ORIGINAL ARTICLE

# Awareness of the Violence Against Healthcare Workers in Pakistan: A Study of Caregivers in Newly Merged Districts

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Keywords: Workplace violence, health policy, implementation science, healthcare worker safety, Pakistan, RE-AIM framework

## ABSTRACT

**Background:** Workplace violence (WPV) threatens healthcare worker safety and undermines health systems globally. Although progressive legislation, such as the Khyber Pakhtunkhwa Healthcare Service Providers and Facilities Act (2020), has been enacted, little is known about the law's real-world impact—especially in post-conflict regions. This study assessed awareness of the Act and barriers to its effective implementation among caregivers (patient attendants) in the newly merged districts (NMDs) of Khyber Pakhtunkhwa, Pakistan.

**Methods:** A cross-sectional survey of 769 caregivers in district hospitals of Bajaur, Khyber, and Kurram (August–November 2023) measured legal awareness, reporting behavior, and structural barriers. Data were analyzed descriptively and thematically, mapped to the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) implementation science framework.

**Results:** Awareness of the Act was low overall (27.6%), with marked district variation (7.9% in Khyber vs. 54.4% in Kurram). Most respondents preferred internal (hospital-based) reporting (75%), citing distrust in law enforcement and low policy visibility as primary barriers. Social and mass media were the main information sources. Factors impeding policy reach included low literacy, inadequate communication strategies, and limited institutional support. These findings reveal a persistent gap between legislative intent and frontline practice.

**Conclusion:** Preventing workplace violence requires more than legislation. Embedding legal rights and violence-prevention training in healthcare curricula, establishing confidential reporting pathways, and engaging communities through targeted media and culturally sensitive campaigns are essential. A multi-sectoral, context-driven approach is needed to translate legal protections into tangible safety for healthcare workers in fragile settings.

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**What do we already know about this topic?**
Workplace violence against healthcare workers is common worldwide, with verbal abuse the most frequent. In Pakistan, despite protective laws, awareness and reporting remain weak, especially in resource-limited and post-conflict areas.

**What is the main contribution to Evidence-Based Practice from this article?**
This study is one of the first to map real-world awareness of the KP Violence Act in newly merged districts. It identifies critical gaps and practical entry points for improving staff safety, reporting, and legal literacy.

**What are this research's implications towards health policy?**
Targeted communication, standardized reporting pathways, inter-agency enforcement, and regular training are needed to translate legislation into real protection at the facility level.

**Authors' Contributions Statement:**
All authors contributed to the study design, data collection, analysis, manuscript drafting, and approved the final version for submission.

## Introduction

Workplace violence (WPV) in healthcare, encompassing both physical and psychological harm, is now recognized as a global health and policy crisis. The World Health Organization and International Labour Organization have called for comprehensive preventive frameworks to address this urgent challenge (Liu J et al., 2019; International Labour Organization et al., 2002). While many countries have enacted laws to protect healthcare workers, the translation of legislation into effective practice remains inconsistent, particularly in low-resource and post-conflict settings (Sun T
Et al., 2017; Jiao M et al., 2015).

Recent meta-analyses reveal a troubling prevalence of WPV: Liu et al. report that over 60% of healthcare workers globally experience some form of violence each year, most commonly verbal abuse (Yang SZ et al., 2019). In high-pressure environments such as China and Turkey, rates exceed 70–80% among both physicians and nurses (Vorderwülbecke F et al., 2015; Schaller Aet al., 2021). European surveys confirm the ubiquity of WPV, with nearly 90% of nurses and 73% of general practitioners reporting exposure to aggression (Ernur D
Et al., 2023; Rehan ST et al., 2023).

