

Workplace violence against healthcare workers in Pakistan; call for action, if not now, then when? A systematic review

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ABSTRACT

Background: Workplace violence (WPV) is a global problem that affects healthcare workers' physical and mental health and impairs work performance. Pakistan's healthcare system is not immune to WPV, which the World Health Organization recognises as an occupational hazard.

Objectives: The primary objective of this systematic review is to determine the prevalence of physical, verbal, or other forms of WPV in healthcare workers in Pakistan. Secondary objectives include identifying the associated risk factors and perpetrators of WPV.

Methods: A systematic review of six electronic databases was conducted through August 2022. Studies were included if they met the following criteria: 1) healthcare workers (HCWs), including physicians, nurses, and paramedic staff working in the private or public sector of Pakistan; 2) exposure to physical, verbal, or any type of violence. Data were extracted and analysed for the prevalence of WPV, types of violence, associated risk factors, and perpetrators of violence.

Results: Twenty-four studies including 16,070 HCWs were included in this review. Verbal violence was the most common form of violence levied, with its highest prevalence (100%) reported in Islamabad and lowest verbal violence prevalence (25%) in Karachi. Verbal abuse was preponderant against female HCWs, while physical abuse was directed more towards males. The most common perpetrators were patient attendants, followed by the patients.

Conclusion: Our review determines a 25–100% prevalence of WPV against HCWs in Pakistani medical setups. This occupational hazard needs the attention of relevant authorities in the country to put protective enforcement policies in place. Large-scale surveys should be conducted to better gauge the current plight of HCWs in the nation.

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Introduction

Violence against healthcare workers (HCWs) is a frequently encountered quandary in hospitals. It takes many forms ranging from life-threatening targeted violence involving lethal weapons to long-lasting verbal abuse [1]. Workplace violence (WPV) affects HCWs' physical and mental health, impairs work performance, and may culminate in undue medical errors [2–4]. According to Havaei et al., nurses who encountered violence had a 2–4 times higher probability of developing post-traumatic stress disorder (PTSD), anxiety, depression, and burnout as compared to nurses who had never experienced workplace violence [4]. Following a violent episode, more than half of the victims reported experiencing loss of self-esteem, humiliation, and other negative emotions in addition to anxiety and despair [5]. Acts of property and equipment damage impact patient

care on an even larger scale [5]. Despite attempts to abate such incidences, they remain a significant cause of concern in our healthcare setup, being a barrier to optimal patient management. The World Health Organization (WHO) recognises it as an occupational hazard, and an alarming 62% of healthcare professionals are reportedly impacted by WPV [6].

The statistics for a developing nation like Pakistan are even more concerning since there is a continual battle to balance population demands with limited resources with a concurrent lack of security in hospitals, sub-standard law, and order conditions, and overcrowding of hospitals [7]. A report issued by the Pakistan Medical Association claimed that 128 doctors in Pakistan had lost their lives to violence from 1995–2015 [8]. A review of 253 studies by Vento et al. reported 61.9% of the participants to have suffered from some form of violence, with

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most incidents narrated from Asian and North American countries [9]. In Iran, 73% and 36% of emergency medical personnel reported being verbally and physically abused, respectively [10]. Similarly, in India, the frequency of violence against healthcare workers was estimated to be around 63% [11,12]. The prevalence of violence against HCWs in different regions is presented in Figure 1.

Numerous studies have been conducted nationwide to gauge the magnitude of the problem; however, they are largely limited by their single-centred study design. Therefore, in this comprehensive systematic review, we aim to quantify the prevalence of workplace violence and its associated risk factors in Pakistan by conducting a thorough systematic review.

