118 (20.0)	120 (20.2)	
	> 55	36 (6.1)	37 (6.3)	
Gender	Male	180 (30.7)	209 (35.5)	0.079
	Female	407 (69.3)	380 (64.5)	
Race	African	566 (95.8)	568 (96.1)	0.768
	Other	25 (4.2)	23 (3.9)	
Experience	1–5	110 (18.6)	123 (20.7)	0.420
	6–10	105 (17.8)	83 (14.0)	
	11–20	244 (41.4)	247 (41.7)	
	21–30	101 (17.1)	104 (17.5)	
	> 30	30 (5.1)	36 (6.1)	
Familiar with OSH Guidelines	Yes	543 (91.9)	566 (95.3)	0.018
	No	48 (8.1)	28 (4.7)	
Violence reporting procedure available	Yes	435 (73.6)	460 (77.4)	0.684
	No	156 (26.4)	134 (22.6)	
Worried about violence	1 – Not Worried	40 (6.8)	48 (8.1)	< 0.001
	2	134 (22.6)	171 (28.8)	
	3	267 (45.1)	249 (41.9)	
	4	101 (17.1)	117 (19.7)	
	5- Very Worried	50 (8.4)	9 (1.5)	
Prepared to resolve a violent situation	1 - Not all Prepared	41 (6.9)	15 (2.5)	< 0.001
	2	61 (10.3)	50 (8.4)	
	3	284 (48.1)	274 (46.1)	
	4	168 (28.4)	225 (37.9)	
	5 - Very Much Prepared	37 (6.3)	30 (5.1)	
Work night shifts	All the Time	8 (1.4)	2 (0.3)	0.003
	Most of the Times	53 (9.0)	29 (4.9)	
	Sometimes	283 (48.0)	274 (46.3)	
	None of the Times	246 (41.7)	287 (48.5)	

the COVID-19 pandemic, there were over 600 recorded incidents of violence directed towards HCWs [25]. In a comprehensive review of research concerning violence against HCWs, Chirico et al., identified a significant prevalence of such incidents amid the COVID-19 pandemic. They concluded that HCWs faced an exceptionally elevated risk of experiencing such episodes during this unprecedented health crisis [26]. The pandemic-induced overcrowding and less hospitable hospital setting can lead to heightened stress levels for HCWs, patients, and their families. This, in turn, escalates the potential for increased incidents of violence against HCWs [25, 26]. In our study, nearly 80.2% of the participants noted a rise in violence-related events during the pandemic, whereas

Table 4 Association between colleagues reporting violence experience

Variables	Category	Violence Experience (Self)		P-Value
		Yes (%) (n = 493)	No (%) (n = 100)	
Age	18–25	14 (2.8)	14 (14.0)	< 0.001
	26–35	110 (22.4)	35 (35.0)	
	36–45	236 (48.0)	27 (27.0)	
	46–55	102 (20.7)	17 (17.0)	
	> 55	30 (6.1)	7 (7.0)	
Gender	Male	165 (33.5)	44 (45.8)	0.021
	Female	327 (66.5)	52 (54.2)	
Race	African	477 (97.1)	91 (91.9)	0.012
	Other	14 (2.9)	8 (8.1)	
Experience	1–5	82 (16.7)	41 (41.0)	< 0.001
	6–10	71 (14.4)	12 (12.0)	
	11–20	219 (44.5)	28 (28.0)	
	21–30	91 (18.5)	12 (7.0)	
	> 30	29 (5.9)	7 (7.0)	
Familiar with OSH Guidelines	Yes	478 (97.0)	88 (88.0)	0.001
	No	15 (3.0)	12 (12.0)	
Violence Reporting Procedures Available	Yes	371 (75.3)	89 (89.0)	0.004
	No	122 (24.7)	11 (11.0)	
Trained on Managing Violence	Yes	228 (46.2)	69 (69.0)	< 0.001
	No	265 (53.8)	31 (31.0)	
Worried about violence	1- Not Worried	13 (2.6)	35 (35.0)	< 0.001
	2	136 (27.6)	35 (35.0)	
	3	226 (45.8)	23 (23.0)	
	4	111 (22.5)	5 (5.0)	
	5 - Very Worried	7 (1.4)	2 (2.0)	
Prepared to resolve a violent situation	1- Not all Prepared	7 (1.4)	8 (8.0)	< 0.001
	2	42 (8.5)	8 (8.0)	
	3	243 (49.3)	31 (31.0)	
	4	191 (38.7)	33 (33.0)	
	5- Very Much Prepared	10 (2.0)	20 (20.0)	
Work night shifts	All the Time	2 (0.4)	0 (0.0)	0.049
	Most of the Times	24 (4.9)	5 (5.1)	
	Sometimes	240 (48.8)	34 (34.3)	
	None of the Times	226 (45.9)	60 (60.6)	