In Pakistan, WPV is endemic. Systematic reviews indicate a prevalence ranging from 25% to nearly 100%, with verbal abuse the most frequent form (Nayyer-ul-Islam N et al., 2014; Zubairi AJ et al., 2019). Contributing factors include resource constraints, communication breakdowns, and weak enforcement of legal protections (Khan MH et al., 2021; Pakhtunkhwa Provincial Assembly, 2020). The Khyber Pakhtunkhwa Healthcare Service Providers and Facilities (Prevention of Violence and Damage to Property) Act (2020) represents an important policy advance, introducing penalties such as imprisonment and hospital entry bans for offenders (Altaf O et al., 2022). However, research on the actual impact and implementation of this Act—especially in the newly merged districts (NMDs) of Khyber Pakhtunkhwa, an area marked by social transition, security challenges, and fragile governance—remains scarce ( Li N et al., 2019; Lim MC et al., 2022).

The persistent gap between policy formulation and effective implementation is well documented in public health literature (Occupational Safety and Health Administration, 2015). Common barriers include low legal literacy, limited institutional

capacity, insufficient training, entrenched cultural attitudes, and widespread distrust of enforcement mechanisms (Lopez-Ros P et al., 2023; de Raeve P et al., 2023). In addition, institutional resistance and policy inertia often hinder meaningful progress, especially in fragile or post-conflict settings (Phillips JP, 2016). Implementation science frameworks such as RE-AIM and the Consolidated Framework for Implementation Research (CFIR) offer valuable approaches to understanding how policy reach, adoption, and sustainability are shaped by local context (Damschroder LJ et al.,2009; Glasgow RE et al., 1999).

This study seeks to bridge this evidence gap by systematically assessing awareness, reporting behaviors, and barriers to policy implementation among caregivers (patient attendants) in the NMDs. By applying an implementation science lens, we aim to generate targeted recommendations for maximizing the real-world impact of legal protections for healthcare workers.

## Methods

This cross-sectional study was conducted in the newly merged districts (NMDs) of Khyber Pakhtunkhwa—Bajaur, Khyber, and Kurram—between August and November 2023. Ethical approval was obtained from the Institutional Ethical Review Board of Khyber Medical University, Peshawar. In addition, formal administrative permission was obtained from the management of each participating District Headquarters Hospital (DHQ).

A multistage, stratified, proportionate sampling technique was employed to select participants from DHQs in each district. Eligible participants included all caregivers (patient attendants)—defined as non-staff individuals directly responsible for providing care to hospitalized patients—present in the DHQs during the study period, regardless of age or gender. Exclusion criteria were: (1) caregivers attending to critically ill patients requiring intensive interventions; (2) individuals with severe mental health disorders impairing communication; and (3) anyone unwilling or unable to provide informed consent.

Trained public health professionals visited each DHQ and systematically invited eligible caregivers to participate. Written informed consent was obtained from all participants. Data were collected using a structured questionnaire developed in accordance with the Khyber Pakhtunkhwa Healthcare Service Providers and Facilities Act, 2020. The instrument was reviewed by content experts, piloted in a comparable population, and its internal consistency assessed using Cronbach's alpha (Cronbach's alpha = 0.81), indicating good reliability.

The primary outcome, knowledge of the Healthcare Service Providers and Facilities Act, was measured as a dichotomous variable (yes/no). For each key provision, participants indicated whether they were aware of the specific legal requirement or penalty under the Act; affirmative responses were summed to generate an overall knowledge score.

All data were entered and analyzed in STATA version 14. Descriptive statistics (frequencies, proportions, means, and standard deviations) were calculated to characterize participant demographics, levels of legal awareness, and patterns of reported workplace violence. No inferential statistics were performed, as the primary aim was to describe prevalence and knowledge.

## Results

A total of 769 caregivers (patient attendants) participated in the study across the three newly merged districts of Khyber Pakhtunkhwa. The majority were aged under 40 years (70.2%, n = 540) and male (93.6%, n = 720). Education

levels varied, with 41.0% (n = 315) having no formal education, 15.5% (n = 119) holding a bachelor's degree, and 7.4% (n = 57) possessing a master's degree. Most participants resided in rural areas (70.5%, n = 542), and 82.8% (n = 637) served as primary patient attendants.
(See Table 1. Sociodemographic Profile and Caregiving Role of Study Participants, by District.)