Methods

This systematic review has been conducted in compliance with the guidelines provided by Preferred Items for Systematic Review and Meta-Analysis (PRISMA). The review has been registered on PROSPERO [13]. [Registration ID: CRD42022344970]

Information sources and search strategy

We queried electronic databases (MEDLINE, OvidEmbase, Cochrane CENTRAL, Science Direct, ERIC, and Google Scholar) from their inception till August 2022 by using medical subject headings (MeSH) 'healthcare workers violence' OR 'workplace violence' OR 'healthcare abuse' OR 'healthcare worker' AND 'Pakistan' OR 'Pakistani hospitals' OR 'Pakistani clinics' without any time or sample size restrictions. The

search string has been amended and reoriented accordingly for each search engine. Pakmedinet was also used to further search to incorporate grey literature. The complete search strategy used in each of the databases is given in Supplementary Table S1. The PubMed keyword relevance map is presented in Figure 2.

Inclusion criteria

We used the following inclusion criteria to formulate research questions for this review:

- **Population:** HCWs, i.e. doctors, nurses, technicians, support staff, administration, ambulance staff, vaccinators, lady health workers (LHWs), midwives, nursing aids, porters, guards, unit receptionists, and housekeepers.
- **Intervention:** Individuals exposed to violence which include
 - (1) Physical abuse, sexual abuse, and verbal abuse. Threat to assault, physical assault.
 - (2) Intimidation, aggression, weaponry attacks.
 - (3) Facility or property damage, robbery, extortion, and theft.
- **Comparator:** None
- **Outcomes:** The primary outcome of interest was the prevalence of physical, verbal, or any other form of violence, including sexual violence and facility damage against healthcare personnel. Secondary outcomes included the role of job category, gender, age, working experience, type of hospital (i.e. private, or public), and department of work on violence faced by HCWs.
- **Study design:** Observational studies (cross-sectional and quasi-experimental studies)



Figure 1. Prevalence of violence against healthcare workers in different regions [12].

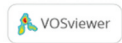


Figure 2. PubMed keywords network map based on relevance [14].

Exclusion criteria

Studies conducted in countries other than Pakistan, duplicate records, and articles in languages other than English were excluded. Case reports, commentaries, and editorials were also excluded.

Study selection

Retrieved articles from the systematic search were imported into EndNote Reference Manager (Version X7.5; Clarivate Analytics, Philadelphia, Pennsylvania), where duplicates were removed. All articles were carefully screened by two independent reviewers (MS and SHS). Non-relevant studies were eliminated based on title and abstract. Full texts of articles were then comprehensively reviewed for inclusion based on predetermined criteria. A third reviewer (STR) was consulted to resolve discrepancies.

Data extraction

Two reviewers (MS, ZK) independently abstracted data from the selected studies by using a self-designed Microsoft Excel sheet, and discrepancies were resolved through feedback from a third reviewer (STR). Data on study year, region, design of the study, health facility type, sample size, age, gender, type, mode of assessment, and prevalence of violence was extracted from all included articles.

Quality assessment

The quality assessment for cross-sectional studies was conducted using the Newcastle Ottawa Quality Assessment Scale [15], while the Joanna Briggs Institute (JBI) tool for appraisal of quasi-experimental studies [16] was used to perform the quality assessment of quasi-experimental studies. Two researchers (MS and STR) individually carried out the quality assessment, and any discrepancies were resolved after discussion. The Newcastle Ottawa Quality Assessment Scale assigns grades to studies based on three factors (selection, comparability of study groups, and the outcome of interest). A study can receive a possible highest rating of 9 for cross-sectional studies. Cross-sectional studies with a total score of 8 or 9 points were deemed to have a low risk of bias; studies with a score of 6 or 7 points were judged to have a moderate risk of bias, and studies with a score of 5 points or less were regarded to have a high risk of bias. The Joanna Briggs Institute (JBI) tool for appraisal of quasi-experimental studies assigns a score of 1–9 to articles based on a 9-point questionnaire. The studies were thus categorised as low (points 1–4), moderate (5–7), and high (8–9) quality.

Data synthesis

The outcomes of included studies were qualitatively synthesised and not pooled for meta-analysis due to the different methodological approaches used in assessing them. Study findings are summarised in the results section and tabulated in summary tables.

