The Review of DIABETIC STUDIES
Vol. 21 No. S2 2025

The Review Of
DIABETIC
STUDIES OPEN ACCESS

Assessing Risks of Patient- and Family-Initiated Assaults and Developing Training Programs for Prevention and Response in Healthcare Settings

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Abstract

Background: Violence and assaults directed at healthcare workers by patients or their families represent a growing global concern, with significant implications for staff safety, psychological well-being, quality of care, and healthcare system sustainability. Such incidents are particularly prevalent in high-stress clinical environments, including emergency departments, psychiatric units, and primary care settings. Systematic assessment of assault risk and the development of structured training programs are increasingly recognized as essential strategies for prevention and effective response. **Objective:** This systematic review aims to synthesize existing evidence on (1) methods used to assess the risk of assaults by patients or their families toward healthcare workers, and (2) the effectiveness of training programs designed to prevent, de-escalate, and respond to such incidents. **Methods:** A systematic literature search was conducted across major electronic databases, including PubMed, Scopus, Web of Science, and CINAHL, following PRISMA guidelines. Studies published in English that addressed risk assessment tools, predictive factors, or training and educational interventions related to patient- or family-initiated assaults in healthcare settings were included. Data were extracted on study design, setting, target population, risk assessment approaches, training components, and reported outcomes. Study quality was appraised using standardized critical appraisal tools. **Results:** The reviewed studies identified multiple risk factors for assaults, including patient-related factors (e.g., psychiatric illness, substance use, pain, and cognitive impairment), environmental factors (e.g., overcrowding, long waiting times, inadequate security), and organizational factors (e.g., staffing shortages and lack of clear policies). Risk assessment approaches ranged from structured screening tools and incident reporting systems to observational and environmental risk audits. Training programs commonly focused on communication skills, early recognition of warning signs, de-escalation techniques, personal safety strategies, and post-incident reporting and support. Overall, evidence suggests that multifaceted training programs, particularly when combined with organizational and environmental interventions, are associated with improved staff confidence, reduced incidence of assaults, and better reporting

practices. **Conclusion:** Assessing the risk of assaults from patients or their families and implementing comprehensive training programs are critical components of workplace violence prevention in healthcare settings. Effective strategies require an integrated approach that combines individual training, systematic risk assessment, supportive organizational policies, and a culture of safety. Further high-quality, longitudinal studies are needed to determine the long-term impact of these interventions on assault rates and staff well-being.
Keywords: Workplace violence; Patient assault; Family-related aggression; Risk assessment; Healthcare workers; Violence prevention; De-escalation training; Staff safety; Occupational health; Incident response.

I. Introduction

Workplace violence in healthcare settings has emerged as a critical global occupational health and patient safety issue. Violence and assaults perpetrated by patients or their family members toward healthcare workers range from verbal abuse and threats to physical assaults that may result in serious injury, psychological trauma, reduced job satisfaction, and workforce attrition. The World Health Organization (WHO) defines workplace violence as incidents where staff are abused, threatened, or assaulted in circumstances related to their work, including commuting to and from work, and this definition explicitly encompasses healthcare environments (World Health Organization [WHO], 2002). Healthcare workers are consistently reported to be at higher risk of violence compared with workers in most other sectors, highlighting the urgency of systematic prevention strategies.

Globally, the prevalence of patient- and family-initiated violence against healthcare staff is alarmingly high. Previous studies indicate that more than 50% of healthcare workers experience some form of workplace violence during their careers, with nurses and frontline clinicians being disproportionately affected (Phillips, 2016; Spector et al., 2014). Emergency departments, psychiatric units, primary care clinics, and long-term care facilities are particularly vulnerable due to high patient acuity, emotional distress, long waiting times, and frequent interactions with distressed family members. Such environments often combine clinical complexity with organizational pressures, creating conditions that increase the likelihood of aggressive behaviors.

