Evidence-Based Approaches to Mitigate Workplace Violence From Patients and Visitors in Emergency Departments: A Rapid Review

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Abstract

Introduction: This is a rapid review of the published evidence on the effectiveness of interventions for mitigating workplace violence against staff in hospital emergency departments. Focused on the specific needs of an urban emergency department in Canada, this project sought to address the question, "What interventions have evidence regarding effectiveness for addressing workplace patient/visitor violence toward staff in the emergency department?"

Methods: Following Cochrane Rapid Review methods, 5 electronic databases (MEDLINE via PubMed, Cochrane CENTRAL, Embase, PsycINFO, CINAHL) and Google Scholar were searched in April 2022 for intervention studies to reduce or mitigate workplace violence against staff in hospital emergency departments. Critical appraisal was conducted using Joanna Briggs Institute tools. Key study findings were synthesized narratively.

Results: Twenty-four studies (21 individual studies, 3 reviews) were included in this rapid review. A variety of strategies for reducing and mitigating workplace violence were identified and categorized as single or multicomponent interventions. Although most studies reported positive outcomes on workplace violence, the articles offered limited descriptions of the interventions and/or lacked robust data to demonstrate effectiveness. Insights from across the studies offer knowledge users information to support the development of comprehensive strategies to reduce workplace violence.

Discussion: Despite a large body of literature on workplace violence, there is little guidance on effective strategies to mitigate workplace violence in emergency departments. Evidence suggests that multicomponent approaches targeting staff, patients/visitors, and the emergency department environment are essential to addressing and mitigating workplace violence. More research is needed that provides robust evidence on effective violence prevention interventions.

Key words: Workplace violence; Aggression; Emergency medical services; Health personnel

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Introduction

The hospital emergency department is a busy and often unpredictable setting, and the capacity for delivering health care can be strained by high demand and limited resources.[1-4] This strain became more pronounced during the coronavirus disease 2019 pandemic.[5] Although ED staff are highly specialized and dedicated to delivering care in this demanding environment, they may go through consequences from experiencing workplace violence (WPV) from patients and visitors.[6-8] WPV refers to abuse, intimidation, or assault experienced at work and includes threatening behavior, verbal abuse, and physical attacks.[9,10] WPV from patients and visitors has become a persistent and common challenge in emergency departments worldwide, with an estimate of 1 in 4 health care providers experiencing violence from patients or visitors each year.[11] However, accurately measuring WPV in health care settings is challenging, given that incidents may go unreported or unrecognized, because staff presume these events are inherent in the work they do.[12,13]

The variety of interventions designed to mitigate WPV from patients and visitors in health care include patient screening questionnaires, staff education and training, environmental modifications, and reporting systems.[14-16] Given the constraints of limited resources and the high demands on the ED setting, health care leaders looking to address WPV want to ensure the measures they implement will be effective.

OBJECTIVES AND RESEARCH QUESTION

This review was initiated through a partnership between practice and academia. The main objective was to provide evidence-informed recommendations for reducing WPV in the emergency department, in collaboration with an organizational leader in a large, Canadian, urban hospital. This rapid review was guided by the specific needs of an organizational leader at the urban emergency department, who was the knowledge user on our research team. The knowledge user's experiences and needs guided the project to ensure the review findings were directly relevant to their emergency department.

The rapid review addressed the research question: What are the interventions that have evidence regarding effectiveness for addressing workplace patient/visitor violence toward ED staff in the emergency department? Although other sources of WPV exist, such as bullying between workers, this review focused on client/customer violence committed against emergency health care workers.[17]

Methods

This review followed recommendations from the Cochrane Rapid Review Methods Group for conducting rapid reviews.[18] Rapid reviews are defined as being driven by "the need for timely evidence for decision-making purposes."[18(p15)] This form of knowledge synthesis streamlines the steps within the systematic review process to accelerate completion, overcome resource or time-based constraints, and meet the needs of the knowledge user.[18] Given our objectives and the 6-month study timeline, a rapid review was the most appropriate knowledge synthesis approach. This review used Preferred Reporting Items for Systematic Reviews and Meta-Analyses reporting guidelines.[19]

RESEARCH TEAM AND APPROACH

The research team consisted of 4 academic researchers (C.R., M.M., S.P., C.H.), 2 patient partners (P.N.S., E.P.J.), an academic librarian (G.M.), and the knowledge user (O.S.). Two academic researchers took primary responsibility for the project (C.R., M.M.), with oversight from the third (C.H.), and the fourth was a content expert consulted at various stages of the review (S.P.). Patient partners brought their personal experiences as patients and caregivers and were actively and meaningfully engaged as research collaborators. Patient partners were integral to the process, each providing a unique perspective based on their personal and professional experiences. They helped to maintain an emphasis on the experiences of patients and families in the ED setting. The academic librarian provided invaluable guidance in developing and refining the search strategy to execute a precise and comprehensive search. The knowledge user shared their experience and needs as an organizational leader in the emergency department. Given the knowledge user's limited time, they were engaged in the rapid review process both synchronously and asynchronously, with regular meetings as well as content reviews and discussions by email. All team members were involved in regular meetings throughout the review process, providing input at each step of the review.

At the outset of the rapid review, the knowledge user shared details about the context of their emergency department, experiences of WPV, and current mitigation strategies so the review team could learn more about the problem of WPV in their emergency department. We also reviewed literature they had previously consulted regarding WPV and discussed the strengths and limitations of various interventions in the context of their emergency department. The review question was set and refined based on ongoing conversations among the review team members. Once the

review question was set, the team defined the problem, interventions, and outcomes of interest and established the study eligibility criteria.