Results

Literature review

Our initial literature search on six different electronic databases yielded 7342 prospective articles. After removing duplicate articles and abstract screening, 130 articles were selected for full-text review. Further, 106 articles were removed after a full-text review for not meeting our inclusion criteria. Finally, 19 cross-sectional [17–35], 2 Quasi-experimental [36,37], 2 mixed-methods studies [38,39], and 1 qualitative investigation study [40] were included. A summary of the literature search is presented in the PRISMA flow chart (Figure 3). Study characteristics and baseline characteristics of participants are provided in Supplementary Table S2 and S3, respectively.

Study characteristics

A total of 24 studies, conducted from January 2010 till August 2022, including 16,070 HCWs, were included. Most of the individuals included in our studies were females. Seven (29%) studies evaluated the frequency of violence against doctors [25,27,28,31–33,35], seven (29%) studies against nurses [19,22,23,26,29,34,40], and ten (42%) studies against all types of HCWs, including guards, support staff, administration, and

paramedics [17,18,20,21,24,30,36–39]. Eleven studies (46%) were conducted in Karachi [20,23,27,28,28–33,38], 3 (13%) in Peshawar [17,26,39], four (17%) in Lahore [19,21,24,34], two (8%) in Islamabad [22], one (4%) in Faisalabad [25], one (4%) nationwide [35], and two (8%) of the studies were conducted in more than one city [18,36]. Seventeen (71%) studies assessed the prevalence of both verbal and physical abuse. Imran et al. assessed the prevalence of verbal abuse, while Qadeer et al. assessed the prevalence of physical violence [21,32]. Seven (29%) of the included studies also assessed the frequency of sexual harassment faced by the HCWs [19,22,23,29,31,32,34]. Ten (42%) studies analysed the role of gender with the frequency of violence [18,20,23,27–29,31,32,35,38]. Five (21%) studies reported the association of violence with the age of HCWs [20,23,25,29,40]. Two (8%) studies assessed the association of violence with the type of hospital (i.e. private or public) [17,18]. Six (25%) studies evaluated the prevalence of violence in relation to working experience [20,23,28–30,32].

Quality assessment

A total of 20 (83%) cross-sectional studies [17–35,40] and four (17%) quasi-experimental studies [36–39] were examined for bias. Of the 20 cross-sectional studies,