17.6% of HCWs reported a decline in the frequency of violence.

Most respondents in our study expressed reduced motivation and increased job dissatisfaction after encountering violence. Some even contemplated changing their current department or workplace, while some HCWs contemplated leaving the profession altogether. In alignment with our results, a study conducted by Rafeea et al., indicated that 26% of HCWs contemplated resigning due to their experiences with workplace violence [27]. All this can be attributed to the consequences of violence,

which manifest as reduced productivity and focus, compromised work quality, increased reliance on defensive medical practices, and psychological effects such as excessive stress, depression, or Post-Traumatic Stress Disorder. These factors collectively impact the quality of patient care [28].

The connection between age and the risk of WPV against HCWs has shown varying results in different studies. Our study identified a trend where an increase in age (26–45) is linked to a heightened likelihood of experiencing physical and psychological violence among HCWs, after which the trend seemed to decline. A US-based study found that increased age is associated with higher odds of violence against HCWs [29]. On the contrary, the European Nurses' Early Exit (NEXT) study has reported that as age increases, the odds of encountering workplace attacks decrease [30]. In a separate study by Wu et al., they found no significant association between age and the risk of WPV among physicians [31].

In our research, we identified a notably heightened risk of violence among HCWs with more extensive work experience. This contradicts the findings of some other studies that suggest the opposite trend [32]. After assessing the association between healthcare facility type and workplace violence, our studies concluded that workplace violence related to healthcare was more common in government academic and non-academic institutions compared to private academic and non-academic institutions; this is similar to a study done by Shaikh et al., from Pakistan that reported a reduced likelihood of WPV in private healthcare settings [33].

The data also revealed that a significant proportion (93.6%) of participants were familiar with occupational safety and health (OSH) guidelines, and most reported the availability of violence reporting procedures. However, a considerable number (58.8) of violent incidents were not reported to the administration, hospital, or police, even though nonreporting has been seen in other studies (citations). This may be due to several reasons, including negative repercussions such as retaliation from violence perpetrators or reporting incidents that would be of no use, as noted by Al Anazi et al. [34], where 92% expressed this. Al-Turki et al., in their investigation conducted in family medicine centers within Riyadh city, identified that HCWs tended to underreport instances of violence due to their perception that reporting would yield no meaningful outcomes, and some were apprehensive about jeopardizing their employment [35]. Similarly, in two Saudi studies, participants regarded reporting as ineffectual or of little significance [36, 37]. In an Iranian study, HCWs who had experienced victimization believed that reporting held limited value, as they perceived no meaningful action would be taken [38]. Therefore, even though HCWs possess a good understanding

of OSH guidelines and the necessary procedures, it is recommended that efforts be made to streamline and simplify these processes while ensuring that reporting does not expose HCWs to harm or adverse consequences.

A recent systematic review by Njaka et al. [39] focusing on the African continent highlighted that nurses are significantly affected by workplace violence, with verbal abuse being the predominant form, often perpetrated by patients and their relatives. The consequences of such violence encompass decreased productivity, diminished job satisfaction, physical injuries, and psychological distress. Consequently, urgent policy interventions are recommended to mitigate workplace violence, safeguard the well-being of healthcare professionals, and enhance job satisfaction across Africa. This paper is in line with our current findings, further emphasizing the critical need for addressing workplace violence in healthcare settings.