INCLUSION AND EXCLUSION CRITERIA

Studies were included if they described an intervention that was implemented and evaluated for mitigating WPV from patients and visitors in the emergency department. The intervention could be any change, strategy, program, policy, or tool intended to prevent, mitigate, reduce, or de-escalate violence. The study settings needed to provide emergent care within a hospital, including medical and psychiatric emergency departments. Most importantly, studies needed to include outcome data on the effectiveness of the WPV intervention, such as the rate of violent incidents, staff perceptions related to violence, or frequency of restraint use. All types of methodologies and publications were considered, including quality improvement projects and dissertations, provided they met the stated inclusion criteria. Studies were excluded if they focused on other types of violence or abuse (ie, domestic violence) or if they took place in a setting not applicable to the knowledge user's context (ie, pediatric emergency department).

SEARCH STRATEGY

Guided by the Cochrane Rapid Reviews Methods Group recommendations, we searched MEDLINE (via PubMed), Cochrane CENTRAL, and Embase databases.[18] Searches were also conducted in PsycINFO, CINAHL, and Google Scholar. Search terms were identified through literature review and discussions with the knowledge user, content expert, and patient partners, and through testing within the databases. The search strategy combined key words and subject headings related to 5 key concepts within the review question: (1) WPV (eg, "aggression"), (2) intervention/outcome (eg, "de-escalation," "prevention"), (3) emergency department (eg, "emergency medical services"), (4) patient/visitor (eg, "patient," "patient visitor"), and (5) emergency department staff (eg, "health personnel"). The initial search was developed in MEDLINE (see Supplementary Material) and adapted for the other databases by adjusting for controlled vocabulary and subject headings. The database searches were conducted on April 22, 2022, and limited to articles published since January 1, 2012, and in the English language. The first 100 results from the Google Scholar search (April 24, 2022) were extracted.

STUDY SELECTION

All records identified through the database searches were imported into Covidence,[20] a web-based systematic review software, where we conducted article screening and data extraction. Duplicates were removed before screening. Titles and abstracts were screened independently for relevant studies by 2 research team members (C.R., M.M.). At the beginning of this stage, a pilot screening of 40 articles was done to calibrate the process. Disagreements were resolved by discussion. Subsequently, the same 2 team members (C.R., M.M.) independently screened the full text of articles while abiding by the study eligibility criteria and resolving disagreements through discussions. The search and screening process is depicted in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses diagram in Figure 1.[19]

DATA COLLECTION

A standardized data extraction form was created within Covidence.[20] The extracted information for the individual studies included first author, publication year, country, study design, study setting and population, sample size, type of intervention and description, outcome(s) and measurement details, and findings. In addition to this information, data extraction from the review articles included details about the search strategy such as date of search, number of databases, whether gray literature was included, and whether the authors conducted a critical appraisal. For both individual and review articles, we noted any PROGRESS-Plus characteristics that stratify health outcomes or may be associated with equity.[21,22] Two team members (C.R., M.M.) conducted the data extraction; each extracted data for half of the articles and then reviewed and verified the extracted data of the other 12 articles.

CRITICAL APPRAISAL

The search yielded a heterogenous collection of studies that used varying research methods. No single quality assessment tool was appropriate for appraising all the different included studies. Given that it was important to ensure we had a consistent, systematic approach to critical appraisal, individual studies were appraised using a modified version of the Joanna Briggs Institute checklist for quasi-experimental studies.[23] This checklist has 9 items with 4 response options: yes, no, unclear, and not applicable. We removed 1 item regarding whether outcomes were measured in a reliable way (eg, intra/inter-rater reliability) because most of the studies did not report about this aspect of reliability. Additionally, for