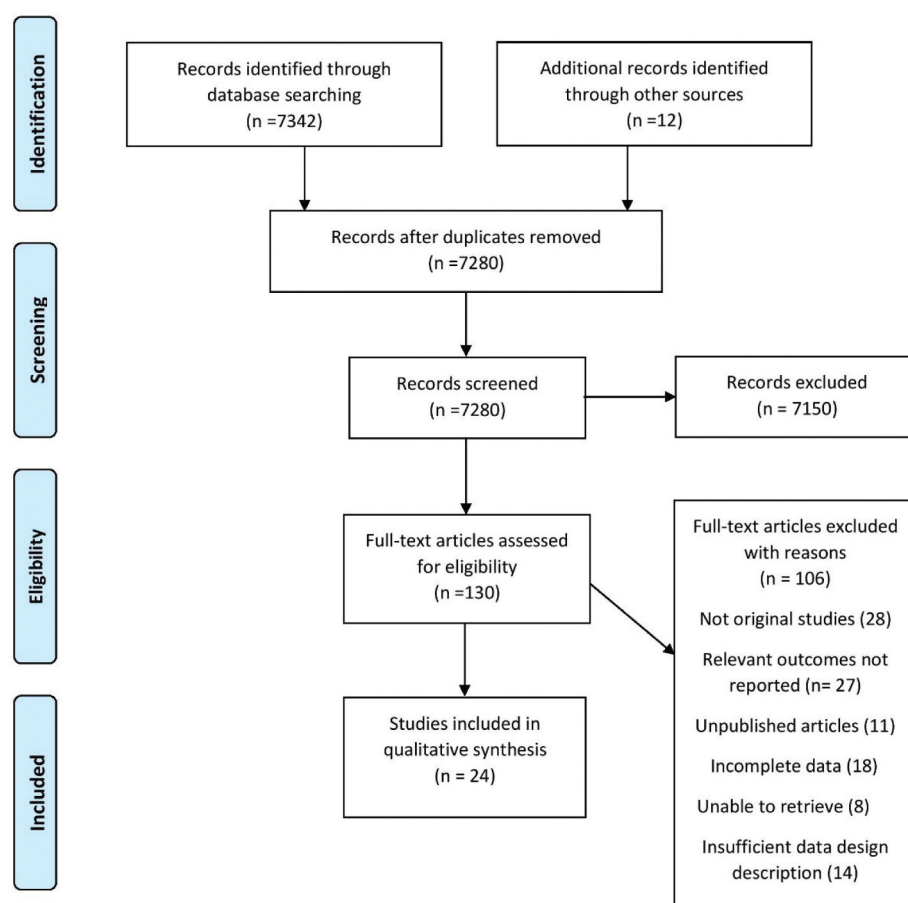


Figure 3. Summary of literature search.

four (20%) studies had a high risk of bias [21,26,34,40], six (30%) studies had a moderate risk of bias [22–24,31,32,35], and ten (50%) studies had a low risk of bias [17–20,25,27–30,33]. All four of the quasi-experimental studies were of high quality based on the JBI appraisal tool [36–39]. A summary of quality assessment is presented in Supplementary Tables S4 and S5.

Results summary

The highest prevalence of verbal violence (VV) was reported to be 100% by Shahzad et al. [40] in Islamabad, while the lowest VV prevalence was reported to be 25% by Siddiqui et al. [30] in Karachi. Regarding the highest prevalence of physical violence (PV), Qadeer et al. [21] reported a staggering 67% in Lahore, while the lowest prevalence of PV was 0.7%, reported by Khan et al. [17] in Peshawar. The annual growth rate of violence against HCWs is presented in Figure 4. The provincial prevalence of PV and VV is presented in Figures 5 and S1 respectively.

PV and VV Both followed a similar trend throughout the last 12 years, with victims of VV always dominating those of PV. The rise and fall in the number of victims of VV were more rapid as compared to PV victims. From 2010–11, VV increased sharply, while a gradual rise was evident in PV, followed by a decrease in both types of violence in 2012. In the following two years, the number of VV victims reached 539, while 109 victims faced PV, after which there was a decline in occurrences in 2015 and 2016. A similar trend of a 2-year increase followed by a 1-year decline was noticed till 2019, after which there was a huge inclination in 2020, followed by a fall in number in the last two years.

Eighteen (75%) of the included studies reported that the prevalence of VV was higher compared to PV. The majority of studies revealed that VV was

preponderant against female HCWs [18,19,22,23,40] while PV was directed more towards male HCWs [35]. A study by Maheshwari et al. reported that the likelihood of WPV among male HCWs was higher compared to their female counterparts. However, this difference was not statistically significant [28]. The support staff was the most vulnerable group exposed to violence, followed by paramedics, nurses, and physicians [18]. Of the nurses who were exposed to violence, most of them were aged twenty to thirty, interns, or had an experience of <5 years [29,40]. However, according to Maheshwari et al.'s and Maaari et al.'s studies, HCWs (physicians, surgeons, chief medical officers, medical officers, PG residents, and house officers) and nurses who had >5 years of working experience reported greater exposure to violence [23,28]. A study conducted by Jafree et al. in Lahore also concluded that SV was more probable to occur among single Muslim nurses and those belonging to non-Punjabi ethnicity [19]. Workers in public healthcare facilities were more exposed to violence as compared to the private healthcare sector [17,18]. Departments of emergency were more prone to violent incidents as compared to the wards and outdoors [17,24,32]. Another finding outlined that male HCWs experienced more politically targeted violence in contrast to women [32]. VV was most frequent in morning shifts, and PV was during night shifts [19,40]. A significant association between VV and bullying was reported with the qualification of the HCWs [22]. The perpetrators were most commonly either the patient's attendants or, less commonly, the patients themselves.