**Table 1. Sociodemographic Profile and Caregiving Role of Study Participants, by District (n = 769)**

| | District Bajaur | District Khyber | District Kurram | Overall |
|---|---|---|---|---|
| **Age in years** | | | | |
| <40 years | 155 (58.49) | 178 (78.07) | 207 (75.00) | 540 (70.22) |
| ≥40 years | 110 (41.51) | 50 (21.93) | 69 (25.00) | 229 (29.78) |
| **Gender** | | | | |
| Male | 249 (93.96) | 217 (95.18) | 254 (92.03) | 720 (93.63) |
| Female | 16 (6.04) | 11 (4.82) | 22 (7.97) | 49 (6.37) |
| **Education** | | | | |
| No formal education | 111 (41.89) | 92 (40.35) | 112 (40.58) | 315 (40.96) |
| Primary | 27 (10.19) | 33 (14.47) | 0 | 60 (7.80) |
| Middle | 31 (11.70) | 36 (15.79) | 1 (0.36) | 68 (8.84) |
| Matriculation* | 48 (18.11) | 34 (14.91) | 10 (3.62) | 92 (11.96) |
| Intermediate** | 21 (7.92) | 21 (9.21) | 16 (5.80) | 58 (7.54) |
| Bachelor's degree | 20 (7.55) | 9 (3.95) | 90 (32.61) | 119 (15.47) |
| Master's degree | 7 (2.64) | 3 (1.32) | 47 (17.03) | 57 (7.41) |
| **Residence** | | | | |
| Urban | 46 (17.36) | 1 (0.44) | 180 (65.22) | 227 (29.52) |
| Rural | 219 (82.64) | 227 (99.56) | 96 (34.78) | 542 (70.48) |
| **Patient attendant†** | | | | |
| Yes | 214 (80.75) | 220 (96.49) | 203 (73.55) | 637 (82.83) |
| No | 51 (19.25) | 8 (3.51) | 73 (26.45) | 132 (17.17) |

*Matriculation = Secondary School Certificate (completion of grade 10).
**Intermediate = Higher Secondary School Certificate (completion of grade 12).
†Patient attendant: Non-staff individual directly responsible for care of a hospitalized patient.
**Data are presented as number (percentage).**

Awareness and Experience of Violence
Overall, 45.3% (n = 348) reported being aware that violence occurs in health facilities, with awareness higher in Kurram (52.9%) compared to Khyber (48.3%) and Bajaur (34.7%). Among those aware, verbal violence was most commonly identified (59.6%, n = 209), followed by both verbal and physical violence (36.3%, n = 125), and only physical violence (4.1%, n = 14).
A total of 39.9% (n = 307) had witnessed violence in hospitals: most (74.6%, n = 229) observed verbal incidents, 7.8% (n = 24) witnessed physical incidents, and 17.6% (n = 54) observed both forms.
Perceptions of Rights and Responsibilities
With respect to patient rights, 68.7% (n = 528) emphasized respect for dignity as paramount, while 14.9% (n = 115) noted respect for autonomy. Regarding healthcare worker rights, 76.0% (n = 585) prioritized careful attention to the patient, and 11.9% (n = 91) identified undisturbed provision of care as critical.
(See Table 2. Awareness, Perceptions, and Personal Exposure to Workplace Violence in Healthcare Settings, by District.)