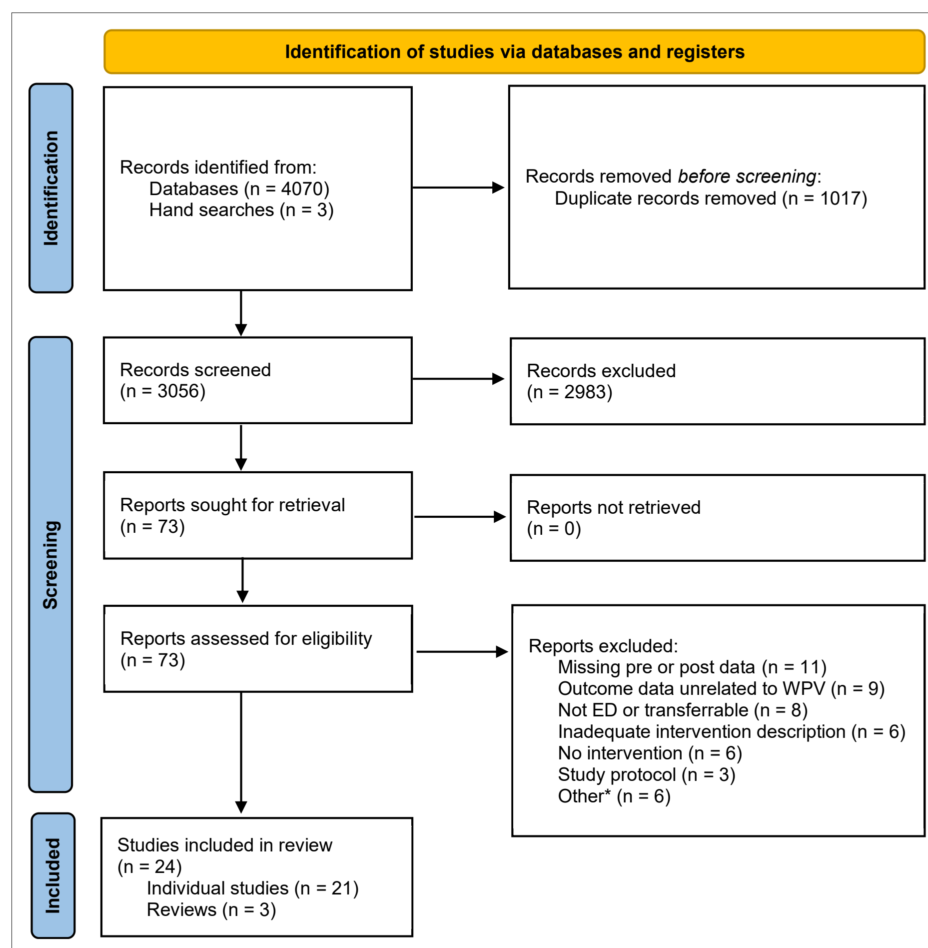

FIGURE 1

PRISMA diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses. ED, emergency department.

the question regarding pre- and post-data, we added weighted scoring to reflect the robustness of data collection over time. The 3 review studies were critically appraised using the Joanna Briggs Institute checklist for systematic reviews.[23] Numeric scores from the checklists were translated into 3 critical appraisal categories: low, moderate, and high.

Results

We identified 4070 publications through database searches and 3 additional articles from references of included studies. After removing duplicates, 3056 titles and abstracts were screened, resulting in 73 full-text articles being subsequently assessed for eligibility. Twenty-four studies (21 individual studies, 3 reviews) were included in the rapid review (see Figure 1). A descriptive summary of study characteristics is presented below, followed by a narrative synthesis of key study findings.

STUDY CHARACTERISTICS

Individual Studies

The 21 individual studies were published between 2013 and 2022, and most ($n = 18$) were published within the last 5 years.[24-41] Sample sizes ranged greatly ($n = 30$-76,246) depending on the methods, target population, and outcome of interest (see Table 1).

Although many of the studies were conducted in the United States,[25,26,28,34,35,40,42-44] 12 were set outside of the United States, including in Canada,[30] Pakistan,[24,33,37] Iran,[31,32,38] Taiwan,[27,41] Australia,[36] Israel,[29] and

TABLE 1

Characteristics of the included individual studies

Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Bailey,[25] USA (dissertation)	Determine whether or to what degree the implementation of Lippincott's Violent and Assaultive Behavior Management Clinical Guideline impacts the use of patient restraints in response to WPV	Quasi-experimental (Pre-post)	Patients (3023)	Policies and Procedures	Lippincott's Violent and Assaultive Behavior Management Clinical Guideline was used to train nurses on recognizing and de-escalating assaultive behaviors to diffuse situations before violence occurred.	Significant decrease in restraint use	Moderate
Chang et al,[27] Taiwan	Evaluate the effects of a novel integrated WPV and Management Training Program on patient and visitor violence	Randomized controlled trial	Nurses (75)	Education	12-session course covered 12 components. Sessions were 1 hour and done by video conference. Teaching methods included role-plays, scenarios based on actual WPV, and communication exercises.	Nurses had a significant increase in confidence and in managing violence and significant increase in coping self-efficacy with violent situations.	High

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Shaikh et al,[37] Pakistan	Determine the effect of low-cost interventions to reduce violent events in 2 tertiary-care emergency departments	Quasi-experimental (Pre-post)	Violent events Site 1 (481) Site 2 (135)	Multicomponent	2-hour education for health care workers comprised 4 modules delivered through participatory teaching methods. Awareness-raising material for patients/visitors included pamphlets and posters on rights and responsibilities of patients, their companions, and health care workers; posters on zero tolerance for violence; and educational videos on trusting and following advice of health care workers. Hospital-specific policy-related interventions included how to respond to violence events, visitor ID cards, and staff training on sharing information about waiting times and progress of patients.	Site 1: physical violence significantly decreased No significant change in verbal abuse Site 2: verbal abuse and physical violence significantly decreased	Moderate

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TABLE 1
Continued

Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Campbell et al,[26] USA	Design, implement, and evaluate feasibility of an ED-specific tool to help nurses proactively identify and intervene with patients' escalating behaviors, capture better documentation of aggressive/violent patient events, and reduce restraint usage	Quality improvement	Patient visits (48,492) Nurses (30)	Screening/ assessment	The Emergent Documentation Aggression Rating Tool classified specific behavior based on level of aggression/ violence into 5 levels. All patients were to be assessed with the Emergent Documentation Aggression Rating Tool at least on admission and discharge.	Decrease in restraint use (not significant)	Moderate
Choe et al,[28] USA	Evaluate the impact of a multidisciplinary team of medical and nonmedical staff members in the rapid evaluation, intervention, and safe disposition planning of acutely agitated patients presenting to the emergency department	Quality Improvement	Patients (553)	Response team	A Code Staff Assist workflow for agitated patients. A Code Staff Assist brought a multidisciplinary team of medical and nonmedical staff members to expeditiously assess the patient, attempt verbal de-escalation, and administer treatment if necessary.	Reduced incidence of attempted assaults on staff (Mean monthly assaults)	Low