Discussion

The prevalence of WPV among HCWs in Pakistan was examined in this systematic review. PV, VV,

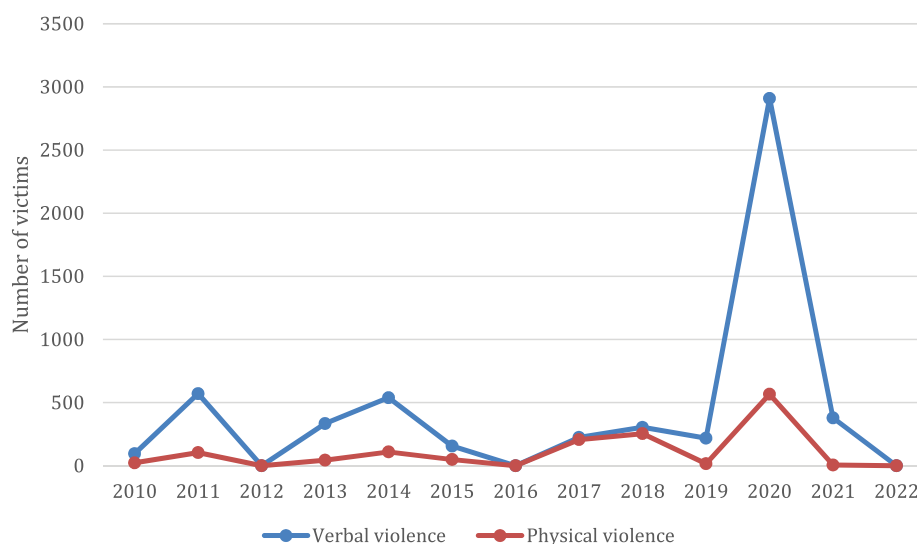


Figure 4. Annual growth rates of physical and verbal violence against HCWs in Pakistan [17,23–27,29,38,39].

