



A Review and Evaluation of Workplace Violence Prevention Programs in the Health Sector

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Submitted by:

Co-Principal Investigators

Dr. Sping Wang
Nursing Health Services Research Unit
University of Toronto

Co-Investigators

Dr. Laureen Hayes
Nursing Health Services Research Unit
University of Toronto

Dr. Linda O'Brien-Pallas
Nursing Health Services Research Unit
University of Toronto

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EXECUTIVE SUMMARY

Workplace violence is an unfortunate reality in the lives of Canadian health care workers, with evidence suggesting that incidence rates in Canada are significantly higher than other countries with similar models of health care. It is defined by World Health Organization¹⁵⁴ as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation”. Workplace violence is often considered part of the job in the health sector and has therefore been more frequently overlooked than in other sectors until recently. Nurses in particular are at risk of being physically and emotionally abused at work.

It is clear that there is an immediate need for effective programs to reduce workplace violence towards nursing staff in Canada. This study involved a comprehensive literature review of workplace violence prevention programs utilized in health care and in nursing practice in particular, and an evaluation of the effectiveness of these prevention programs on their impact on the incidence of violence. The objectives of the study were to: 1) analyze and synthesize the research literature which proposes or evaluates the impact of workplace violence prevention programs, and 2) develop recommendations for a comprehensive approach towards violence reduction. The report’s findings will provide the framework for program initiative recommendations to be considered by policy makers. Additionally, areas in need of further study will be suggested on the basis of gaps revealed in the literature review.

Study procedures involved conducting a literature search for articles relating to workplace violence prevention programs. Collected articles were categorized on the basis of prevention programs discussed or evaluated (e.g., education/training, risk assessment, zero tolerance, etc.). Qualitative analysis of evaluation studies was conducted using NVivo software. Of the 218 journal articles produced from the literature search, 97 were review articles, 78 made suggestions of prevention programs in the discussion section, and 43 were evaluation studies of prevention programs.

According to the reviewed literature, patients constituted the main source of all types of violence, and co-workers were an important source of non-physical violence. A number of risk factors that have been linked to workplace violence include patient characteristics (e.g., substance abuse, mental health conditions), nurse characteristics (e.g., age, level of nursing experience), organizational factors (e.g., understaffing, night shifts, culture and climate of work environment), physical design of work environment (e.g., poor security, inaccessibility, crowding), and community and social factors. Understanding contextual factors to workplace violence incidents is vital to curb violence against health care workers when conducting a risk assessment.

The literature identified two broad categories of workplace violence prevention strategies:

- a) **pre-incident strategies**, which capture *legislation/management* (e.g., zero tolerance policies, organizational policies, work design), *the environmental design of the work environment*, *education and training* on the management of workplace violence; and
- b) **post-incident strategies**, which include some *administrative functions* (e.g., incident reporting) and *psychological intervention* for affected staff (e.g., CISD, counseling).

The main tenet of a zero-tolerance policy is that workplace violence in any form is unacceptable. It is suggested in the literature that implementation of a zero-tolerance policy may have a negative impact on the staff's confidence and skills in dealing with aggression.

Individually focused strategies to reducing violence typically involve educating staff on recognizing the warning signs of violent behaviour, preventing, diffusing, or resolving violent conflicts, familiarizing staff with organizational policies and procedures, as well as their legal rights and responsibilities. Post-event strategies also have a preventative role, given that appropriate intervention can avert future incidents. Previous studies have stressed the importance of continuous monitoring of violent events, seeing this as a necessary prerequisite for better understanding the violence and the establishment of prevention programs.

Many of the evaluation studies used questionnaires to measure educational impact of training sessions directed at prevention of violent or aggressive behaviour. Some measured perceptions of confidence or feelings of self-efficacy in management of aggressive patients. In these studies, participants were mostly small samples of nurses (registered and/or practical) and/or nursing aides, at times convenience samples of staff members who are exposed to risk of violence. Study settings were often hospital acute care psychiatry units exhibiting high rates of violent behaviour. Studies were often quasi-experimental with a pre-test/post-test design; however, not all of these studies employed control subjects in measuring impact of the intervention.

Studies that measured program impact on managing aggressive behaviour generally found positive changes in test scores and observed behaviour following training. Increased knowledge test scores reflect positive learning outcomes including risk factor identification, informed attitude changes and management of aggressive behaviour. The evidence suggests that relevant training programs also promote increased feelings of confidence in managing aggressive clients. As to training's impact on incidence of violence, most but not all evaluation studies found a reduction in incidence of reported violent episodes. It was suggested that training may serve as a form of encouragement to report violent events by creating a more accepting, non-punitive attitude regarding violence towards staff. Despite its overall positive effect, there were concerns over the over-emphasis on training in curbing workplace violence as it places the burden of minimizing and managing violence onto the shoulders of individual nurses after training.

Important methodological limitations of the evaluation studies were identified. Sample sizes were small and often self-selected. In addition, study settings were typically small-scale and often involved only one or two organizations as study sites. With the additional limitation of low response rates, generalization outside assessed groups was usually not possible.

Recommendations

Policy

- A clear organizational policy towards workplace violence is a necessary antecedent for a prevention program to be maximally effective. The presence and publication/dissemination of a policy lets the employees know that management is committed to reducing violence in the workplace.
- Although zero-tolerance policies have been recently adopted by several health care organizations, caution should be taken in this approach. There is difficulty with fully implementing the 'zero tolerance' approach as it implies an attitude of punishment toward any aggressive behaviour, thereby negatively impacting aggression management.
- The great diversity of health care itself requires that the development of a policy towards workplace violence encompass all of employment situations. For example, policies for

community care should be developed to address particular risks associated with that sector.

Risk Assessment and Environmental Modifications

- Prior to the implementation of any workplace violence prevention program, a risk assessment should be completed. Integration of effective threat and risk assessments will help to ensure that any interventions that are employed will be best suited to the particular situation. They can also highlight any necessary environmental modifications that may curb violence, and address how management and administrative practices can reduce violence.
- Frequency of assaults may be associated with a broad range of factors including staffing levels. Work reassignments, short staffing and temporary staffing have been associated with increased incidents of violence in health units.
- A risk assessment highlights the importance of accurate documentation of incidents. This documentation is invaluable to substantiate the need for novel programs and the identification of action plans. Some staff members view incident reporting as an implicit admission of professional failure. Risk assessment and a commitment from management demonstrate that the antidote to denial and resistance to incident reporting is a continual effort to learn from incidents and to provide timely feedback. However, incident tracking and high-risk patient identification are only part of a larger violence reduction initiative and requires organizational commitment to coordinate the components⁴¹.

Training/Educational Strategies

- Nurses need to be empowered to build confidence in their ability to manage potentially violent situations. This is best accomplished through aggression management programs and frequent refreshers that involve several components:
 - Methods for recognizing and identifying potentially violent situations
 - De-escalation strategies and other verbal engagement strategies for defusing potentially violent situations
 - Where appropriate, physical self defense techniques and patient restraint methods
 - Incorporation of aspects of risk assessment (i.e., environmental security processes)
- Leadership training needs to be provided to supervisors. This includes training in recognizing conflicts and in conflict resolution skills, the importance of early intervention, and supervisory/coaching skills.

Organizational Intervention

- Organizations need to take on a more active role in organizational change including staffing, workload, work culture and climate. High priority should be given to organizational intervention in preventing workplace violence.
- Work design modifications include increasing autonomy, enhancing communication about job duties and expectations, and clarifying supervisory chains of command.