The consequences of assaults extend beyond immediate physical harm. Repeated exposure to violence is strongly associated with anxiety, depression, burnout, post-traumatic stress symptoms, and decreased professional performance among healthcare workers (Lanctôt & Guay, 2014). At an organizational level, workplace violence contributes to increased absenteeism, high staff turnover, reduced quality of care, and substantial economic costs related to compensation claims, legal proceedings, and recruitment (Occupational Safety and Health Administration [OSHA], 2015). These outcomes directly undermine healthcare system resilience and sustainability, particularly in settings already facing workforce shortages.

Understanding and assessing the risk factors for assaults is a fundamental step in prevention. The literature identifies multiple interacting determinants of violence, including patient-related factors (such as psychiatric disorders, substance use, pain, cognitive impairment, and unmet expectations), family-related factors (emotional distress, poor communication, dissatisfaction with care), environmental factors (overcrowding, noise, inadequate security, and long waiting times), and organizational factors (staffing shortages, lack of training, and unclear reporting mechanisms) (Gillespie et al., 2013; Speroni et al., 2014). Systematic risk assessment tools and structured reporting systems can help identify high-risk situations and populations, enabling proactive interventions rather than reactive responses after incidents occur.

In parallel with risk assessment, training programs for healthcare workers are widely advocated as a cornerstone of workplace violence prevention. Such programs typically focus on improving communication skills, recognizing early warning signs of aggression, applying de-escalation techniques, maintaining personal safety, and responding appropriately during and after violent incidents. Evidence suggests that training interventions can improve staff confidence, knowledge, and perceived competence in managing aggressive behavior (Heckemann et al., 2015). However, training alone may be insufficient if not supported by

organizational policies, leadership commitment, and environmental safety measures, underscoring the need for a comprehensive, systems-based approach.

Despite growing recognition of the problem, variability remains in how assault risks are assessed and how training programs are designed, implemented, and evaluated across healthcare settings and regions. Many institutions rely on informal assessments or underreported incident data, while training content and duration differ widely, limiting comparability and generalizability of outcomes. Therefore, synthesizing existing evidence on risk assessment approaches and training program effectiveness is essential to inform best practices and guide policy development.

This systematic review addresses this gap by critically examining the literature on assessing risks of assaults from patients or their families and on developing training programs aimed at prevention and effective response. By integrating evidence from diverse healthcare settings, this review seeks to provide a comprehensive foundation for developing safer work environments, enhancing staff preparedness, and promoting a culture of safety within healthcare systems.

Rationale

Workplace violence perpetrated by patients or their family members remains a persistent and under-addressed challenge in healthcare systems worldwide. Despite increasing awareness of its prevalence and consequences, preventive efforts are often fragmented, reactive, or inadequately evaluated. Many healthcare institutions continue to rely on incident reporting after assaults occur rather than systematically assessing risk and implementing proactive, evidence-based prevention strategies. Moreover, underreporting of violent incidents due to fear of blame, normalization of abuse, or lack of clear reporting mechanisms further obscures the true magnitude of the problem and limits effective organizational responses.

Although numerous studies have examined individual risk factors or evaluated isolated training interventions, the evidence base is highly heterogeneous. Risk assessment methods vary widely, ranging from informal clinical judgment to structured tools and environmental audits, with no clear consensus on best practices. Similarly, training programs differ substantially in content, duration, delivery mode, and target audience, making it difficult for healthcare leaders and policymakers to identify which approaches are most effective and sustainable. This lack of synthesis hampers the development of standardized guidelines and comprehensive violence prevention frameworks.

In addition, many existing interventions focus primarily on individual staff behavior while neglecting broader organizational and environmental determinants of violence, such as staffing levels, security infrastructure, leadership commitment, and institutional culture. A systematic review that integrates evidence on both risk assessment strategies and training-based interventions is therefore essential to clarify how these components interact and to identify multimodal approaches that are more likely to reduce assault risk and improve staff safety. By consolidating and critically appraising the available literature, this review aims to inform policy, guide training development, and support the implementation of comprehensive, context-sensitive prevention and response programs in healthcare settings.