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Khan et al,[33] Pakistan	Evaluate the effectiveness of a half-day training on de-escalation of violence against health care personnel regarding prevention and management of violence incidents	Quasi-experimental (Comparative cross-sectional)	Health care personnel (200)	Education	Half-day training on de-escalation of violence for health care personnel comprised 5 modules. Training employed varied teaching methodologies.	No significant difference between groups in incidence of WPV Intervention group had significantly greater confidence in coping with patient aggression. Fear of WPV significantly greater in intervention group	Moderate
Legambi et al,[34] USA	Improve the early detection and management of patient agitation, to reduce use of restraints in the emergency department, and to determine the usability of Behavioural Activity Rating Scale	Quality improvement	Behavioural Health visits (1295)	Screening/ assessment	Behavioral Activity Rating Scale (BARS) – a 7-item tool for detecting changes in behavioral activity in behavioral health patients	No significant difference in restraint use	Moderate

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TABLE 1
Continued

Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Okundolor et al,[35] USA	Develop, implement, and evaluate a multifaceted approach to reducing the number of physical assaults on staff	Quality improvement	Patients (230) Psychiatric emergency nurses (42)	Multicomponent	Increasing behavioral response team drills Shift briefing huddle to promote team communication Screening for patients at risk of violence Posting signage to alert about high-risk patients Mitigating countermeasure Postassault debriefing, peer and leadership postassault support	Number of physical assaults per month decreased Nurses-perceived self-efficacy increased after team drills	Moderate
Senz et al,[36] Australia	Evaluate the impact of a novel approach to recognition and response to occupational violence and aggression (OVA) on staff knowledge, perceptions, and confidence regarding OVA in emergency department and the rate of security events related to OVA	Quasi-experimental (Pre-post)	Security responses(1083) Nurses Survey 1 (76) Survey 2 (83)	Screening/ assessment	Behaviors of concern chart includes (1) Brøset violence checklist, to predict potential for violence and (2) A score-based notification and response matrix that outlines suggested multidisciplinary escalation strategies and interventions.	Significant decrease in unplanned security responses Significant increase in planned security responses No change in nursing confidence to prevent violence or feelings of safety	Moderate

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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Efrat-Treister et al,[29] Israel	Examine the moderating role of information in the relationship between time waited and aggressive tendencies among health care receivers (patients and escorts) waiting to receive service in a hospital emergency department	Quasi-experimental (Pre-post)	Health care receivers (328) 1 year post (99)	Environment (signage, general information, etc)	Health care receivers were provided with information about organizational procedures, specifically wait durations, through large signs and pamphlets.	Providing patients information about ED procedures and wait times likely to reduce aggression, up to the point that patients wait is not longer than expected, based on the information provided	Moderate
Sharifi et al,[38] Iran	Determine the effect of an education program, risk assessment checklist, and preventive protocol on violence against nurses at an emergency department	Quasi-experimental (Pre-post)	Nurses (37)	Multicomponent	4-hour workshop on using the risk assessment checklist and the preventive protocol for violence prone persons 6-item risk assessment checklist completed at admission and preventive protocol implemented according to score	Reported exposure to violence significantly decreased Severity of violence score significantly decreased	Moderate

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Touzet et al,[39] France	Assess the impact of a comprehensive prevention program aimed at preventing incivility and verbal abuse against health care professionals working in the ophthalmology emergency department of a university hospital	Quasi-experimental (Single-center prospective interrupted time-series)	ED admissions (22,107) Violent Acts (376)	Multicomponent	Computerized triage algorithm to prioritize patients. Signage to help patients navigate, messages providing patients with general information (ie, ED team and activity, waiting times) Mediator present to intervene when patients showed signs of impatience and in the case of conflict Video surveillance	Significantly decreased incidence of violence; biggest decrease occurred after computerized triage algorithm (first intervention)	Moderate
Wu et al,[41] Taiwan	Reveal the benefits of designing simulation training courses that can aid health care personnel in responding to ED violence	Quasi-experimental (Pre-post)	Nurses, physicians, security guards, and social workers (34)	Education	Situational Simulation Training for ED violence provided lectures on how to identify and approach WPV followed by experiential training with situational simulations.	Self-efficacy scores for post-tests were greater than pre-test. Response to WPV score for both post-tests were greater than pre-test.	Moderate

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Baig et al,[24] Pakistan	Assess the effectiveness of training in prevention, de-escalation, and management of violence in health care settings	Quasi-experimental (Control group)	Physicians, nurses, medical students (141)	Education	4-hour de-escalation training comprised 4 modules using varied teaching methodologies.	Confidence in coping with violence significantly higher in intervention group No difference in frequency of violence between groups	Moderate
Geoffrion et al,[30] Canada	Assess the impact of the Omega Program for the Management of Aggressive Behaviours training program on the use of seclusion and restraint	Quasi-experimental (Pre-post)	Seclusion and restraints (880)	Education	Omega training delivered by security peer trainers to employees (4 days), to reduce dangerous behaviors from patients toward self or others and focus on skills and intervention methods	Seclusion and restraint use possibly unaffected by intervention in the emergency department	Moderate

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TABLE 1
Continued

Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Hemati-Esmaeili et al,[31] Iran	Plan a workplace violence prevention program to reduce the level of patients' and their families' violence against nurses	Participatory action research (Pre-post)	Nurses (49)	Multicomponent	3-day education for nurses on identifying, preventing, and managing instances of violence A new role, violence prevention nurse, with specific responsibilities for preventing and handling violent incidents Patients presented with written guidelines on reception and prioritization of patients Guiding policies on treating aggressive patients, educational posters and fliers with instructions on communication	Significant decrease in incidence of verbal abuse, mobbing/ bullying No significant decrease in physical violence Significant decrease in mean score of nurses' fear of violence	Moderate