Horizontal Violence

- A comprehensive policy for reducing workplace violence cannot exclude horizontal violence. A number of factors have been identified that affect the work climate and that may contribute to bullying and harassment in the workplace:
 - Lack of role clarity
 - Low job control or autonomy
 - Poor social support
 - Poor communication
 - Ineffective leadership/supervision
 - Strained and/or competitive work environments

- Impending changes in the workplace have all been associated with higher levels of staff conflict, stress/burnout, turnover, and psychological and physical health complaints

Evaluation Research

- There is a need to collect longitudinal measures in order to assess the extent to which training effects may dissipate over time to identify optimum periods for providing refresher training.
- Future research needs to investigate effects of training on the number, type and severity of aggressive incidents, the number of assaults and injuries to staff as well as financial costs to organizations as a result of sick leave and overtime to replace injured staff.
- Sophisticated evaluation studies are needed based on designs employing larger samples and control groups, and allowing for the use of advanced statistical techniques so to properly examine the effectiveness of prevention programs.
- A national database should be developed using consistent operational definitions of workplace violence events.
- The majority of research on workplace violence prevention is focused on education and training program evaluation. Other aspects of violence prevention have not received the same level of attention and little is known about their effectiveness in isolation or their impact on the effectiveness of the training programs.
- Evaluation studies should include comparisons of different programs to see which one has the greatest relative utility.

Other Recommendations

Several implications that are highlighted in the reviewed studies and that can be considered in development of recommendations for workplace violence prevention programs are as follows:

- *Human Resources.* Positive results of interventions should be considered within a broader context of human resources. Studies have suggested a relationship between reduction in aggressive incidents and human resources policies including support and educative initiatives such as clinical supervision, an increase in regular permanent staff, and retention of experienced staff members, who tend to display greater tolerance attitude and better violence management skills.
- *Faculties of Nursing.* The literature has, for the most part, focused on nurses who are already in the workforce. However, given the high likelihood that student nurses will be exposed to workplace violence (either during their educational program or once they graduate), it would be prudent for nursing programs to develop awareness training in the identification and management of workplace violence.
- *Sector specific interventions.* Prevention strategies need to be sector specific, especially in sectors such as long-term care home care where workers are not as prepared as nurses in the hospital.
- *Violence-type specific interventions.* Develop programs that are violence-type specific so as to prepare health care workers to handle different types of violence situations ranging from assault, emotional abuse, to sexual harassment. For example, a zero-tolerance policy, inappropriate for external violence, may be effective in the case of horizontal violence.

A Review and Evaluation of Workplace Violence Prevention Programs in the Health Sector

INTRODUCTION

Violence in the workplace is a serious and growing occupational hazard for health care workers in general and for nurses in particular. Nurses have the highest risk of being physically assaulted and emotionally abused at work in comparison to other health professionals. Policy makers, practitioners, and health care workers call for preventive actions to be taken to reduce workplace violence. This report will first give an overview of the workplace violence in the health sector, followed by a literature review of prevention programs that have been proposed and an evaluation of the effectiveness of the prevention programs. We will conclude the report by making recommendations to policy makers and practitioners for future directions of prevention programs based on the gaps identified in the literature and the evaluation analysis. Although nursing is the primary focus of the report, the review and discussion will extend to literature on general health care workers. The terms patients, clients and care recipients are used interchangeably in this report.

CONTEXT

Workplace violence toward health care workers and nurses in particular is not a new phenomenon. But only recently has workplace violence been recognized as a serious occupational hazard in health care that needs to be addressed by management and policy makers^{89, 129}. This section will put the issue of workplace in context, providing an overview of workplace violence in health care, including its definition, prevalence, and contributing factors, with an emphasis on the Canadian context.

Definition

Workplace violence, as defined by World Health Organization, is “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation”^{151, 154}. This definition highlights that workplace violence consists of not only physical violence such as assault/attack, but also nonphysical violence including verbal abuse, bullying/mobbing, sexual or racial harassment, and threats^{110, 155}. While public attention tends to be drawn to physical violence due to its potentially fatal nature, the study of non-physical violence is of equal importance because of its prevalence and its role as a preceding factor to physical violence⁸⁴.

Violence in the health care workplace can also be classified by source or perpetrator type, including

- 1) external violence, perpetrated by people outside of the organization with a criminal intent;
- 2) client-initiated violence, initiated by patients, or patients’ families against health care providers; and
- 3) horizontal or internal violence, perpetrated by co-workers, supervisors and other health care workers^{23, 101}.

More commonly seen in health care research, however, are sources categorized in the following types: patients, family/visitors of patients, physicians, co-workers, and other. In nursing, while the

primary sources of verbal and physical aggression and assault are mostly patients and family/visitors of patients, horizontal violence perpetrated by coworkers and physicians is a large source of non-physical violence, responsible for more than half of the emotional abuse and verbal harassments⁷⁰.

Incidences: Magnitude of the problem

How prevalent is workplace violence in the health sector and in nursing? Studies based on the incidence or prevalence of workplace violence have depended on either survey data^{47, 84, 115} or secondary data such as incidence reports^{18, 121} and Worker's Compensation Claims^{48, 92}. Because of these methodological differences, it is difficult to draw conclusions or make comparisons across occupational groups, sectors, or countries of the extent of workplace violence. Factors identified include varied definitions of violence used, time period of the violence observed (e.g. entire career, last year or last few shifts), sector-specific or non-sector specific focus (e.g. psychiatric hospital, emergency department, or overall), sample size (e.g. region-wide or a single hospital), and data source (incident rates derived from injury or claims data, or prevalence based on survey sample). A review of the literature on the prevalence of workplace violence, however, results in a general consensus about the following points relating to the magnitude of the problem.

Nursing and other health care professions: high-risk occupations

Workplace violence in the health sector is often considered part of the job, and has therefore been more frequently overlooked than in other sectors until recently. Nonphysical violence is far more prevalent than the physical violence, and is more likely to occur to health care or other service sector workers than workers in other sectors⁷¹.

Although violence is an occupational hazard in all industries, health care workers are at higher risk. Violence in the health sector constitutes almost one quarter of all violence at work, with half of all health care workers affected¹¹⁹. According to the British Columbia Workers' Compensation Board, health care workers experience acts of violence more often than any other group of workers in the province, and account for 40% of all violence related claims despite making up less than 5% of the workforce. A US study showed health care workers were 16 times more likely at risk of violence than any other service workers⁴⁵. Another study found that assault rates among health care workers such as nurses and personal care workers were more than ten times higher than that of workers in private, non-health care industries⁷¹. In the UK, it is estimated that health care workers were 3-4 times more likely at risk for assaults and threats than average workers across all occupations. Moreover, nurses are at the highest risk -- three times more likely to be victims of violence than any other health care personnel. Their risk of being a victim of workplace violence is close to that of prison guards and police officers⁸². The 2000 British Crime Survey showed the likelihood of nurses being assaulted is second only next to security and protective services occupations, and the risk for threats of violence is above the average²¹. The study also showed that nurses ranked second to security and protective services, with 54% very or fairly likely to be a victim of threats and 31% to be a victim of assaults²¹.