Hypothesis

1. **Primary Hypothesis:** Systematic risk assessment approaches combined with structured training programs are more effective in preventing and managing assaults from patients or their families than isolated or reactive interventions.
2. **Secondary Hypotheses:**
    - Healthcare settings that implement formal risk assessment tools and standardized reporting systems demonstrate improved identification of high-risk situations and populations.

- Training programs that include communication skills, early warning sign recognition, and de-escalation techniques significantly improve healthcare workers' knowledge, confidence, and perceived ability to respond to aggressive behavior.
- Multicomponent interventions that integrate individual training with organizational policies and environmental safety measures are associated with lower reported rates of assaults and better post-incident outcomes for staff.

These hypotheses underpin the systematic review and guide the evaluation of existing evidence on risk assessment methods and training interventions for preventing and responding to patient- and family-initiated assaults in healthcare environments.

II. Literature Review

1. Prevalence and Forms of Patient- and Family-Initiated Assaults

Workplace violence in healthcare encompasses a wide spectrum of behaviors, including verbal abuse, threats, physical assaults, and, in rare cases, severe injury or homicide. Numerous studies consistently demonstrate that healthcare workers experience substantially higher rates of violence than workers in other sectors (Phillips, 2016). Verbal aggression is the most commonly reported form, but physical assaults pose the greatest risk to staff safety and long-term well-being (Spector et al., 2014). Patients' family members are increasingly recognized as significant contributors to aggressive incidents, particularly in emergency departments, intensive care units, and pediatric settings, where emotional distress and unmet expectations are common (Speroni et al., 2014).

Epidemiological data indicate that nurses are the most frequently targeted professional group, followed by physicians, security personnel, and allied health professionals (Lanctôt & Guay, 2014). High-risk clinical areas include emergency departments, psychiatric units, long-term care facilities, and primary care clinics, where prolonged waiting times, high patient acuity, and frequent interpersonal interactions increase the likelihood of conflict (Gillespie et al., 2013). Despite these findings, underreporting remains pervasive, suggesting that the true prevalence of assaults is likely underestimated.

2. Risk Factors Associated with Assaults in Healthcare Settings

The literature highlights that assaults in healthcare settings are multifactorial, arising from the interaction of patient-related, family-related, environmental, and organizational factors. Patient-related factors commonly cited include psychiatric illness, substance intoxication or withdrawal, cognitive impairment (e.g., dementia or delirium), pain, and frustration related to perceived delays or inadequate care (Bowers et al., 2011). Family members may exhibit aggressive behavior due to emotional distress, fear, grief, lack of understanding of medical processes, or dissatisfaction with communication and outcomes (Taylor & Rew, 2011).

Environmental factors such as overcrowding, excessive noise, lack of privacy, poor lighting, and inadequate security infrastructure have also been strongly associated with increased aggression (Ulrich et al., 2018). Organizational factors—including staff shortages, high workload, insufficient training, unclear policies, and weak leadership support—further exacerbate the risk (OSHA, 2015). These findings underscore the need for comprehensive risk assessment models that move beyond individual behavior to address systemic contributors to violence.

3. Risk Assessment Approaches for Predicting and Preventing Assaults

Risk assessment is widely regarded as a cornerstone of workplace violence prevention. Existing approaches range from informal clinical judgment to structured tools and standardized screening instruments. Structured risk assessment tools, particularly in psychiatric and emergency settings, have demonstrated greater consistency and predictive value than

unstructured assessments (Abderhalden et al., 2008). Tools such as behavioral checklists, aggression risk scales, and early warning indicators aim to identify escalating behaviors before violence occurs.

Incident reporting systems and safety audits also play a critical role in organizational risk assessment by enabling trend analysis and identification of high-risk locations or time periods (Arnetz et al., 2011). However, several studies note that fear of blame, lack of feedback, and perceptions that violence is "part of the job" significantly limit reporting compliance (Lanctôt & Guay, 2014). Consequently, risk assessment strategies are most effective when embedded within a non-punitive safety culture that encourages reporting and continuous improvement.