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Kalbali et al,[32] Iran	Determine the effect of anger management training on controlling the perceived violence and aggression of nurses in emergency departments	Quasi-experimental (Control group)	Nurses (112)	Education	4-hour educational workshop on violence and aggressive behaviors and communication using varied teaching methodologies For 2 months after the workshop, nurses received a training note (textual, visual, or audio) every 3 days covering workshop contents.	Intervention group had significantly decreased physical and sexual violence; verbal abuse had no significant difference. Control group had no significant difference in physical or sexual violence; significant increase in verbal abuse.	Moderate
Winokur et al,[40] USA	Improve timeliness of care for the behavioral health population, reduce acts of aggression and use of restraints	Quality improvement	Nurses (125)	Policies and procedures	A standardized procedure allowed nurses to perform functions that would otherwise be considered the practice of medicine (ie, assessing patients for anxiety and agitation and selecting medication based on assessment scores).	Decreased restraint episodes and length of time in restraints Decreased average time to first medication Employee injuries unchanged Initial decrease in significant aggression or violence, slight increase in second year	Moderate

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Gillam,[42] USA	Evaluate the nonviolent crisis intervention training, its impact on reducing violent events in the emergency department, and the training investment	Quality improvement	ED visits (76,246) Emergency responses (111)	Education	8-hour nonviolent crisis intervention training program on skills for identifying and de-escalating crisis-related behaviors	Lower incidence of security team responses to violence after some delay, and effects of training seem to wane after 6 months.	Low
Gillespie et al,[43] USA	Test the effectiveness of a comprehensive program to reduce the incidence of assaults and physical threats against emergency providers by patients and visitors	Quasi-Experimental (Control group)	Direct patient care providers (209)	Multicomponent	Environmental changes, policies and procedures, and education and training (online and classroom)	Both intervention and control sites had a significant decrease in assaults and threats.	High

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TABLE 1
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Reference, country	Study aim	Study design	Sample (sample size)*	Type of intervention	Intervention	Findings	Critical appraisal
Henderson and Colen-Himes,[44] USA	Describe how a hospital addressed WPV by designing a safer emergency department	Quasi-experimental (Pre-post)	ED staff (42)	Multicomponent	8-hour crisis management training on de-escalation and escape techniques Assessing/ identifying patients for risk of violence A violence management procedure was developed. Policy issuing complementary bus passes and cab vouchers implemented. All ED entrances restricted to card and code access by staff. Increased presence of security at entrance and patients/visitors enter through metal detectors.	Staff reported feeling safer after training	Low

ED, emergency department; HCP, health care provider; significant, statistical significance; WPV, workplace violence.

* Sample size conveys information about the number of study participants, ED visits/admissions, and/or WPV-related events.

France.[39] All studies were conducted in urban emergency departments, including general emergency departments,[24-29,31-34,36-44] psychiatric emergency departments,[30,35] and an ophthalmological emergency department.[39] Two studies had interventions that were set in emergency departments and other hospital units,[24,30] and 2 others focused on behavioral health patients within the emergency department.[34,40] Thirteen studies used quasi-experimental designs,[24,25,29,30,32,33,36-39,41,43,44] and 6 were conducted as quality improvement projects.[26,28,34,35,40,42] Additionally, there was 1 randomized control trial,[27] and 1 participatory action research project.[31] Only 5 studies included a control group.[24,27,29,33,43] The target population for the intervention(s) in 17 studies was ED staff,[24-28,30-36,38,40-43] with 9 of these studies focusing specifically on nurses.[25-27,31,32,34,36,38,40] Three studies targeted both patients and ED staff with their interventions,[37,39,44] and a single study focused directly on ED patients.[29]

Strategies for mitigating WPV varied in types and number of approaches used and the timing of the intervention in relation to the violent event. Seven studies implemented a multipronged approach,[31,35,37-39,43,44] and 14 used single component interventions.[24-30,32-34,36,40-42] In terms of the intervention timing in relation to a violent event, 13 studies implemented strategies aiming to reduce violence before it occurs, such as staff training and patient screening.[24,25,27,29,30,32,33,37,38,41-44] Two studies implemented interventions during violent events to de-escalate the situations,[26,28] and 6 studies had interventions directed before and during violent events.[31,34-36,39,40] Additionally, 2 studies included post-violence reviews/debriefings as part of their interventions.[31,35] Outcome data for the included studies were mostly collected from staff[24,27,31–33,38,43,44] or patient records.[25,26,28,30,34,39,40] A single study collected data from waiting ED patients and visitors through a survey.[29] Most used a single data source,[25-34,38-40,43,44] and a few used multiple sources.[24,35,36,41,42] Finally, although basic demographics such as age and gender were commonly reported, there was generally little information concerning characteristics that may pertain to inequity, as presented in the PROGRESS-Plus framework.[21,22]

Review Articles

The 3 review articles were published in 2016, 2017, and 2021. Two articles were systematic reviews,[16,45] and the third did not specify a review method.[46] The total number of articles reviewed ranged from 8[45] to 15,[16] and the search dates spanned from 1985 to 2021. None of the review articles included gray literature searches. Two of the reviews systematically assessed the quality of their included articles. One review[16] focused on evaluating preventive measures, the second[45] focused on the effectiveness of nonpharmacological interventions, and the third[46] aimed to review and evaluate response programs for WPV (see Table 2).