Workplace violence incidents under-reported

Under-reporting of violence at work is a major issue in the health sector^{49, 81, 88, 99}. According to International Council of Nurses, only one fifth of violence related cases are officially reported¹¹⁹. In Canada, a survey of hospital RNs in Alberta and British Columbia showed that only 30% of nurses experiencing violence admitted reporting the incident of violence^{43, 44}. Another study concluded that only 5% of nurses assaulted had filed claims with the Ontario Worker's

Compensation Board⁹¹. Reasons for underreporting of assaults and other types of violence, as summarized by Lavack-Pambrun⁸⁵ (pp.61-62), include fear of repercussions if legal action is pursued, a tolerance for workplace violence in practice environments, the perception of violence as “part of the job”, lack of co-worker and manager support, and perceptions of incompetence for being unable to manage a combative client^{43-45, 69, 83, 85, 125, 138, 139}.

Prevalence varied by type, sector, and source

Studies have reported a wide range of incidence rates of workplace violence, between 20%-90%, depending on the definition of violence used, time frame observed, and sectors studied. Findings, however, generally agree that nurses are at the highest risk, especially among those working in psychiatric and emergency departments, followed by ambulatory care, LTC settings, and medical/surgical wards^{24, 70, 116}. Those at least risk for all forms of violence were nurses working in the community sector¹⁰⁵ although the absolute number of incidents of workplace violence is growing in this sector¹⁰ due to the advent of managed care^{56, 85}. Assaults, though severe in consequences, are not as common as non-physical violence such as verbal aggression and emotional abuse. Patients are typically reported as the primary source for all types of violence, although certain studies on verbal abuse revealed physicians were the most common source of verbal abuse¹¹⁹. Emotional abuse, the second most prevalent type of violence, has a diversified group of perpetrators including patients, families, co-workers, and physicians¹¹⁵.

Prevalence of Violence in the Canadian Context

Within the Canadian context, similar findings have been reported, although to a more serious degree. The compensation data of the Ontario workforce between 1987 and 1989 showed the rate of injuries due to violence was 13.9 per 1000 for nurses, which is higher than the general Ontario work force⁹². A national survey of 13,620 nurses across sectors revealed 58% of nurses had experienced some form of violence in the last ten shifts¹¹⁵. The most common type across sector and license type was verbal aggression (55%), followed by emotional abuse (24%), threat (17%) and physical assault (17%). Although the risk of violence was high for professional designations such as registered practical nurses (RPNs), it is largely due to the sectors in which they worked: three fourths of RPNs in long-term care (LTC) and hospital reported verbal aggression and four tenths in hospital reported emotional abuse. Patients were the primary source of all forms of violence, identified by more than 90% of nurses as a source for physical assault and threat, and to a lesser extent for verbal aggression and emotional abuse. Horizontal violence was also prevalent; physicians, co-workers and managers combined are a significant source of violence in the form of emotional abuse and verbal aggression, identified by nearly 50% and 25% of nurses, respectively, as a source for such violence acts.

A regional study based on a large sample of RNs in hospitals in Alberta and British Columbia during the period of 1998-1999 had similar findings^{43, 44, 70}. Nearly half of nurses surveyed had experienced one or more types of violence in the last five shifts worked, with one in five nurses reporting more than one type of violence^{44, 70}. Emotional abuse was ranked the highest (38%), followed by the threat of assault (19%), physical assault (18%) and sexual harassment and assault (8%)⁴⁴. Nurses working in the ER and psychiatric settings were at highest risk of overall violence, but medical-surgical nurses experienced the highest incidence of physical assault (24.2%). Consistent with findings in other studies, patients constituted the main source of all types of violence, and co-workers were an important source of non-physical violence, being responsible for more than half of emotional abuse and verbal sexual harassment. Small-sample case studies of hospital nurses or health care workers had similar findings and reported higher rates when

respondents were drawn from psychiatric settings^{48, 125, 134, 156 1}.

Very few Canadian studies of violence have focused on health care workers in sectors other than hospitals. Among the few that did is a study by Banerjee et al.⁸ on personal support workers (PSWs) in long-term care in Manitoba, Nova Scotia, and Ontario. The study found physical violence was common to PSWs in the long-term care setting; nearly half of these workers encountered it on a daily basis and a quarter on a weekly basis. Non-physical violence included verbal violence, sexual harassment and unwanted sexual attention. Racist comments were commonly cited by respondents⁸.

Trends in workplace violence

A national study of trends in workplace injuries in health care across Canada revealed no change or a slight reduction in injury rates related to violence-related claim rates over time¹⁴⁰. Nevertheless, the generalizability of the findings is limited concerning the severe underreporting of assaults in the health care sector. Studies based on survey, however, showed violence against health care workers is increasing. A report from the Canadian Nursing Agency Committees in a Vancouver Emergency Department (ED) in 1999 showed 68% of employees reported increased frequency of violence over time and 60% reported increased severity of violence¹¹⁹. A retrospective study of 163 ED workers in Vancouver in 1996 also found the level of violence had increased; 68% reported an increase of violence over time and 60% reported increased severity.

Canadian health care workers more vulnerable to workplace violence

A few multinational studies have compared levels of workplace violence between Canadian health care workers and workers of other countries. A study based on survey of 999 nursing staff in psychiatric facilities including Canada, United Kingdom, USA and South Africa found that nurses in Canada were most likely to be physically assaulted during their career (94% vs. 75% for the overall sample)¹²⁵. Another international comparative study of PSWs in long-term care between Canada and Nordic countries with similar public health care infrastructure found that PSWs in Canada were nearly seven times more likely to experience daily violence than in Denmark, Finland, Norway, and Sweden⁸. Canadian health care workers are more vulnerable than health care workers in other countries and endure more violence due to its hostile working environment, which Banerjee et al.⁸ linked to overstaffing.

Contributing Factors

Understanding contextual factors to workplace violence incidents is vital to curb violence against health care workers when conducting a risk assessment. Various factors identified fall into six categories: patient factors, nurse or provider characteristics, organizational factors, physical setting, and factors associated community and society^{35, 38, 39}.

Patient factors: Certain individuals have a greater propensity for violence, such as prior record of violence, history of drug or alcohol abuse, mental disorder, and poor coping skills^{35, 42}.

¹ Poster (1996) found 94% of psychiatric nurses in a tertiary psychiatric hospital reported being physically assaulted at least once during their careers. A study of staff injuries in a teaching hospital in Manitoba showed four fifths of abuse-related injuries occurred among the nursing personnel, with psychiatric nurses having the highest rate of injuries (Yassi 1994). Survey of 106 health care workers in the emergency department at an urban inner-city tertiary care centre in Vancouver showed 57% were physically assaulted. In addition, 68% reported an increased frequency of violence over time, and 60% reported an increased severity (Fernandes et al. 1999). In a study of 225 Ontario health care workers, 67% reported instance of physical violence over the past year, with 89% reporting exposure to aggression and 87% reporting exposure to vicarious violence during the past year (Schat and Kelloway 2003).

^{67, 94}. Patient factors were often the focus of the studies of workplace violence in the past ^{11, 20}.

Nurse/provider characteristics: Studies have consistently shown minority nurses ²⁸ and nurses with lower level job titles ¹¹⁰ are at a higher risk for being victims of violence. Younger, less experienced nurses are also at increased risk ^{7, 60, 96, 103, 147}. The gender difference in the risk of violence is not as clear ⁹⁶, in part because studies have not controlled for the differences in the sector male and female nurses work.