4. Training Programs for Prevention and Response

Training programs are among the most frequently implemented interventions to address patient- and family-initiated violence. The literature describes a wide range of educational approaches, including classroom-based instruction, simulation, role-playing, e-learning, and blended formats. Core content areas typically include effective communication, recognition of early warning signs, de-escalation techniques, situational awareness, personal safety strategies, and post-incident procedures (Heckemann et al., 2015).

Systematic reviews suggest that training programs are associated with improved staff knowledge, confidence, and perceived competence in managing aggression (Price et al., 2015). Simulation-based and interactive training methods appear particularly effective in enhancing skill retention and real-world application. However, evidence regarding their impact on actual assault rates is mixed, partly due to short follow-up periods and reliance on self-reported outcomes. These findings indicate that while training is necessary, it is not sufficient as a standalone intervention.

5. Organizational and Multicomponent Interventions

An emerging body of literature emphasizes the importance of integrating training programs with organizational and environmental interventions. Multicomponent strategies—combining staff education, clear policies, leadership engagement, environmental design, and security measures—are more consistently associated with reductions in violent incidents (Gillespie et al., 2014). Leadership commitment and visible support are particularly influential in shaping safety culture and sustaining prevention efforts over time.

Environmental design interventions, such as improved visibility, controlled access points, alarm systems, and safe room layouts, have also demonstrated effectiveness in reducing opportunities for violence (Ulrich et al., 2018). When combined with training and systematic risk assessment, these approaches contribute to a proactive and resilient violence prevention framework.

6. Gaps in the Literature

Despite substantial research, several gaps remain. There is limited high-quality, longitudinal evidence evaluating the long-term effectiveness of risk assessment tools and training programs on assault rates and staff outcomes. Many studies rely on cross-sectional designs and self-reported measures, limiting causal inference. Additionally, most evidence originates from high-income countries, with relatively few studies examining low- and middle-income settings, where resource constraints may influence both risk and intervention feasibility.

These gaps highlight the need for systematic synthesis of existing evidence to guide the development of standardized, evidence-based strategies. By critically reviewing the literature on risk assessment and training interventions, this systematic review aims to inform policy, practice, and future research in healthcare workplace violence prevention.

III. Methods

Study Design

This study was conducted as a systematic review of the literature to identify, critically appraise, and synthesize evidence on (1) risk assessment approaches for assaults perpetrated by patients or their families against healthcare workers, and (2) training programs designed for prevention and response. The review was developed and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure methodological rigor and transparency.

Search Strategy

A comprehensive literature search was performed across multiple electronic databases, including PubMed/MEDLINE, Scopus, Web of Science, CINAHL, and PsycINFO. The search strategy combined Medical Subject Headings (MeSH) and free-text terms related to workplace violence and healthcare settings. Key search terms included: workplace violence, patient assault, family aggression, healthcare workers, risk assessment, violence prediction, de-escalation, training program, and prevention. Boolean operators (AND/OR) were used to refine the search. Reference lists of included articles and relevant reviews were manually screened to identify additional eligible studies.

Eligibility Criteria

Studies were selected based on predefined inclusion and exclusion criteria:

- **Inclusion criteria:**

  - Peer-reviewed quantitative, qualitative, or mixed-methods studies.
  - Studies conducted in healthcare settings (e.g., hospitals, primary care, emergency departments, psychiatric units, long-term care facilities).
  - Studies examining risk factors, risk assessment tools, screening methods, or reporting systems related to assaults by patients or their families.
  - Studies evaluating training or educational programs aimed at preventing, de-escalating, or responding to workplace violence.
  - Articles published in English.

- **Exclusion criteria:**

  - Studies focusing solely on violence between healthcare workers.
  - Editorials, commentaries, opinion papers, conference abstracts without full text, and case reports.
  - Studies conducted outside healthcare settings.

Study Selection Process

All identified records were imported into a reference management software, and duplicates were removed. Two independent reviewers screened titles and abstracts for relevance. Full texts of potentially eligible studies were then reviewed against the inclusion criteria. Discrepancies between reviewers were resolved through discussion and, when necessary, consultation with a third reviewer to reach consensus.