FINDINGS FROM INDIVIDUAL STUDIES

The interventions were categorized according to whether they included a single or multicomponent approach and then further broken down into the type(s) of intervention: patient screening and assessment, education (comprised classroom, online, and simulation training), response teams, modifications to the environment, and policies and procedure changes. Many studies used multicomponent interventions that involved a combination of education/training, screening for risk of violence, staffing changes, and/or environmental changes within the emergency department. Education interventions were commonly delivered using a variety of strategies such as online modules, classroom learning, and simulation training that varied in length from a single 4-hour session[24,32] to multiple days.[30] Studies that implemented screening to assess patients/visitors for risk of violence used different screening tools with training to support the tools. A small number considered the perspectives of patients in their interventions, improving signage and information available to waiting patients.[29,31,37,39] Findings from studies on single component WPV interventions are presented first, followed by the findings from studies with multiple component WPV interventions.

Single Component Interventions

The single component interventions are described within 4 groupings: education and training, policies and procedures, violence screening and assessments, and other interventions.

Education and Training. Of the 14 studies that implemented single intervention approaches to address WPV from patients and visitors in emergency departments, 7 implemented some type of education to reduce WPV.[24,27,30,32,34,41,42] A 4-hour intervention focused on de-escalation training with physicians, nurses, and medical students in Pakistan found the intervention group's confidence in coping with violence was significantly higher than the control group's confidence after 4 months.[24] Testing the same intervention, Khan et al[33] found no significant difference between the intervention

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TABLE 2
Characteristics of the included review papers

Reference	Study aim	Study design	Date range of search	Databases searched (N)	Studies reviewed (N)	Included critical appraisal	Findings and recommendations	Critical appraisal
Wirth et al[16]	Summarize the existing evidence from evaluation studies on the prevention of patient-on-employee violence and aggression in emergency departments, where the purpose of the studies was to reduce the frequency of violent incidents, to increase knowledge, skills, or awareness related to violent incidents, or to help ED staff feel safer and more at ease	Systematic Review	January 1, 2010, to May 31, 2021	MEDLINE, Web of Science, Cochrane Library, CINAHL, PsycINFO (5)	15	Yes	Studies mostly showed some positive impact of behavioral and multidimensional interventions on the reduction of violent incidents from patients toward ED staff or the preparedness of staff to deal with violent situations. Studies of high methodological quality and ones that consider environmental and organizational interventions are needed	High

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TABLE 2
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Reference	Study aim	Study design	Date range of search	Databases searched (N)	Studies reviewed (N)	Included critical appraisal	Findings and recommendations	Critical appraisal
Weiland et al[45]	Systematically review the efficacy of nonpharmacological strategies for acute behavioral disturbances management within emergency departments that involved changes to environment, architecture, policy, and practice	Systematic Review	January 1, 1985, to April 21, 2016	OVID MEDLINE, CINAHL Plus, PsycINFO, Embase (4)	8	Yes	Studies reporting interventions for acute behavioral disturbances within the emergency department are limited in number and quality. Gap in the literature regarding the efficacy of interventions for acute behavioral disturbances management in emergency departments involving environmental, policy, or practice-based changes	High
Ramacciati et al[46]	Propose a narrative of the current approaches to reduce WPV in the emergency department, with a particular focus on evaluating the effectiveness of the proposed emergency response programs	Review type not specified	January 1, 2011, to December 7, 2015	PubMed, CINAHL (2)	10	No	Studies that have attempted to evaluate the effectiveness of interventions have shown weak evidence. Further research is needed to identify effective actions to promote safe ED work environments	High

ED, emergency department.

and control groups in incidents of violence; however, participants who received the de-escalation training reported significantly greater confidence in coping with patient aggression than the control group participants.[33]

Geoffrion et al[30] assessed the impact of a more intensive, 4-day program on management of aggressive behaviors for ED employees led by security agent peer trainers. The researchers found no statistically significant differences in the use of seclusion and restraints before and after the intervention.[30] A randomized controlled trial in Taiwan evaluated the effects of a 12-session program of 1-hour video conferences for nurses and found intervention participants had increased confidence and self-efficacy in managing violence compared with the control group.[27] Using varied teaching methods in a 4-hour workshop for nurses, Kalbali et al[32] found the intervention group had a significant decrease in reported physical and sexual violence 2 months after the workshop, but no difference in verbal abuse. Comparatively, the control group had no significant difference in reported physical or sexual violence and reported a significant increase in verbal abuse.[32]

A quality improvement study that used incident data to evaluate nonviolent crisis intervention training found the incidents of security team responses to violence decreased after an 8-hour interdisciplinary session focused on identifying and de-escalating violence; however, the negative correlation between training and incidents of security team responses was delayed (approximately 90 days) and then appeared to wane after 6 months.[42] The researchers suggested this finding may indicate a single training session is inadequate and suggested repeating sessions semi-annually. Wu et al[41] examined the benefits of simulation training with interdisciplinary learners for responding to WPV from patients and visitors. The education involved lectures followed by experiential training with situational simulations and demonstrated an increase in participants' self-efficacy for responding to violence.[41]

Policies and Procedures. Two United States studies evaluated policy and procedural changes. Bailey[25] implemented an evidence-based guideline to train nurses on recognizing and de-escalating assaultive behaviors to prevent violence from occurring. A significant decrease in restraint use was found 4 weeks after compared with 4 weeks before implementation.[25] Similarly, Winokur et al[39] found a decrease in restraint use after implementing a standardized procedure for nurses to assess patients' agitation and administer medication accordingly.