Organizational factors: A wide range of organizational factors have been identified as conducive to violence: 1) *Organizational stressors* such as understaffing and excessive workload leading to unmet patient requests that could irritate patients ^{2, 60, 126, 132}. 2) *Intrinsic nature* of the work such as violence-prone environments including psychiatric hospitals, residential facilities, emergency department, and work schedules in the night shifts ^{25, 29, 103}. The concern over homecare nurses' safety is also on the rise as they work alone in the client's house ⁵¹. 3) *Organizational culture* characterized as detached, impersonal, restrictive and authoritarian (versus autonomous) is likely to increase patients' feelings of frustration. 4) *Work climate* characterized by high coworker support and harmony can reduce risk of violence ²⁹. 5) *Impending workplace changes or restructuring* of health care provisions, such as downsizing, restructuring, or pay cuts, can affect the relationship between health care workers and patients, thereby increasing the risk of violence in the workplace ^{44, 126}.

Physical setting: An increased level of aggression has been associated with the physical setting of the workplace, including poor security, inaccessibility, low visibility of work areas, poor lighting, crowding, etc. ^{2, 36}.

Community: Health care settings are located in communities and therefore factors leading to the destabilization of a community can spill over into the health care setting causing distrust, suspicion, and confrontation between patients and health care workers ³⁵. These include high levels of violent crimes, drug use, gang activity, low levels of community resources, or high poverty rates ^{2, 35}.

Societal factors: Societal factors that have been identified to be associated with the level of workplace violence include changing societal norms around the acceptance of aggression, downsizing of the economy, rising levels of client expectations, the redesign of the delivery of patient-centered care towards managed care, and increased level of acuity of patients ³⁵.

While all factors are important, management and policy makers can do very little about factors associated with patients, community and society. Prevention programs have primarily focused on empowering nurses through training, work re-design, and changes in physical setting.

STUDY PURPOSE AND OBJECTIVES

With the acknowledgement of workplace violence as an occupational hazard and its growing cost associated with absenteeism, sick leave, property damage, decreased productivity, workers' compensation, reduced job satisfaction, and recruitment and retention arising from an increased intent to leave nursing, policy makers and health science researchers have recently started to advocate for preventative intervention strategies to reduce workplace violence in the health sector ^{38, 46, 47, 123}. While various preventative intervention strategies have been suggested by violence experts and researchers in the area, a systematic research review of workplace violence prevention programs is needed so that a comprehensive and innovative approach to violence reduction prevention programs can be achieved.

This study involved a comprehensive literature review of workplace violence prevention programs utilized in health care and in nursing practice in particular, and an evaluation of the

effectiveness of these prevention programs on their impact on the incidence of violence. The overall objectives of the study are as follows:

- To analyze and synthesize research literature which proposes or evaluates the impact of workplace violence prevention programs, and
- To develop recommendations for a comprehensive approach towards violence reduction

The specific research questions are as follows:

1. What workplace violence prevention programs have been suggested in health care or in nursing in particular?
2. How has the implementation of prevention programs impacted the incidence of workplace violence in health care or in nursing in particular?
3. What gaps exist in workplace prevention programs addressing the context in which workplace violence occurs?

The primary focus of the literature review and evaluation analysis is based on violence prevention programs specifically relating to the acts of patients and their relatives. However, literature relating to interventions for other sources of violence, such as coworkers, is also reported to illustrate a more comprehensive description of workplace violence prevention programs.

Based on the synthesis and analysis of the workplace violence prevention programs that have been proposed or implemented, this study included the formulation of recommendations for developing comprehensive interventions towards the reduction of workplace violence in the health sector in general and in nursing in particular.

METHODS

A review of the literature was conducted to examine workplace violence prevention programs in nursing. A search was also extended to prevention programs in the health sector. Electronic database (Medline, Pubmed, CINAHL, etc.) and relevant websites were scanned for journal articles and grey literature including reports and documents. All literature was reviewed using criteria developed by Cooper³³ for integrative literature reviews. Cooper conceptualizes the integrative review as occurring in five stages: problem formulation; data collection or literature search; evaluation of data; data analysis; and interpretation and presentation of results.

Of the 218 published journal articles searched on workplace violence prevention programs, 97 were review articles, 78 had prevention programs suggested in their discussion for addressing workplace violence, and 43 were evaluation studies of prevention programs. Of the 97 review articles, 32% were comprehensive or general in focus and 17% provided discussion of programs in the areas of training/education (see Table 1). Zero tolerance policy also ranked high upon review, in part because of its controversial effect in reducing workplace violence. Only three articles reviewed the organizational approach. The majority of review articles either focused on hospital sector, including psychiatric or acute care settings, or overall health sector. Only two review articles focused on the long-term care setting and seven on home care programs.

Table 1: Summary of Published Journal Articles Searched on Prevention Programs

Prevention programs searched (N=218, including 43 studies that evaluated prevention programs)	Reviewed		Suggested	
	N	%	N*	%*
General	31	32.0	21	24.7
Policy or legislation	7	7.2	13	15.3
Education/training	25	25.7	31	36.4
Zero tolerance policy	11	11.3	6	7.1
Environmental design	5	5.2	9	10.7
Risk assessment	5	5.2	21	24.7
Organizational approaches (e.g. work design)	3	3.1	22	25.9
Research/methodologies concerned	5	5.2	0	0.0
Other	5	5.2	0	0.0
Sum	97	100.0	78	100.0

*The sum does not equal 78 because some studies called for more than one type of programs.

The percentage column however is calculated based on the 78 cases.

The 78 articles that called for prevention programs were either health care sector focused, nursing focused or discussing workplace violence as a general phenomenon. The majority (58%) of these articles originated in either the United States or the United Kingdom and the rest used samples from Australia (N=13), Turkey (N=5), Canada (N=3), New Zealand, Norway, Sweden, Denmark, Jamaica, Iran, and Taiwan (table not shown). The authors either discussed or advocated a need for prevention programs in their papers: 36% called for education and training in preventing workplace violence, while the remaining articles either discussed the topic broadly (25%) or had a primary focus on programs such as organizational approaches (26%), risk assessment (25%), policy or legislation (15%), environmental design (11%), or zero tolerance policies (7%).

Of the 43 evaluation articles from the literature search, 35 studies were selected that focused on implementation and impact evaluation of intervention directed at nurses or other health care workers. These journal articles were converted into Microsoft Word documents for importation into NVivo 7 qualitative analysis software. Pertinent text from each study was coded for study aim, description of intervention, setting, participants, data collection, analysis, findings, limitations, implications, and conclusions. An overview is given of the evaluation studies and their impact on the incidence of violence and on health care workers, such as feelings of confidence in dealing with aggressive or violent patients. Appendix A gives the list of nodes (themes) and the number of articles for each that had coded text relating to that node. The results will be presented in the next section following an integrated literature review.

PREVENTION PROGRAM REVIEWED AND EVALUATED

Integrated Literature Review

As previously noted, the literature has identified a number of risk factors that have been linked to workplace violence including patient characteristics (e.g., mental health conditions), nurse characteristics (e.g., level of nursing experience), organizational factors (e.g., understaffing, night shifts), physical design of work environment (e.g., poor security, crowding), and community and social factors. Prevention strategies to reduce workplace violence have been proposed, developed and implemented by and large along the lines of these risk factors. The literature has identified two broad categories of workplace violence prevention strategies: a) *pre-incident* strategies, which capture legislation/management (e.g., zero tolerance policies, organizational policies, work

design), the environmental design of the work environment, and education and training on the management of workplace violence; and b) *post-incident* strategies, which include some administrative functions (e.g., incident report documentation) and psychological intervention for affected staff (e.g., Critical Incident Stress Debriefings, counseling). These strategies can also be broadly broken down into four categories: a) *legislation/organizational* strategies, b) *environmental* strategies, c) *individually focused* strategies, and 4) *post-incident* strategies^{40, 55, 68, 78, 123, 144}. We will review the prevention strategies along these categories in this report. They are also depicted in an organizational chart below in Figure 1 (adapted from Fleming⁵⁴).