Data Extraction

A standardized data extraction form was used to collect relevant information from each included study. Extracted data included: author(s), year of publication, country, study design, healthcare setting, participant characteristics, type of assault examined, risk assessment method or training intervention, outcome measures, and key findings. Data extraction was conducted independently by two reviewers to enhance accuracy.

Quality Assessment

The methodological quality and risk of bias of included studies were assessed using appropriate critical appraisal tools based on study design. Quantitative studies were evaluated using standardized checklists such as the Joanna Briggs Institute (JBI) or equivalent appraisal tools, while qualitative studies were assessed using established qualitative appraisal frameworks. Each study was rated as high, moderate, or low quality, and quality assessments were considered during data synthesis.

Data Synthesis

Given the heterogeneity of study designs, settings, interventions, and outcome measures, a meta-analysis was not feasible. Therefore, a narrative synthesis approach was employed. Findings were organized thematically into two main domains: (1) risk assessment strategies for patient- and family-initiated assaults, and (2) characteristics and outcomes of training programs for prevention and response. Patterns, consistencies, and gaps in the evidence were identified and summarized.

Ethical Considerations

As this study involved secondary analysis of previously published data, ethical approval was not required. However, ethical principles related to transparency, accuracy, and proper citation of sources were strictly adhered to throughout the review process.

IV. Results

Study Selection and Characteristics

The database search yielded a substantial number of records, of which a final set of eligible studies was included after removal of duplicates and application of inclusion and exclusion criteria in accordance with the PRISMA framework. The included studies comprised quantitative, qualitative, and mixed-methods designs and were conducted across diverse healthcare settings, including emergency departments, psychiatric units, primary care centers, and long-term care facilities. Most studies originated from high-income countries, particularly North America, Europe, and Australia, with fewer studies from low- and middle-income regions.

Overall, the findings were grouped into three major domains:

1. identified risk factors for assaults by patients or their families,
2. risk assessment approaches used in healthcare settings, and
3. characteristics and outcomes of training programs for prevention and response.

Table 1. Risk Factors for Assaults by Patients or Their Families in Healthcare Settings

Category	Key Risk Factors Identified	Examples from Literature
Patient-related	Psychiatric illness, substance use, cognitive impairment, severe pain, unmet expectations	Bowers et al., 2011; Phillips, 2016
Family-related	Emotional distress, fear, grief, dissatisfaction with care, poor communication	Taylor & Rew, 2011; Speroni et al., 2014
Environmental	Overcrowding, long waiting times, noise, lack of privacy, inadequate security	Gillespie et al., 2013; Ulrich et al., 2018
Organizational	Staff shortages, heavy workload, lack of training, weak policies, poor reporting culture	OSHA, 2015; Lanctôt & Guay, 2014

Table 1 summarizes the multifactorial nature of assault risk in healthcare settings. Patient-related clinical and behavioral factors were the most frequently reported contributors, particularly psychiatric disorders and substance use. However, family-related aggression emerged as a significant and often underestimated risk, closely linked to emotional stress and communication failures. Environmental and organizational factors were consistently identified as modifiable contributors, suggesting that system-level interventions can play a critical role in reducing violence.

Table 2. Risk Assessment Approaches Used to Identify Assault Risk

Assessment Approach	Description	Reported Strengths	Limitations
Structured risk assessment tools	Standardized checklists or scales to predict aggression	Improved consistency and early identification	May require training; limited generalizability
Clinical judgment	Informal assessment based on staff experience	Flexible and rapid	Subjective; low predictive reliability
Incident reporting systems	Documentation and analysis of violent events	Identifies trends and high-risk areas	Underreporting common
Environmental risk audits	Evaluation of physical layout and security	Targets modifiable hazards	Often conducted infrequently

As shown in Table 2, structured risk assessment tools were generally more reliable than unstructured clinical judgment in identifying patients at high risk of aggression. Incident reporting systems and environmental audits were valuable at the organizational level, enabling trend analysis and targeted interventions. However, underreporting and inconsistent implementation limited their effectiveness. Studies emphasized that risk assessment approaches are most effective when embedded within a supportive, non-punitive safety culture.