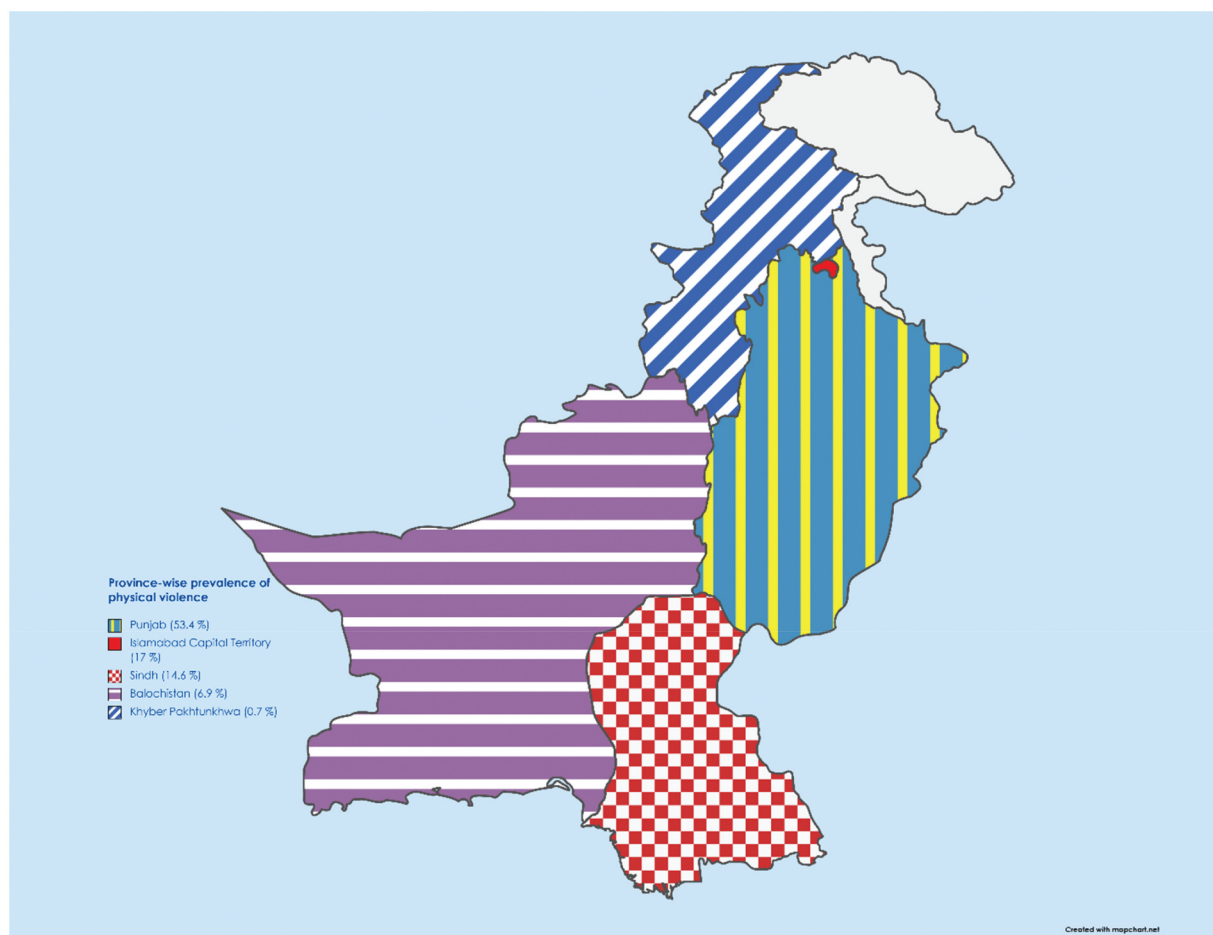


Figure 5. Provincial prevalence of physical violence against HCWs in Pakistan [17,19,22,38,41].

bullying, harassment, threats of assault, extortion, and facility damage were all described as different types of workplace violence by the studies reviewed. Congruent to our study, the greater frequency of WPV against HCWs in Asia compared to other regions was highlighted by Liu et al. in their meta-analysis of 253 studies from around the world [6]. The frequency of WPV in Africa was also examined by Njaka et al. in a systematic review, which revealed that verbal violence was by far the most common type of violence [42].

The frequency of WPV against HCWs in Pakistan has not been thoroughly and systematically studied, establishing this as the first review of its kind. In order to comprehend the genuine plight of WPV in hospitals in Pakistan, this review, which included 24 papers, has brought forth additional knowledge. We observed that the trend of verbal abuse was most prominent in all included studies. Our findings that VV and verbal threats are the most common kind of violence experienced in hospitals as supported by another scoping review by Hahn et al. [43]. Miscommunication between healthcare staff, particularly nurses and patients, is regarded as one of the main causes of the incidence of verbal abuse [44]. HCWs have also been habituated to verbal abuse,

which is regarded as a ‘daily aspect of their employment,’ which explains the endemic prevalence of VV and why it continues to escalate [20]. The reporting rate of verbal aggression is extremely low since hospitals have not taken encouraging action against perpetrators in such cases [45]. According to survey respondents, there is a serious paucity of ‘no-tolerance policies’ at Pakistan’s tertiary care facilities, which perpetuates such violent episodes [38].

Our comprehensive review revealed a notable pattern of rising VV and PV prevalence between 2019 and 2022. The occurrence of the COVID-19 pandemic during this time period may have contributed to this finding. Bhatti et al. have emphasised the dramatic increase in WPV incidence in Pakistan during the epidemic [46]. Attendants’ frustrations with a lack of resources to treat and admit patients [47], death of patients [48], and refusal to hand over the patient’s dead body [46], protests by HCWs due to a lack of PPEs [49], and mob-related violence against HCWs during COVID-19 have all been cited as reasons for this rise [48]. Our review explored a unique finding which revealed a significantly lower incidence of WPV reported in Karachi despite it being the largest metropolis in the country housing three large tertiary care hospitals. This finding can be owed to

under-reporting of WPV incidents in Karachi due to a lack of large government-led surveys to better understand the plight of HCWs in Sindh, especially in Karachi.