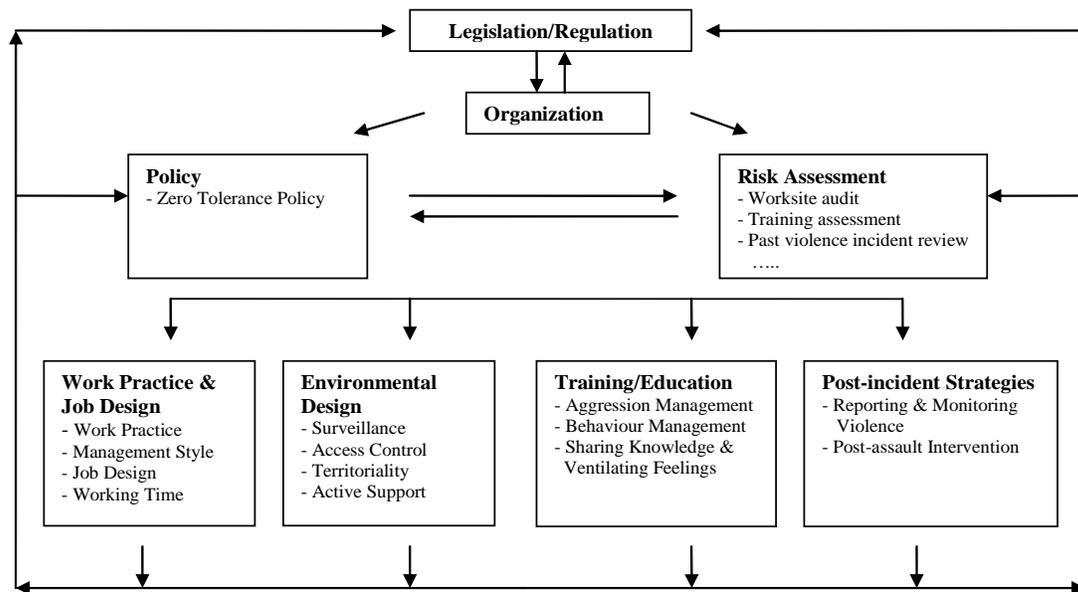


Figure 1: A Conceptual Framework for Addressing Workplace Violence in the Health Sector

Organizational Strategies

Legislative/Regulatory Approaches

The law needs to address workplace violence by compelling employers take action in reducing the potential for violence. Laws of this sort typically ensure that all organizations meet a minimum standard, and prevent employers from risking employee's health with cost cutting measures. They also send a message to employees that society as a whole views workplace violence as unacceptable behaviour, and that their employers have responsibilities. A study by Yassi et al.¹⁵⁷ linked policies with violence reduction, finding that decreased trends in injuries were associated with violence prevention initiatives in Canada.

Barish⁹ reviewed the evolution of legislation and regulations on workplace violence in both the United States and British Columbia and noted that certain requirements on employers are enforced by governmental bodies (e.g. Occupational Health & Safety Administration) including the assessment and reduction of the hazard of physical assault and injury. In 1993 the state of California was one of the first government bodies to introduce legislation specific to health care institutions, requiring all hospitals licensed by the Department of Health Services to conduct a risk assessment and develop plans to reduce violence. Safe work environments were also included in negotiations between health care institutions and the state for participation in the Medi-Cal

program, which is similar to the Medicaid program. Also in the United States, in 1999 the state of Washington required all health care settings to address violence in the workplace by identifying the factors contributing to workplace violence in their organizations and determining appropriate preventative measures. This legislation was later extended to include psychiatric hospitals in 2000⁹⁰.

Although British Columbia has implemented legislation that addresses the workplace violence prevention, this legislation was not developed specifically for health care settings, but for all work place environments⁹. These regulations required “employers to perform a risk assessment in any workplace in which a risk of injury to workers from violence arising out of their employment may be present,”^{9 (p.153)}. Required are training provided to employees and employer’s reporting of incidents of violence. Violence from coworkers, however, is not covered under this legislation. The lack of specific regulations for violence prevention in health care in BC appears to be generalizable to most or all of Canada, given the omission of references to Canada in a recent World Health Organization report comparing regulations around the world¹⁵².

In addition to legislation on the national or provincial level, individual organizations need to have specific policies on workplace violence. Support for the effectiveness of policy initiatives in reducing levels of workplace violence can be found in the work of Nachreiner et al.¹¹¹. This study assessed the impact of a number of policy initiatives, and found that reduced levels of workplace violence was associated with both a zero-tolerance policy, and a clear outline of prohibited behaviours. However, it has been suggested that in order to have any effect, policies not only have to be established and enforced, but they must also be publicized³². Items that should be clearly communicated to employees include a clear statement of unacceptable behaviours, a statement of support from the management, a description of the procedures for reporting incidents, as well as a statement on the expectations for training. A failure to adequately disseminate policy information is illustrated in a recent study by Findorff et al.⁵⁰, which conducted a process evaluation of a work related violence policy in a health care organization in the United States. This study reported that four-tenths of the organization’s employees were not familiar with the work place violence policy, or did not believe the policy clearly described unacceptable behaviour. Only 61% of employees clearly understood the procedures for reporting violence. These statistics underscore the need for greater efforts to disseminate policy information.

Zero Tolerance Policy

“Zero Tolerance” is a policy campaign addressing violence against health care workers from care recipients. It has recently been advocated by many governmental bodies and health care organizations, including the British Columbia Occupational Health and Safety Agency for Healthcare¹¹⁸, the National Health Service (NHS) in Britain³¹, the New South Wales Department of Health in Australia¹¹⁴, and the International Council of Nurses⁷⁸. By advocating that any violent or aggressive behaviour against staff working in the health sector is unacceptable, health care staff are reassured that violence and intimidation will no longer be tolerated¹⁵. The practice is applicable to nursing home and learning disability settings, but usually excludes mental health due to the condition of psychiatric patients although some¹⁷ still consider applicable if used with caution to these patients.

Zero-tolerance policy is unique in its emphasis on sanctions against the perpetrator of violence¹⁰², which is absent in other violence prevention programs. The zero-tolerance policy is set out with an aim to change the attitudes of staff and management regarding aggression and violence by patients/clients and their families, and, as a philosophy, it is generally lauded^{15, 17, 108, 143, 150}. It

establishes the rights of and respect for the autonomy of health care staff and sends a clear message to patients about their obligations toward those who provide care. Such policy is believed to alter the tendency of health care workers and especially nurses to put the patient's needs first¹⁵. In practice, it ensures health care workers are aware of the institutional policies when confronted with violence and that they receive unequivocal support from management, including legal sanctions. In Britain, prosecutions of patients and relatives for attacks on health care staff increased 1500% (from 50 to 760) in the year after the policy was introduced⁷⁶.

The success and appropriateness of the zero tolerance approach to violence in the health care setting, however, has been called into question. Wand et al.¹⁴³ examined the appropriateness of a zero-tolerance approach in Emergency Departments and emphasizes that the adoption of such a policy must be accompanied by all the other elements essential for managing aggressive behaviour. More important than restraint and sanctions is training for staff in de-escalation techniques as well as other means of preventing violence, as this is consistently the preferred approach in the literature. Middleby-Clements and Grenyer¹⁰⁸ conducted a study amongst mental health care workers and found that the implementation of a zero-tolerance policy had a negative impact on the staff's confidence and skills in dealing with aggression when compared to a similar program that did not include a zero-tolerance component. Whittington and Higgins¹⁵⁰ concluded that a zero-tolerance policy may lead health care workers to automatically assume aggressive behaviours by patients inappropriate, resulting in the use of immediate, high-intensity interventions deemed unnecessary. Perhaps more alarming is that the implementation of a zero-tolerance policy did not appear to increase nurses' perception of management's commitment to take action against attackers⁷⁶. Moreover, such policy tends to stifle genuine complaints. It has been suggested that priority should be given to training in risk reduction, administrative practices, and support for employees over restraint of perpetrators and sanctions.