Table 3. Training Programs for Prevention and Response to Assaults

Training Component	Common Content	Reported Outcomes
Communication skills	Therapeutic communication, managing expectations	Improved staff confidence and satisfaction
Early warning recognition	Identifying behavioral cues and escalation signs	Faster intervention before violence occurs
De-escalation techniques	Verbal and non-verbal calming strategies	Reduced use of restraints and force
Personal safety & response	Self-protection, escape strategies, post-incident procedures	Increased perceived preparedness and safety

Table 3 outlines the core components of training programs identified in the literature. Most programs focused on communication and de-escalation, which were associated with improved staff knowledge, confidence, and perceived competence. While some studies reported reductions in assault frequency, outcomes were more consistently positive for staff-related measures than for objective incident rates. Evidence indicated that training programs were most

effective when combined with organizational policies, leadership support, and environmental safety measures.

Overall Synthesis of Results

Across studies, assaults from patients or their families were shown to result from complex interactions between individual, environmental, and organizational factors. Risk assessment tools enhanced early identification of high-risk situations, while training programs improved staff preparedness and response capabilities. However, no single intervention was sufficient on its own. The strongest evidence supported integrated, multicomponent approaches that combined systematic risk assessment, comprehensive training, clear policies, and supportive organizational culture. These findings directly informed the discussion and recommendations presented in the subsequent section.

V. Discussion

This systematic review provides an in-depth synthesis of existing evidence on assessing the risk of assaults from patients or their families and on developing training programs for prevention and response within healthcare settings. The expanded findings reinforce the understanding that workplace violence in healthcare is not an isolated or unpredictable phenomenon, but rather a complex, multifactorial issue that can be anticipated and mitigated through structured, evidence-based strategies. By integrating results across diverse settings and study designs, this review offers a comprehensive perspective on how risk assessment and training interventions function individually and synergistically.

Reaffirming the Scope and Severity of the Problem

The reviewed literature consistently confirms that violence against healthcare workers is widespread, underreported, and deeply embedded in clinical practice across multiple disciplines. Nurses, emergency physicians, mental health professionals, and frontline staff remain the most vulnerable groups, largely due to prolonged patient contact, emotional labor, and exposure to high-stress situations (Spector et al., 2014; Phillips, 2016). Importantly, this review highlights that family members are increasingly implicated in violent incidents, a finding that reflects changing dynamics in patient-centered care, heightened expectations, and increased family presence in clinical environments.

This broader understanding of perpetrators challenges traditional prevention models that focus solely on patient pathology. Instead, it supports a more holistic framework that considers emotional distress, communication breakdowns, cultural expectations, and systemic pressures as central contributors to aggression. Recognizing these dimensions is essential for designing interventions that are both effective and ethically grounded.

Risk Assessment as a Proactive Prevention Strategy

One of the most significant contributions of this review is the emphasis on risk assessment as a proactive rather than reactive strategy. Structured tools, behavioral checklists, and standardized screening instruments demonstrated superior reliability compared with informal clinical judgment, particularly in predicting imminent aggression in psychiatric and emergency settings (Abderhalden et al., 2008). These tools facilitate early recognition of warning signs, allowing staff to intervene before escalation occurs.

However, the findings also underscore that risk assessment tools cannot function effectively in isolation. Their success is heavily dependent on contextual factors such as staff training, workload, leadership support, and organizational culture. Underreporting of violent incidents emerged as a persistent barrier, often driven by normalization of violence, fear of blame, or lack of feedback following reports (Lanctôt & Guay, 2014). This suggests that risk assessment must be embedded within a non-punitive, learning-oriented safety culture to realize its full preventive potential.

Training Programs: Strengths and Limitations

Training programs were among the most frequently studied interventions and were consistently associated with positive staff-related outcomes. Improvements in knowledge, confidence, situational awareness, and perceived competence in managing aggressive behavior were well documented (Heckemann et al., 2015; Price et al., 2015). Communication-focused and de-escalation training, in particular, addressed many of the interpersonal triggers identified in the risk factor literature, such as misunderstandings, unmet expectations, and emotional distress.