Among the papers included in the current investigation, gender differences were observed in multiple studies; compared to their male counterparts, female HCWs, such as nurses and doctors from the wards, ICU, and emergency department, were more likely to experience verbal abuse, physical assault, and sexual harassment [6,18,23,29]. Due to their propensity for a high level of WPV in hospitals, nurses have been the subject of it across a significant proportion of the literature. Liu et al.'s meta-analysis and comprehensive review support these conclusions, according to which nurses were the group of healthcare workers most likely to be exposed to WPV (22.99%; $p = 0.0364$) [6]. Female nurses being assigned night shifts, which has been demonstrated to be the most vulnerable time period for experiencing WPV, as well as under-resourced personnel, a high workload, and nurses' lack of WPV awareness among healthcare professionals are antecedent factors that are connected with this common result [50–52]. Nurses in Pakistan are considered a marginalised section of society due to a lack of respect for the nursing profession [53]. The nature of the labour that nurses do, such as washing patients and changing their clothes, is severely looked down upon owing to cultural norms [29]. Because of a negative public impression, the nursing profession is seen as a lower socioeconomic career in Pakistan [54]. Additionally, the already existing class division in Pakistan encourages negative attitudes towards the nursing profession [55]. These factors, thus, significantly elevate the levels of WPV experienced by nurses.

WPV has been connected to a number of socio-demographic variables, including workplace, age, educational level, job history, and shift work, among others. According to Khan et al. [17] and Imran et al. [24], the emergency department is a common location for WPV, and emergency department physicians are also more likely to experience VV and PV [18,31,33,38]. This discovery is in line with the investigation conducted in Africa. This may be due to the emergent nature of the situation, the frequently chaotic nature of emergency facilities, and the subsequent emotional lability of patient family members [42].

There is a wide range of literature on the relationship between the training and work experience of doctors and nurses and violence in healthcare facilities [23,29]. More likely to become victims of violence of any kind have also been identified to be practitioners with employment histories longer than five years [23,28]. Contrastingly, our review showed that sexual harassment was more common among nurses with fewer than five years of experience [29].

Although Kahsay et al. studied working circumstances for nurses in which they are exposed to physical and sexual harassment [56], this link has not been explored in other related systematic and comprehensive investigations. This can be explained by the fact that nurses are subjected to physical and sexual harassment because they are more accessible to patients, caregivers, and visitors [56,57]. Additionally, women are already considered the vulnerable sex and hence fall victim to gender-based violence in South Asian settings, where nurses make up the large bulk of the nursing workforce [57]. In culturally patriarchal nations such as Pakistan, men are often more likely to be the primary perpetrators of violence [57], and there is a presence of oppressive attitudes towards women as well as dominant male hierarchies in workplaces. These cultural factors perhaps contribute to the additional burden of WPV experienced by women [19].

Lack of effective communication, unrealistic expectations, the perception of subpar care, and governance failures are the most often reported reasons for workplace violence against HCWs [17,18]. Patient death, responses to critically sick patients, delays in care, and a lack of resources such as equipment or medications are other factors that contribute to WPV against HCWs [17,18]. The percentage of HCWs who chose to report violent episodes remains incredibly low, and even when reporting did occur, hospital administrations have been unable to provide adequate support [27,40]. Combating WPV against HCWs will require rigorous education programmes to provide widespread awareness regarding healthcare as a profession. Media can play a vital role in humanising the healthcare profession by running programmes which document the daily routine of the profession to better help the masses in understanding the struggles of this public health profession [45]. Healthcare regulators and government programmes can also contribute by establishing proper palliative care programmes to educate not only the families of the patients but also the doctors and nurses dealing with patients with long-term illnesses [45]. This can aid in bridging the communication gap between the HCWs and the attendants which is noted to be one of the biggest contributors of VPW.