Work Practice and Job Design

As mentioned previously, poor work organization and work climate have been identified as key risk factors in fostering client-caregiver and coworker conflicts^{2, 60, 126, 132, 137}. For example, inadequate staffing can increase wait time and delay care delivery, thereby increasing the odds of hostility from patients. A management style that is authoritarian, restrictive, impersonal, and characterized by weak leadership also tends to frustrate patients and increase coworker conflicts.

Despite its relevance to workplace violence reduction, few grey literature and journal articles have included organizational changes in work practice and job design as part of their reviews of prevention strategies, let alone having an evaluation study on its effects on workplace violence reduction. A report by International Labour Office⁷⁹ urged that high priority be given to organizational intervention in preventing workplace violence. This report, along with others^{32, 118, 137, 152}, has suggested the following:

Work practice

- Ensure sufficient staffing levels for proper care delivery: Adequate staffing can reduce crowding, waiting time, excessive work pace and work stress, prevent delay in the delivery of care, and ensure sufficient communication times with patients and with coworkers, thereby reducing the risk of violence^{79, 137, 141, 152}
- Client flow and the scheduling of appointments should be tailored to suit the needs, resources, and appropriate staff mix taking into account the skills and experience of employees and the acuity level of patients^{79, 141}

Management style

- Increase job/task control and autonomy so that rules and policies are not interpreted as intolerable constraints by patients^{32, 79}
- Adopt a management style based on openness, communication, and dialogue to clarify job tasks, workplace change and supervisory chains of command^{32, 79}
- Adopt a management style that respects the dignity and privacy of patients

Job design

- Avoid tasks performed that are fragmented⁷⁹
- Jobs are not excessively repetitive and monotonous⁷⁹
- Match staff competencies with client needs: pair inexperienced workers with more senior staff members¹⁵²
- Work on a team basis instead of alone or in isolation, especially in high-risk situations such as the initial assessment of psychiatric patients^{141, 152}

Working time

- Avoid excessive overtime hours and long hours of work: continuous stressful work situations can contribute to an inability to handle a violent situation^{79, 152}
- Keep consecutive night shifts to a minimum

Environmental Strategies

Environmental Design

Casteel and Peek-Asa²⁶ conducted a comprehensive review of the effectiveness of modifications made to the business environment. Their definition of what environmental design encompasses includes the following areas: natural surveillance, access control, territoriality, and activity support.

Although these modifications were created for commercial businesses and the prevention of robbery and assault, many of these findings and recommendations can be extrapolated for the health care setting, which has the same level of interaction between providers and clients. OHSAH/Cvitkovich¹¹⁸, Richards¹²⁸ and others^{68, 78, 123} also provide overviews of environmental interventions that have been associated with a reduction in the risk of violent incidents and that can be placed into the categories proposed by Casteel and Peek-Asa.

Surveillance

- Lighting (internal and external)
- Close Circuit Television (CCTV)
- Panic buttons or silent alarms
- Mobile phones/radios for staff communication
- Presence of security guards or police

Access control

- Minimize public access to the buildings (including staff living quarters)
- Properly designed waiting areas to accommodate visitors and patients³⁷. This can include placement of furniture and location of doorways
- A means of exiting any room that does not require crossing paths with potentially violent patients or visitors (i.e., emergency escape)
- Staff restrooms³⁷
- High risk areas and materials are identified and addressed (i.e., storage of narcotics)

Territoriality (Aspects of design that empower the employee over the customer)

- Bullet-proof windows and other barriers

- Staff parking within close vicinity

Activity support (Control of public movement within the institution)

- Facilitate visitors' transit route from one main entrance⁷⁸
- Facilitate appropriate routing of patients⁷⁸

The health care setting also has specific recommendations that do not fall into categories that other workplaces might consider. Most of these have to do with patient and visitor comfort (or distraction), which could be particularly important in a setting where the clientele have a greater likelihood of increased stress. These recommendations include the following:

- Provision of water and other amenities made available¹³⁷
- Provide comfortable patient waiting rooms designed to minimize stress¹¹⁷
- Choosing furniture and fixtures that cannot be used as weapons

The effectiveness of these modifications in reducing violence and aggression in the health care setting has not been documented or appropriately evaluated. However, evaluations of these environmental design measures in other workplace settings have shown some positive results. Loomis et al.⁹³ showed the positive effect of lighting in preventing workplace homicides when employed independently. They also demonstrated that the implementation of multiple measures significantly reduced the risk of homicide. Casteel and Peek-Asa²⁶ cited literature demonstrating the effectiveness of CCTV, security personnel, and increased staff levels in reducing robberies. The fact that virtually all reports addressing workplace violence mention environmental factors, and that these appear to be effective, makes it a primary consideration in addressing and preventing workplace violence.

Risk Assessment

Workplace violence prevention programs begin with risk assessment planning. Risk assessments then are viewed as the building blocks of effective prevention measures^{12, 117, 153}. They are conducted in order to adequately address the nature, extent, or potential for workplace violence, with the objective to make recommendations that will reduce the risk of further violent incidents. Risk assessments can include a number of components:

- Establishment of whether or not a risk exists
- Examination of the environmental layout
- Assessment of perimeter barriers/controls (access points)
- Regular worksite audits
- Assessment of the community crime pattern
- Assessment of current training of staff regarding the identification and management of risk indicators
- Assessment of records and procedures for reporting incidents
- Review of past violent incidents
- Assessment of security operations
- Assessment of corrective strategies for safety and security issues
- Determination of reasonable and appropriate action

Reviews that incorporate the above components^{27, 72, 100, 133, 136, 137} ideally involve employee representatives, safety officers, senior management, or outside resources with expertise in threat assessments. This comprehensive organization-wide approach can take the form of a focus group, a joint labor-management safety and health committee, or a specific threat assessment team. This collaborative-partnership approach has several benefits:

- Maximizes data collection efforts by considering various perspectives and expertise (as previously noted, violent incidents are known to be underreported)
- Maximizes employee compliance to security and safety protocols by having ownership of the development and implementation of risk assessment procedures
- Ensuring management's active participation and commitment to reducing workplace violence
- Facilitates communication (knowledge uptake) throughout the organization regarding risk assessment planning strategies and outcomes

In Canada, there are actually established procedures for conducting an examination of the environmental layout. As a result of a needs assessment conducted by Corporate Services, Health Canada, a threat and risk assessment tool was devised to address the issue of safety and security risks for Health Canada worksites, including isolated northern nursing stations and nursing clinics. This tool describes the physical building, environmental procedures (internal/external) that are in place or lacking (e.g., fire escapes, furniture layout, locks on doors, entry and exit systems) and identifies safety and security issues (private communication with Corporate Services). Some aspects of a complete risk assessment necessitate the involvement of police or security personnel, who may have greater expertise than employees in assessing some aspects of risk^{54, 80, 136}.