Nevertheless, the expanded analysis reveals important limitations. Evidence for sustained reductions in assault incidence remains inconclusive, with many studies relying on short-term follow-up or self-reported outcomes. This discrepancy suggests that while training enhances individual capacity, it may not sufficiently address systemic drivers of violence. Training fatigue, staff turnover, and lack of reinforcement further limit long-term effectiveness. These findings support the view that training should be ongoing, context-specific, and reinforced through policy and leadership engagement rather than delivered as a one-time intervention.

Importance of Multicomponent and Organizational Approaches

A key theme emerging from the literature is the superiority of multicomponent interventions over single-strategy approaches. Programs that combined risk assessment, staff training, clear reporting mechanisms, leadership involvement, and environmental modifications demonstrated more consistent reductions in violent incidents and improved staff outcomes (Gillespie et al., 2014). This aligns with systems theory, which emphasizes that safety outcomes are shaped by interactions across individual, organizational, and environmental levels.

Environmental design interventions—such as controlled access points, panic alarms, improved visibility, and safer unit layouts—were shown to reduce opportunities for aggression and enhance staff perceptions of safety (Ulrich et al., 2018). When coupled with training and risk assessment, these measures contributed to a more resilient and proactive safety infrastructure. Leadership commitment was repeatedly identified as a critical determinant of success, influencing reporting behavior, resource allocation, and staff morale.

Implications for Clinical Practice

From a clinical perspective, the findings suggest that healthcare organizations should move beyond reactive incident management toward proactive violence prevention frameworks. Routine risk assessment, integrated into clinical workflows, can support early intervention and reduce escalation. Training programs should prioritize practical, scenario-based learning and be tailored to specific clinical contexts, such as emergency care, mental health, or long-term care. Importantly, staff should be supported not only during incidents but also in the aftermath, through debriefing, counseling, and organizational acknowledgment.

Family-centered communication strategies also warrant greater attention. Given the prominent role of family members in aggressive incidents, interventions that enhance transparency, manage expectations, and provide emotional support to families may play a preventive role. This represents an important shift toward more inclusive and relational models of violence prevention.

Policy and System-Level Implications

At the policy level, the findings support the development of standardized guidelines for workplace violence risk assessment and training across healthcare systems. Regulatory bodies and accrediting organizations may play a role in mandating minimum standards for reporting, training, and environmental safety. Aligning institutional policies with international recommendations from organizations such as the World Health Organization and occupational safety agencies can further strengthen prevention efforts.

The predominance of studies from high-income countries highlights a critical evidence gap in low- and middle-income settings, where resource constraints, staffing shortages, and security challenges may amplify risk. Policymakers should prioritize context-sensitive adaptations of evidence-based strategies to ensure equity and feasibility across diverse healthcare systems.

Limitations of the Evidence Base

While this review offers a comprehensive synthesis, several limitations of the underlying literature must be acknowledged. Heterogeneity in study designs, outcome measures, and definitions of violence limited comparability and precluded quantitative meta-analysis. Many studies relied on self-reported data, which may be influenced by recall bias or social desirability. Additionally, the lack of long-term follow-up limits conclusions about sustainability and cost-effectiveness of interventions.

Future research should focus on robust, longitudinal designs that evaluate integrated prevention programs across multiple settings. Greater emphasis on objective outcome measures, family-focused interventions, and culturally informed training approaches would further strengthen the evidence base.

Conclusion

In summary, this extended discussion reinforces the conclusion that assaults from patients or their families are predictable and preventable occupational hazards in healthcare. Systematic risk assessment and comprehensive training programs are essential, but their effectiveness depends on integration within supportive organizational structures and safe physical environments. Advancing workplace violence prevention requires a paradigm shift from isolated, reactive measures to coordinated, system-wide strategies that prioritize staff safety, patient-centered care, and organizational accountability.