**Table 2. Awareness, Perceptions, and Personal Exposure to Workplace Violence in Healthcare Settings, by District (n = 769)**

| | District Bajaur | District Khyber | District Kurram | Overall |
|---|---|---|---|---|
| **Knowledge about violence in hospitals** | | | | |
| Yes | 92 (34.72) | 110 (48.25) | 146 (52.90) | 348 (45.25) |
| No | 173 (65.28) | 118 (51.75) | 130 (47.10) | 421 (54.75) |
| **Type of violence in hospital** | | | | |
| Verbal | 31 (32.22) | 100 (90.74) | 78 (53.42) | 209 (59.59) |
| Physical | 1 (1.11) | 1 (0.93) | 12 (8.22) | 14 (4.07) |
| Both verbal and physical | 60 (66.67) | 9 (8.33) | 56 (38.36) | 125 (36.34) |
| **Witnessed violence in hospital** | | | | |
| Yes | 56 (21.13) | 125 (54.82) | 126 (45.65) | 307 (39.92) |
| No | 209 (78.87) | 103 (45.18) | 150 (54.35) | 462 (60.08) |
| **Kind of violence witnessed in health facility (HF)** | | | | |
| Verbal | 45 (80.36) | 117 (93.60) | 67 (53.17) | 229 (74.59) |
| Physical | 1 (1.79) | 2 (1.60) | 21 (16.67) | 24 (7.82) |
| Both | 10 (17.86) | 6 (4.80) | 38 (30.16) | 54 (17.59) |
| **Right of patient in hospital for care** | | | | |
| Respect for dignity | 169 (63.77) | 199 (87.28) | 160 (57.97) | 528 (68.66) |
| Respect for autonomy | 22 (8.30) | 12 (5.26) | 81 (29.35) | 115 (14.95) |

| | | | | |
|---|---|---|---|---|
| Respect for confidentiality | 72 (27.17) | 15 (6.58) | 30 (10.87) | 117 (15.21) |
| Any other | 2 (0.75) | 2 (0.88) | 5 (1.81) | 9 (1.17) |
| **Patient care rights of healthcare worker (HCW)** | | | | |
| Careful attention to patient | 258 (97.36) | 202 (88.55) | 125 (45.29) | 585 (76.04) |
| Access to true information from patient | 3 (1.13) | 20 (8.81) | 30 (10.87) | 53 (6.90) |
| Not be pressurized for favoritism | 3 (1.13) | 4 (1.76) | 33 (11.96) | 40 (5.21) |
| Not be disrupted while providing care | 1 (0.38) | 2 (0.88) | 88 (31.88) | 91 (11.85) |

**Abbreviations:**
HF = Health Facility; HCW = Healthcare Worker.
**Data are presented as number (percentage).**

Knowledge of the Healthcare Providers Protection Act

Awareness of the Khyber Pakhtunkhwa Healthcare Service Providers and Facilities Act, 2020 was low overall: only 27.6% (n = 212) of participants reported awareness, with significant district variation (7.9% in Khyber vs. 54.4% in Kurram). Among those who were aware, 42.9% (n = 91) learned of the Act via social media, 35.4% (n = 75) through mass media, and 21.7% (n = 46) from health facility messages.

Just over half (52.8%, n = 112) of those aware believed the Act was implemented in their hospital. Awareness of penalties under the Act included imprisonment (55.7%, n = 118), entry bans (27.8%, n = 59), and denial of health services (5.2%, n = 11).

When asked about responsibilities under the Act, 58.0% (n = 123) recognized that healthcare workers must uphold all stipulated duties. Regarding reporting of violations, 79.2% (n = 168) stated that patients should report to hospital authorities, while 70.3% (n = 149) believed healthcare workers should do the same.

(See Table 3. Knowledge of the 2020 Healthcare Providers Protection Act and Intended Reporting Behaviors, by District.)