Reviews of past violent incidents are important in elucidating the causes or facilitating factors of violent incidents. Patterns found in past incidents, and apparent changes in environment or staffing that could prevent further similar incidents, may become apparent by doing so. The recommendations made at that time can also be evaluated to determine if any changes to the environment, policies, or administrative practices have had a measurable effect in preventing further incidents of that type.

From a risk assessment, a number of recommendations will invariably fall into the major components that have been identified as essential in any successful workplace violence prevention program^{13, 95, 122, 136, 152}, including environmental modifications, changes in administrative practices and staffing, education/training, and management commitment and support.

Although similar risk assessment components exist across organizations, the diversity of health care settings requires that risk assessment plans be tailored to the needs of the particular work setting. For instance, risk assessment steps for hospitals and clinics are different from those for home and community based care, the latter having risk control interventions that focus instead on administrative measures¹⁵².

Individually-focused strategies

Training/Education

Education and training of frontline staff is the most frequently reported component of workplace violence prevention programs. This approach to managing or reducing violence is typically comprised of educating staff on:

- recognizing the warning signs of violent behaviour,
- preventing, diffusing, or resolving violent conflicts through learning skills of behaviour, aggression, and conflict management
- familiarizing staff with organizational policies and procedures
- familiarizing staff with legal rights and responsibilities.

Training, as suggested in the literature, must also consider the following in order for it to be effective:

- Target high risk staff who are often overlooked, such as the newly employed and PSWs in the long-term care setting
- Include leadership training for supervisors on conflict solution skills, early detection, and supervisory/coaching skills ³²
- Training programs need to be directed at specific types of facilities and care recipients, such as long-term care ¹²⁴ and cognitively impaired residents ^{62, 107}. For example, the INTACT Aggression Management ⁶⁴ is specifically targeted towards staff working in psychiatric care and provides each participant with a complete, illustrated aggression management manual.

Due to its appeal to practitioners and health researchers, it is important to understand the content and underlying rationale of training programs currently being advocated.

The aggression management

Many of the prevention programs involve an implementation of training sessions directed at helping health care staff manage violent or aggressive behaviour. A review of the literature reveals a variety of training programs with variations in philosophy, structure of curriculum and course delivery approaches. For example, Morrison and Love ¹⁰⁹ gave descriptions of four programs for the management of aggression in psychiatric settings: the Mandt System; Nonviolent Crisis Intervention (NCI); Professional assault response training 2000 (PART 2000); and Therapeutic Options Inc. (TO). Allen and Tynan ¹ described a Management of Aggression Training Program which was initially used within the admission unit, and then extended to a wide variety of community agencies and settings. The program begins with a theory component including risk factors for aggression, preventative strategies (ex. environmental factors, communication and calming strategies), medical contraindications prior to and during the use of physical interventions, the law and physical interventions, and post-incident support. The Martin & Daffern ⁹⁸ workplace violence program's essential elements include such topics as managing the team, managing the environment, managing the patient and managing aggression.

Behaviour management

An example of programs emphasizing behaviour management can be found in the work of Burgio et al. ²², which described a comprehensive behaviour management skills training program focusing on increasing effective nonverbal and verbal communication skills (e.g., appropriate eye contact, announcing single activities, delaying physical assistance following a verbal prompt) and decreasing ineffective communication skills (e.g., announcing multiple activities and using multiple verbal prompts). Specifically, staff participants were taught to increase the use of effective antecedent and consequent behavioural techniques (e.g., distraction and diversion) and decrease ineffective responses (e.g., arguing with residents). Videotaped depictions of problem behaviours and discussion of written vignettes were supplemented with a program workbook ²².

Sharing knowledge and ventilating feelings

Sharing knowledge and ventilating feelings are also components of workplace violence training programs. Shah and De ¹³⁵ described an educational package about aggressive behaviour that was administered by a consultant psychiatrist. This package had several components, including support, opportunity for the nursing staff to ventilate their feelings, and sharing knowledge about aggressive behaviour.

Most of the training described above was developed specifically for violence originating from

patients. There is also call for training programs to address the problem of horizontal violence in nursing. In a study on newly licensed nurses, Griffin⁶⁶ evaluated the impact of cognitive rehearsal techniques on confronting horizontal violence from coworkers. Newly licensed nurses trained in these techniques were subsequently able to depersonalize horizontal violence and confront its perpetrators, thereby contributing to the resolution of the violent behaviour and improving their learning experience.

While these programs are commonly advocated and instituted, and it is generally conclusive about its positive effects on attitude change and incidence rate reduction, there were few large-scale, well-design studies that can strongly supporting their effectiveness¹⁶. In addition, there are concerns over the emphasis on training as it places the burden of minimizing and managing violence onto the shoulders of nurses rather than on organizations to make changes in management style and staffing^{32, 38, 44, 106}. These training programs tend to shift the responsibility of workplace violence onto the staff or the victims (e.g., when workplace violence occurs, it is seen as the result of the employee's failure to adequately follow procedures provided in training).

Post-incident Strategies

Although the emphasis in addressing workplace violence should be on preventing incidents from occurring, some post-incident strategies, if in place, can help prevent incidents from happening in the future. Organizational resources should be directed toward post-event programs that have preventative nature and can reduce the impact of an event that has occurred. A few commonly cited post-incident strategies are reviewed below.

Reporting and Monitoring Violence

Much of the violence research has stressed the importance of continuous monitoring of violent events, seeing this as a necessary prerequisite for a better understanding of violence, and for the establishment of prevention programs.

Arnetz & Arnetz⁶ focused on the use of the Violent Incident Form (VIF), an instrument designed to simplify the registration of violent events directed towards health care workers. The VIF instrument⁵ is a one-page checklist that includes verbal threats and aggression in its definition of violence. The checklist focuses on the key aspects of the violent event, such as time, place, perpetrator, activity and consequences, without detailed descriptions. Another tool, the Assault Log, provides caregivers with a method to record and describe physical assaults from residents. The investigators sought to develop a simple recordkeeping process that was easy to use and required minimal time to complete when providing care to the resident⁶⁰.

Drummond, Sparr, and Gordon⁴¹ described the reduction of violent behaviour among a group of repetitively disruptive patients via a reporting mechanism. An instrument was designed by the medical center's multidisciplinary Behavioral Emergency Committee so that employees could report incidents involving an act or threat of violence that disrupted patient care. When completed properly, the report form provides information concerning the location, type, and seriousness of each incident. It also encourages the staff member to write a narrative description of the incident and to give suggestions for the prevention of similar incidents.

Post-assault Intervention

Arnetz and Arnetz⁶ described a structured post assault intervention in which feedback discussions

were held on a regular basis. Staff victims were encouraged to be present during feedback discussions, as their perceptions of the incident would provide important information for other staff. In addition, feedback discussions were described as informal debriefing sessions that could serve as a source of help and support for the staff victim. The group discussions about the incident were to focus on the main points summarized on the VIF checklist: who was aggressive, what was the course of events, the time, place and nature of the incident? Did the victim sense in advance that something was going to happen? How was the situation handled, and how did the victim react? The basic hypotheses were that staff at the intervention work sites would report: better awareness of the risks of violence directed towards staff; an improved ability to deal with aggressive or threatening situations; and less exposure to violent incidents than at baseline. In addition, group debriefing, managerial support and informal support from coworkers are also effective strategies in accelerating recovery from traumatic workplace events, which can in turn create a positive workplace atmosphere in the care delivery system^{4, 146}.