Violence Screening and Assessments. Three studies implemented violence screening and assessments. In Australia, Senz et al[36] implemented the 6-item Brøset violence checklist to assess patient characteristics and behaviors along with a corresponding score-based notification and response matrix of multidisciplinary de-escalations strategies. After the checklist was implemented, a significant decrease in unplanned responses by security personnel (ie, reactive) and an increase in planned responses (ie, proactive) were found.[36] Notably, use of the checklist had no effect on nurses' confidence in preventing violence or feelings of safety.[36] Legambi et al[34] used the Behavioral Activity Rating Scale, a 7-item instrument, for detecting changes in patients' behavioral activity to improve management of agitation and reduce restraint use. No significant difference in the incidents of restraint use was found after the Behavioral Activity Rating Scale was implemented.[34] Using quality improvement methods, Campbell et al[26] tested the Emergent Documentation Aggression Rating Tool to help nurses identify and intervene with escalating patient behaviors and reduce use of restraints. This screening tool was used on all patients at minimum at admission and discharge and classified patient behaviors based on levels of aggression.[26] The tool was deemed to be feasible for nurses to use and showed a decrease in restraint use 1 year later.[26]

Other Interventions. Finally, 2 studies had unique single component interventions. Choe et al[28] evaluated the impact of a multidisciplinary violence response team to assess, de-escalate, and treat acutely agitated patients on reducing the incidents of assaults on staff. The response team intervention significantly reduced the incidents of attempted assaults on staff.[28] The other intervention focused on environmental changes that provided patients and visitors with information about wait durations and ED procedures through large signs and pamphlets.[29] This study found these strategies were likely to reduce aggression, but only up to the point that the anticipated wait time was not exceeded.[29]

Multicomponent Interventions

Seven studies implemented a collection of strategies to address WPV in the emergency department.[31,35,37-39,41,43] Gillespie et al[43] found a significant decrease in violence 9 months after implementing policy changes, environmental changes, and education; however, this decrease was observed in both the intervention and control groups rendering the effects of the intervention uncertain. With an education component, as well as distributing information about ED guidelines to patients and creating an additional nursing role focused on preventing and addressing violence,

Hemati-Esmaeili et al[31] found no change in physical violence yet did observe a decrease in verbal abuse against nurses and nurses' fear of violence.

With a multifaceted approach, including screening and communicating risk of violence to the staff through chart labels and shift huddles, as well as postincident debriefing, Okundolor et al[35] found a decrease in the number of assaults on ED staff, which was sustained for a year. Shaikh et al[37] also evaluated a comprehensive approach of low-cost interventions including patient materials, education, and policy changes, in 2 sites, which resulted in decreased physical violence at both sites. Combining education with a screening checklist and a preventive protocol, Sharifi et al[38] found that nurses' reported exposure to violence decreased and subsequently recommended that violence screening be integrated into the triage process. Henderson and Colen-Himes[44] implemented an education session on crisis management and introduced new procedures to reduce overcrowding. After attending the education session, staff reported an increased feeling of safety.[44] Additional interventions such as a risk assessment tool, enhanced security (ie, metal detection), and providing patients with food and means for transportation from the emergency department were also implemented; however, there were no details about the effectiveness of these additional measures on reducing WPV from patients and visitors.[44]

Finally, in the context of an ophthalmological emergency department, Touzet et al[39] found a significant decrease in acts of violence after implementing a comprehensive program that included a computerized triage system, video surveillance, increased signage, and the addition of a mediator in the emergency department. Notably, in this prospective, interrupted time-series study, the biggest decrease in violent acts occurred after the first intervention: the computerized triage system.[39]

FINDINGS FROM REVIEW PAPERS

The 3 review papers all concluded that the body of evidence concerning interventions to address WPV from patients and visitors in the emergency department is lacking. Ramacciati et al[46] called for further research, describing the existing body of evidence concerning approaches to reduce WPV in the emergency department as weak. The systematic review conducted by Weiland et al[45] identified a particular gap in the literature about interventions that address WPV through environmental, policy, and practice-related changes. Most recently, Wirth et al's[16] systematic review evaluating studies focused on preventing violence found that although most studies showed some positive impact, again, the methodological quality was lacking. Additionally, Wirth et al[16] called for a greater focus on environmental and organizational interventions, as opposed to those focused on individual behaviors such as educating individual staff on how people act in circumstances of violence.

Discussion

This review examined the evidence on the effectiveness of interventions for addressing WPV from patients and visitors toward staff in emergency departments. The articles included in the review identified a variety of strategies to consider in efforts to mitigate WPV in emergency departments; however, there was no strong evidence to definitively support a particular strategy. Education or training is frequently implemented to reduce violence,[24,27,30,32,34,41,42] yet the details of how these sessions are conducted, such as the content and how it was delivered, were sparsely reported in the literature, making it difficult to discern and replicate what is truly effective. In addition, studies were often lacking a longer-term follow-up,[16,46] making it challenging to determine the impact of training on participants' subsequent actions to prevent and manage violence on an ongoing basis in the emergency department. For example, in Gillespie et al,[43] despite having an 18-month study period to evaluate a comprehensive intervention, questions remained regarding the organizational commitment and adoption of interventions, and the authors called for ongoing evaluation, feedback, and revision to continuously endorse safety as a top priority in the emergency department.

Although practices of screening for violence may lend themselves to quantitative evaluation most easily, these interventions were often tied to follow-up preventive measures that were minimally described in the literature,[26,34,36] providing limited guidance on implementation. The variety of measures found in the reviewed articles, such as providing patients with information about ED processes and wait times, changing the ED physical space, and altering ED staff roles to include staff focused on violent behavior, were often combined with other interventions as part of a more comprehensive approach.[37,39,43,44] A combination of strategies may prove to be more effective than a single intervention; however, it was difficult to discern the effects of each strategy individually. Finally, issues that may be interconnected with instances of violence, such as cognitive impairments, socioeconomic inequities, or racial violence, were rarely considered. Future efforts to address WPV must take these contextual aspects into account to effectively address safety within the emergency department.