**Table 3. Knowledge of the 2020 Healthcare Providers Protection Act and Intended Reporting Behaviors, by District (n = 769)**

| | District Bajaur | District Khyber | District Kurram | Overall |
|---|---|---|---|---|
| **Awareness of Healthcare Workers (HCW) Act** | | | | |
| Yes | 44 (16.60) | 18 (7.89) | 150 (54.35) | 212 (27.57) |
| No | 221 (83.40) | 210 (92.11) | 126 (45.65) | 557 (72.43) |
| **Source of information** | | | | |
| Mass media | 7 (15.91) | 4 (22.22) | 64 (42.67) | 75 (35.38) |
| Social network | 34 (77.27) | 10 (55.56) | 47 (31.33) | 91 (42.92) |

| | | | | |
|---|---|---|---|---|
| Health messages in health facility | 3 (6.82) | 4 (22.22) | 39 (26.00) | 46 (21.70) |
| **Implementation in this hospital** | | | | |
| Yes | 7 (15.91) | 15 (83.33) | 90 (60.00) | 112 (52.83) |
| No | 37 (84.09) | 3 (16.67) | 60 (40.00) | 100 (47.17) |
| **Knowledge about penalties under this law** | | | | |
| Imprisonment | 6 (13.64) | 15 (83.33) | 97 (64.67) | 118 (55.66) |
| Show cause notice | 1 (2.27) | - | 23 (15.33) | 24 (11.32) |
| Entry ban to health facility | 34 (77.27) | - | 25 (16.67) | 59 (27.83) |
| Denial of health services | 3 (6.82) | 3 (16.67) | 5 (3.33) | 11 (5.19) |
| **HCW responsibilities under this law** | | | | |
| Explanation of procedures | 8 (18.18) | 2 (11.11) | 55 (36.67) | 65 (30.66) |
| Patient consent | - | 2 (11.11) | 14 (9.33) | 16 (7.55) |
| Patient confidentiality | - | 1 (5.56) | 7 (4.67) | 8 (3.77) |
| All of the above | 36 (81.82) | 13 (72.22) | 74 (49.33) | 123 (58.02) |
| **Patient responsibilities under this law** | | | | |
| Follow hospital rules | 38 (86.36) | 8 (44.44) | 82 (54.67) | 128 (60.38) |
| Allow HCW to work | 1 (2.27) | 10 (55.56) | 62 (41.33) | 73 (34.43) |
| None of the above | 5 (11.36) | - | 6 (4.00) | 11 (5.19) |
| **Reporting pathways (by patient)** | | | | |
| Report to hospital authorities | 41 (93.02) | 17 (94.44) | 110 (73.33) | 168 (79.15) |
| Report to police station | - | 1 (5.56) | 20 (13.33) | 21 (9.95) |
| Report to hospital security | 3 (6.98) | - | 20 (13.33) | 23 (10.90) |
| **Reporting pathways (by HCW)** | | | | |
| Report to hospital authorities | 43 (97.73) | 17 (94.44) | 89 (59.33) | 149 (70.28) |
| Report to police station | 1 (2.27) | - | 20 (13.33) | 21 (9.91) |
| Report to hospital security | - | 1 (5.56) | 41 (27.33) | 42 (19.81) |

**Abbreviations:**
HCW = Healthcare Worker; HF = Health Facility.
**Data are presented as number (percentage)**

## Discussion

Our findings reveal a critical gap between the legislative intent of the Khyber Pakhtunkhwa Violence Against Healthcare Workers Act and its real-world impact. Only 27.6% of caregivers (patient attendants) surveyed were aware of the Act—a figure far lower than levels of awareness reported in countries with well-established occupational safety laws (Yang SZ et al., 2019; Rehan ST et al., 2023). Notably, district-level disparities were pronounced: awareness ranged from only 7.9% in Khyber to 54.4% in Kurram, reflecting the uneven implementation and communication of legal protections. This persistent "awareness-to-impact" gap echoes patterns of implementation failure documented in other low-resource or post-conflict contexts (Occupational Safety and Health Administration, 2023; Phillips JP, 2016).