Implications for further research

In summary, the present research has solidified the prevalence of violence against healthcare workers in Pakistan. Each region's sociocultural elements and violence are closely related. Most of Pakistan's people live below the poverty line, forcing them to seek treatment at tertiary care facilities in big cities like Karachi, Lahore, Islamabad, and Peshawar. Due to limited funding, overworked, and underpaid staff,

many healthcare facilities are under tremendous strain.

Due to the hostile atmosphere that is therefore nurtured, WPV occurrence increases in healthcare facilities. Doctors often fail to provide patients with enough one-on-one care in a timely manner, owing to resource deficiencies, which aggravates already strained physician-patient relationships [45]. WPV is an urgent threat to the occupational safety of HCWs, and local government organisations should have a zero-tolerance approach towards violence. To better understand the causes of WPV and develop strategies to combat them, extensive national surveys should be carried out. As communication barriers are known to have a significant role in the spread of violence [44], healthcare professionals should receive training and instructions on how to communicate better.

In order for nurses, workers, and physicians to be able to report such occurrences of violence to the relevant authorities with the management's assistance, management failure at public hospitals should also be given additional consideration [44,45]. Given that nurses are most likely to be the targets of physical and sexual harassment, these findings highlight the urgent need to adopt protective rules and regulations for violence against nurses.

To prevent violent situations in the emergency room's high-stress atmosphere, prevention methods are also required [58]. Coping techniques for WPV have been introduced in developed countries such as the United States and Canada [37,59]. These initiatives include the formation of an HCW union to better protect HCW rights [59]. In addition, a law was passed in Maryland that requires the formation of a workplace protection committee to prohibit verbal aggression and hostile behaviour towards HCWs [60]. There has also been a focus on equipping HCWs to protect themselves during such confrontations, including self-defence training [61]. In developed countries, these measures have been partially successful. Pakistani lawmakers should enact comparable policies and laws to ensure a safe working environment for HCWs.

Strengths & limitations

This is the first comprehensive study of its kind that examines WPV throughout Pakistan. This study can prove to be crucial in determining the severity of WPV in Pakistani healthcare facilities because the included studies were carried out in various regions of the nation, including Sindh, Punjab, and Khyber Pakhtunkhwa. This systematic review's thorough analysis of the interrelated social and cultural elements that contribute significantly

to the persistence of workplace violence in the healthcare industry is one of its key strengths. This is consistent with international systematic reviews that have been published in places like Singapore [45].

This systematic review is not without its limitations. The vast majority of studies that were included were observational in style. The investigations' use of a variety of instruments and questionnaires to gauge the prevalence of violence in the workplace could have produced inconsistent findings. Included studies' observation periods were not uniform, which could have caused recollection bias. The primary weakness of the study was the heavy reliance on self-reporting techniques.

Conclusion

In this systematic review, we have established a 25–100% prevalence of WPV against HCWs in Pakistani medical setup. We found that WPV is routinely carried out against physicians, nurses, and staff in wards, emergency departments, and ICUs. This occupational hazard needs the attention of relevant authorities in the country to put protective enforcement policies in place. Large-scale surveys should be conducted to better gauge the current plight of HCWs in the nation.

Author contributions

STR: Conceptualisation. STR, MS, SHS, ZK, HH, RKO, AS, IR, AJN, SS: Research design, Data collection, Analysis, Literature search, Manuscript preparation.

All authors have accepted responsibility for the entire content of this manuscript and approved its submission.

Disclosure statement

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

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Paper context

What was already known?

Workplace violence is a global problem affecting healthcare workers' physical and mental health and impairing work performance. Its prevalence and risk factors in Pakistan's healthcare system are not well established.

What's New?

This review analysed the prevalence and risk factors of workplace violence in Pakistan's healthcare system, finding verbal violence to be the most common, with patients and

their attendants as the most common perpetrators. The study emphasises the need for protective policies and interventions.

What are the *implications of the paper*?

This review emphasises the need for protective policies and interventions to address workplace violence in Pakistan's healthcare system, including communication skills training and security measures to ensure healthcare workers' safety.

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