RECOMMENDATIONS

Overall, we recommend a multicomponent approach that considers the context and complexity of the ED setting to mitigate WPV from patients and visitors. We did not find compelling evidence to support any individual strategies to addressing WPV; however, there is value in considering the collective findings and conclusions among the reviewed studies. These insights can inform recommendations for taking action to address WPV from patients and visitors toward ED staff and direct future research on this topic. Experts and professional organizations have recently produced recommendations to address WPV in emergency departments that could also direct actions to mitigate WPV.[6,47]

The sustainability and long-term effectiveness of an intervention are an important aspect to consider when taking action to mitigate WPV. It is imperative that the onus for addressing WPV does not fall solely on ED staff. Interventions should be minimally taxing on ED staff, who are already addressing the demands of their high-intensity work. Given the constant and often exceptionally high demands in ED settings, efforts to address WPV must be dynamic to adapt to the circumstances in which staff are currently working. Efforts need to focus on promoting and maintaining a safe environment for staff and preventing WPV before it occurs, as well as introducing adaptable measures for responding to higher intensity situations where there is increased risk of WPV and injury. The cumulative impact of repetitive exposure to violence, particularly verbal abuse, warrants serious consideration because this may be more subtle, yet the impact is significant.[48] Additionally, given the historically persistent nature of WPV, interventions ought to be deeply integrated into the operations of an emergency department, rather than episodic "fixes," the effects of which may wane over time.

A comprehensive approach to mitigating WPV should consider the progression of violence and focus on prevention, de-escalation, and debriefing and also target the multiple groups within the emergency department (ie, leadership, interdisciplinary care providers, security personnel, and patients and families). Strategies to mitigate WPV from patients and visitors that have evidence of some effectiveness include education (for both staff and patients/visitors), screening patients/visitors for risks of violence, staffing modifications, and environmental changes to the ED setting. Education-focused interventions need to address participants' feelings, emotions, and attitudes and teach preventive measures and behavioral training in responding to violence.

Moreover, interventions to address violence should consider patient perspectives and experiences. In the process of conducting this review, the contributions of the patient partners were both valuable and unique. Involvement of patients as partners in research teams has been shown to enhance research rigor, feasibility, and relevance.[49] In designing the search and analyzing the data, patient partners identified areas such as cultural sensitivity, social determinants of health, and empathy and understanding for the patient and family in the care context as key factors related to WPV that were often unaddressed in the reviewed articles. Overall, to be effective, efforts to mitigate violence should take into account the perspectives of patients and families and consider the systemic challenges faced by populations that experience marginalization and discrimination.

This review's findings indicate more rigorous research is needed. The effectiveness of interventions should be evaluated using multiple data sources that are collected over an extended period of time, including incidents of WPV, patient and provider perspectives, and additional measures such as wait times, staff turnover, and days and times that WPV is most prevalent. Using more robust investigative methods will produce more definitive insights into what interventions are the most effective and in what circumstances, to help nurse and other health/clinical leaders establish best practices that ensure staff safety.

Limitations

This study has notable limitations. Our findings may be relevant to other urban ED settings, yet not entirely generalizable. The rapid review method is ideal for addressing the needs of a particular context, and the specific needs and context of the knowledge user within our research team guided the search strategy and eligibility criteria. Given the short timeline of this rapid review (6 months), the gray literature search was limited to articles retrieved by the Google Scholar search and is not presumed to be exhaustive. The search was also limited to articles published in the last 10 years based on guidance from the content expert, academic librarian, and knowledge user and published in English only, in accordance with the rapid review approach.[18]

Implications for Emergency Nurses

Nurses are integral to delivering quality patient care in the emergency department, and it is incumbent upon nursing leadership to ensure the environment is safe for nurses to perform their professional duties.[47] WPV from patients

and visitors is a concern for staff in the ED setting, and strategies such as screening tools, education on de-escalation, and environmental changes, including increasing security and providing patients/visitors with expected wait times, have been implemented as mitigation strategies with varying effects. This rapid review synthesizes the recent body of evidence related to mitigating or preventing WPV in urban emergency departments. Although a variety of interventions have been implemented to reduce violence in the emergency department, there is limited evidence to support the effectiveness of any single and/or combination of interventions. More research is needed in this area. Since this review was initiated, the knowledge user has been working on several changes in their emergency department to decrease the incidence of violence, including providing education, refining screening and care plans for those at increased risk of violent behaviors, and re-designing the triage, waiting, and treatment spaces to enhance layers of defense (ie, using bulletresistant materials, purposefully locating security personnel, increasing accessibility of exits).

Conclusion

This rapid review synthesized recent evidence on mitigating WPV from patients and visitors toward staff in ED settings. Findings are disparate, lacking clear, concise direction as to effective interventions. A variety of strategies to address this type of WPV have been evaluated in the literature with positive results, suggesting the need for a multipronged approach. Given the complexities of patient care in this setting, interventions that target staff, patients/visitors, and the ED environment are necessary. Further research, with more rigorous methodologies, is needed to evaluate the effectiveness and sustainability of interventions for mitigating WPV in the emergency department. Additionally, it is imperative to integrate the perspectives of patients and family members and account for the multiple stressors associated with seeking emergency care. Finally, interventions should be designed and implemented with attention on systemic enablers of inequity that may contribute to aggressive behaviors from patients and visitors during ED encounters.

Author Disclosures

Conflicts of interest: none to report.

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Supplementary Data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.jen.2023.03.002.

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