### Implementation Science Insights

Mapped to the RE-AIM framework, the study identifies key deficiencies: limited Reach (low awareness among caregivers), modest Effectiveness (continued reports of violence), patchy Adoption (inconsistent uptake of

reporting mechanisms), variable Implementation (disparities between districts), and Maintenance challenges (concerns about sustainability due to resource and leadership turnover) (Damschroder LJ et al., 2009; Glasgow RE et al., 1999). Barriers included low legal literacy, inadequate communication of rights and reporting procedures, a cultural preference for internal conflict resolution, and skepticism regarding the responsiveness of law enforcement.

Policy and Systemic Barriers

Qualitative feedback and global comparisons highlight that even robust laws are insufficient without:

Institutional capacity-building: Regular training for hospital staff and administrators in de-escalation and legal reporting (World Health Organization, 2002).

Integrated reporting pathways: Confidential, streamlined systems that bypass bureaucratic hurdles and protect whistleblowers (International Council of Nurses, 2001).

Community engagement: Outreach to caregivers and local leaders to address cultural norms that may condone violence or discourage external reporting.

Continuous evaluation: Systematic monitoring and reporting of outcomes to inform real-time policy refinement.

Feasibility and Contextual Challenges

While these recommendations are critical, their implementation faces significant practical challenges—particularly in districts with lower literacy rates, limited resources, and fragile institutional capacity. Institutional resistance and policy inertia, well recognized in implementation science literature (Phillips JP, 2016; Glasgow RE et al., 1999), remain significant obstacles in translating policy into action in such contexts.

Recommendations

1. Curricular Integration: Mandate legal rights and violence-prevention training in all health worker education programs.
2. Reporting Infrastructure: Develop anonymous, technology-supported reporting tools accessible to both staff and caregivers.
3. Multi-level Advocacy: Launch province-wide campaigns via social, mass, and community media to demystify the Act and encourage reporting.
4. Collaborative Enforcement: Establish formal partnerships between hospitals and law enforcement with clear memoranda of understanding (MOUs) and accountability metrics.
5. Implementation Research: Support longitudinal and qualitative research to track policy adoption, barriers, and outcomes at district and provincial levels.

Implications for Other Contexts

Given the global relevance of workplace violence in healthcare, the lessons from the NMDs of Khyber Pakhtunkhwa have broader significance. The interplay of cultural, structural, and policy-level factors must be considered for any violence-prevention strategy to succeed, especially in fragile or post-conflict settings. Strategies should be adapted to local realities and regularly evaluated to ensure effectiveness (International Labour Organization, 2003).

Policy Implications

Bridging the Awareness–Action Gap: Legal reforms must be paired with targeted education campaigns and robust reporting infrastructure to translate policy into effective protection.

Context-Sensitive Interventions: Strategies should be tailored to district-specific challenges, including literacy, institutional capacity, and cultural attitudes.

Replication Potential: The NMDs experience offers a template for other fragile regions

facing health system integration and security challenges, but requires context-sensitive adaptation.

## Strengths and Limitations

The study's strengths include its large, representative sample and focus on an under-researched, high-risk population. However, limitations include the reliance on self-reported data (with potential recall and social desirability bias), the cross-sectional design (limiting causal inference), and the exclusion of qualitative perspectives from perpetrators or law enforcement. Future mixed-methods research could provide a more comprehensive understanding.

## Conclusion

Healthcare workers in the newly merged districts of Khyber Pakhtunkhwa remain vulnerable to violence, with fewer than one in three caregivers aware of the 2020 Violence Against Healthcare Workers Act. Most still prefer to report incidents internally rather than to law enforcement, undermining deterrence and accountability. Immediate priorities include strengthening legal outreach through targeted media campaigns, embedding violence-prevention and legal-rights education into healthcare training, and establishing clear, confidential reporting pathways within health facilities. Investment in security personnel, regular staff de-escalation training, and meaningful community engagement are essential to foster a culture of mutual respect and shared responsibility for healthcare worker safety. By implementing these strategies in concert, stakeholders can help ensure the Act delivers on its promise to protect those who provide care in some of Pakistan's most vulnerable communities.

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