References

- Abderhalden, C., Needham, I., Dassen, T., Halfens, R., Fischer, J. E., & Haug, H. J. (2008). Predicting inpatient violence using an extended version of the Brøset Violence Checklist: Instrument development and clinical application. International Journal of Nursing Studies, 45(6), 845–853. https://doi.org/10.1016/j.ijnurstu.2007.05.004
- Arnetz, J. E., Hamblin, L., Russell, J., Upfal, M. J., Luborsky, M., Janisse, J., & Essenmacher, L. (2011). Preventing patient-to-worker violence in hospitals: Outcome of a randomized controlled intervention. Journal of Occupational and Environmental Medicine, 53(1), 18–28. https://doi.org/10.1097/JOM.0b013e3182028d9d
- Bowers, L., Stewart, D., Papadopoulos, C., Dack, C., Ross, J., Khanom, H., & Jeffery, D. (2011). Inpatient violence and aggression: A literature review. International Journal of Mental Health Nursing, 20(2), 86–97. https://doi.org/10.1111/j.1447-0349.2010.00725.x
- Gillespie, G. L., Bresler, S., Gates, D. M., Succop, P., & Anderson, C. (2014). Posttraumatic stress symptomatology among emergency department workers following workplace aggression. Workplace Health & Safety, 62(1), 6–14. https://doi.org/10.3928/21650799-20131217-02
- Gillespie, G. L., Gates, D. M., Miller, M., & Howard, P. K. (2013). Workplace violence in healthcare settings: Risk factors and protective strategies. Rehabilitation Nursing, 38(4), 167–175. https://doi.org/10.1002/rnj.96
- Heckemann, B., Zeller, A., Hahn, S., Dassen, T., Schols, J. M., & Halfens, R. J. (2015). The effect of aggression management training programs for nursing staff and students working in an inpatient setting: A systematic review. International Journal of Nursing Studies, 52(6), 1137–1145. https://doi.org/10.1016/j.ijnurstu.2015.01.001
- Lanctôt, N., & Guay, S. (2014). The aftermath of workplace violence among healthcare workers: A systematic literature review of the consequences. Aggression and Violent Behavior, 19(5), 492–501. https://doi.org/10.1016/j.avb.2014.07.010

- Occupational Safety and Health Administration. (2015). Guidelines for preventing workplace violence for healthcare and social service workers. U.S. Department of Labor.
- Phillips, J. P. (2016). Workplace violence against health care workers in the United States. New England Journal of Medicine, 374(17), 1661–1669. https://doi.org/10.1056/NEJMra1501998
- Price, O., Baker, J., Bee, P., Lovell, K., & McKenna, C. (2015). Learning and performance outcomes of mental health staff training in de-escalation techniques for the management of violence and aggression. British Journal of Psychiatry, 206(6), 447–454. https://doi.org/10.1192/bjp.bp.114.144576
- Spector, P. E., Zhou, Z. E., & Che, X. X. (2014). Nurse exposure to physical and nonphysical violence, bullying, and sexual harassment: A quantitative review. International Journal of Nursing Studies, 51(1), 72–84. https://doi.org/10.1016/j.ijnurstu.2013.01.010
- Speroni, K. G., Fitch, T., Dawson, E., Dugan, L., & Atherton, M. (2014). Incidence and cost of nurse workplace violence perpetrated by hospital patients or patient visitors. Journal of Emergency Nursing, 40(3), 218–228. https://doi.org/10.1016/j.jen.2013.05.014
- Taylor, J. L., & Rew, L. (2011). A systematic review of the literature: Workplace violence in the emergency department. Journal of Clinical Nursing, 20(7–8), 1072–1085. https://doi.org/10.1111/j.1365-2702.2010.03342.x
- Ulrich, R. S., Bogren, L., Gardiner, S. K., & Lundin, S. (2018). Psychiatric ward design can reduce aggressive behavior. Journal of Environmental Psychology, 57, 53–66. https://doi.org/10.1016/j.jenvp.2018.05.002
- World Health Organization. (2002). Framework guidelines for addressing workplace violence in the health sector. WHO, International Labour Organization, International Council of Nurses, and Public Services International.