Yosep et al. [40] suggests that hospital management should implement policies related to workplace violence and bullying, provide counseling services for health workers, and form special teams to provide therapy and training to reduce the impact of workplace violence. Collaboration between nurses, psychologists, and other health workers is crucial in addressing workplace violence effectively. While various measures can potentially be implemented within healthcare systems, several initiatives could be introduced externally. For instance, the introduction of liaison figures between patients and healthcare workers could prove invaluable as pointed out by Volonnino et al. [41]. These figures would offer psychological and logistical support to individuals seeking care and their caregivers. Additionally, they could function as early indicators of situations where emotions such as anger and fear might escalate into violent episodes. Furthermore, encouraging interdisciplinary research involving sociologists, anthropologists, and psychologists is also crucial. Raveel et al. [42] have highlighted the lack of evidence regarding the efficacy of interventions to prevent aggression against doctors. Their systematic review and meta-analysis revealed that only a few studies have provided such evidence. Notably, a single randomized controlled trial indicated that a violence prevention program decreased the risks associated with patient-to-worker violence and related injuries in hospitals [43]. However, conflicting results regarding violence rates following the implementation of workplace violence prevention programs have been observed in longitudinal studies. In addition, by shedding light on the prevalence and characteristics of workplace violence in Kenya, our findings help to keep a vigilant eye on this critical issue and provide updated insights to the existing literature. By continually updating our understanding of the dynamics and impacts of workplace violence, we can better inform policy development, intervention strategies, and support

systems aimed at safeguarding the well-being of health-care workers globally.

Strengths and limitations

The present study encompasses 1,402 healthcare participants from 40 counties in Kenya, contributing valuable insights to the existing body of evidence regarding the violence encountered by HCWs, especially in Kenya. To our knowledge, this will be the first and most in-depth cross-sectional analysis. The substantial participant count of around 1,500 participants enhances the robustness and reliability of our research outcomes.

However, it is crucial to recognize specific limitations. Global surveys can be subject to several systemic biases that may affect the accuracy and reliability of the data collected. Firstly, there is a notable risk of recall bias since we asked participants to recollect incidents from the past year. Furthermore, given the nature of the project, which is violence against healthcare workers, potential response bias may have been introduced on the overall survey or in ranking questions, where respondents might have favoured the top-listed options, potentially biased the results and the interpretation of the data. As our study follows a cross-sectional design, it offers a snapshot of data at a specific point in time without delving into temporal relationships or changes over time, additionally due to the nature of snowball sampling technique the data presented may not provide a fully representative cross-sectional or epidemiological prevalence of healthcare worker violence in Kenya.

Conclusion

Overall, this data highlights the prevalence of violence against HCWs in Kenya and provides insights into its various dimensions, including types of violence, aggressors, and the impact of the COVID-19 pandemic. It underscores the need for effective measures to address and prevent violence in healthcare settings, including enhancing reporting mechanisms and simplifying the implementation of OSHA guidelines.

Acknowledgements

This manuscript describes the diverse dimensions of healthcare-related violence, encompassing its types, gender-related variations, occupational aspects, and its impact in Kenya, as a part of the cross-sectional survey study called VISHWaS. A part of the manuscript has been submitted and accepted as an abstract at The CHEST International conference in Honolulu, HI, USA in October, 2023.

Author contributions

AM collected data for the study, JS analyzed the data and RS, JS, RQ, RQ, EN, AB, RK and SS wrote the main manuscript text including preparing figures and tables. All authors reviewed the manuscript. The raw data is available with the primary investigator (PI) and should it be needed as a requirement in approving the manuscript then the primary investigator can be contacted to share it.

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Data availability

The raw data is available with the PI and they can be contacted to share it should it be needed through srsurani@hotmail.com.

Declarations

Ethical approval and consent to participate

An informed consent was obtained from all the participants.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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