One crisis intervention approach that has proven to be of assistance in psychiatric inpatient and community settings has been the Assaulted Staff Action Program (ASAP)⁵³. The program is a voluntary, system-wide, peer-help approach for addressing the psychological sequelae associated with patient assault. When an assault occurs, the ASAP team member on call is summoned to the patient care site where the incident has occurred and offers ASAP services to the victims. A Critical Incident Stress Management (CISM) services program by Health Canada also proved to be positive for its effects in accelerating the recovery of nurses who are impacted by work related traumatic events¹⁴⁵. The post-event role of the CISM services includes direct client services (i.e., assessment, debriefing), defusing, other counseling and follow-up, including referral for Post Traumatic Stress Disorder assessment and treatment. Of those that had used CISM services, 92% reported they would use it again, 81% reported benefits from CISM services, 24% would have quit the job had they not used the CISM services.

Studies Evaluating Impact of Workplace Violence Interventions

This section builds on the preceding account of workplace violence prevention programs, providing a review of research that evaluated the impact of interventions. Key findings and implications are highlighted from the 35 evaluation studies that were examined using NVivo qualitative analysis software (see reference list in Appendix B). These studies were focused primarily on interventions directed at the nurse or other health care worker. Although not included in these 35 journal articles, other studies such as those evaluating violence prevention policy are also referred to in this overview.

As noted in Table 2, the studies were conducted predominantly in the USA and United Kingdom, followed by Australia. Canada and other countries were poorly represented in the literature review findings.

Table 2: Country of evaluation studies

Country/region	Number of Studies
USA	14
UK- England, Scotland, Wales	10
Australia	6
Canada	3
Other (Sweden- 1, Switzerland- 1)	2

Workplace violence interventions

Most interventions that were evaluated were described as aggression management programs or having an educational related component (Table 3). For example, one study described a two-day workshop as comprising two mornings of theory (organizational incidence of aggression, risk assessment, legalities, communication and de-escalation skills, pharmacology, therapeutic interventions, critical incident stress management) and two afternoons of physical intervention using self-defense and restraint⁹⁸. The programs often include theoretical and practical skill components, the latter involving communication skills as well as techniques related to self-protective breakaway and minimal restraint, role-play and self-defense techniques^{1, 19, 77, 142}. Most programs place the burden on the nurse to acquire skills in dealing with aggressive behaviour. Few studies described organizational practices that are in place to support nurses in their daily challenges. Noak et al.¹¹³ assert that policies are the cornerstone of an organizational approach to any problem because they make explicit the responsibilities of both employer and employees and specify standards of acceptable practice.

Given that post-assault stress and staff performance can influence subsequent violent incidents, the importance of crisis intervention programs is acknowledged. It includes programs such as ASAP, a system-wide crisis intervention approach for addressing the psychological consequences associated with patient assault⁵³, and structured interventions for the purpose of regular feedback as well as group discussion of registered violent events⁶.

Table 3: Type of Programs Evaluated

Violence Program Type	Number of Studies (N=35)
Education/Training	29
Incident Reporting/Monitoring	2
Zero Tolerance	1
Total Quality Management (organizational approach)	1
Post-incident Intervention	2

Aim of evaluation studies

Many of the studies evaluated educational impact given that these programs were predominately educational/training sessions. Some measured perceptions of confidence in management of aggressive patients^{1, 75, 98, 104} or feelings of self-efficacy in dealing with aggressive patients⁸⁷. Attitudes towards aggressive patients and tolerance levels of aggression have also been examined^{57, 62, 149}. Other studies assessed knowledge gained from training sessions^{16, 34, 65}. Only a few studies were found that measured program impact on staff members' perceptions of burnout^{62, 63}.

Several studies evaluated the effectiveness of intervention programs on incidence of violence. For example, Anderson³ evaluated the effectiveness of a 3-hour online training program by a count of reports of workplace violence among a variety of health care workers in a small rural community hospital. Similarly, Needham et al.¹¹² implemented a risk-prediction procedure and a standardized aggression management intervention followed by outcome measures of incidence rates of aggressive events and coercive measures. In terms of organizational policy, only a few studies were found that evaluated workplace violence policies^{109, 111, 113}.

Sample and setting

Participants were mostly drawn from small samples of nurses (registered and/or practical) and/or nursing aides, and, at times, from convenience samples of staff members who are exposed to risk of violence. Many studies included mixed samples (e.g. nurses and nurse aides); therefore, one cannot add the number of studies in Table 4; as the total would be greater than thirty-five. Few studies involved student nurse participants who received related instruction^{14, 16, 30}. Other samples included medical staff or health unit secretaries^{73, 98, 123}, or involved care recipients at high risk of violent behaviour^{22, 41, 112}.

Table 4: Participants in evaluation studies

Participants	Number of Studies (N=35)
Care recipients	5
Other health workers (e.g. medical staff, unit clerks)	11
Nursing assistants/aides	11
Staff nurses (registered and/or practical nurses)	17
Student nurses	3

Many of the evaluation studies occurred in hospital acute care units exhibiting high rates of violent behaviour such as psychiatry and emergency departments (Table 5). Community mental health, long-term care and nursing home settings were also represented, albeit to lesser degree, but even more lacking are studies that focus on evaluating violence intervention program in areas such as general medical/surgical units.

Table 5: Settings of evaluation studies

Settings	Number of Studies (N=35)
Hospital – Psychiatry/Mental Health	22
Hospital – Emergency Dept	4
Hospital – Other (ex. geriatrics)	2
Community Care	4
Long-term Care/Nursing Home	7
Nursing School	2

Data Collection

Many studies employed validated questionnaires, some of which are listed below along with the authors of the evaluation study in which it was used:

- *Confidence in Coping with Patient Aggression*^{1, 65, 98, 104, 108}

- *Reactive Strategies Questionnaire*¹
- *Workplace Violence Questionnaire*³
- *Attitudes Towards Patient Physical Assault*³⁰
- *Questionnaire of knowledge, attitude, beliefs & behaviors (KABB)*⁵⁷
- *Staff Burn-Out Scale for Health Professionals (SBS-HP)*⁶²
- *Difficult Behavior Self-Efficacy Scale (DBSES)*⁸⁶
- *Rigid Attitudes Toward the Management of Aggression Scale (IPP Rigidity Scale)*¹⁰⁸
- *Attitudes Toward Aggressive Behavior*⁶⁵
- *Perceptions of Aggression Scale*¹⁰⁸
- *General Health Questionnaire (GHQ)*¹²⁰
- *Job Satisfaction Questionnaire*¹²⁰
- *Role Conflict/ambiguity Scale*¹²⁰
- *The Sensitive Situations Skill Test*¹²⁷
- *Tolerance Scale from The Perception of Aggression Scale (POAS)*^{108, 149}
- *Maslach Burnout Inventory – Human Services Survey (MBI-HSS)*¹⁴⁹

Studies were often quasi-experimental with a pre-test/post-test design; however, not all of these studies employed control subjects in measuring impact of the intervention.

Observation measures were used to assess communication skills or behavioural management using a paper-and-pencil *Communication Skills Checklist*¹⁹ or the *Behavior Management Skills Checklist* and two computer-assisted behavioral observation systems (CABOS)²². Videotaped role plays to observe interaction with patient⁶¹. De-escalation techniques have also been used to evaluate program effectiveness¹²⁰. Focus groups or class discussion were methods of assessing participants' perceptions of the intervention programs and gave them an opportunity to express feelings about aggressive behaviour^{58, 63}.

Some studies involved pre-training and post-training monitoring of violence using a standardized incidence or reporting form such as the *Workplace Violence checklist* to report violence type and frequency³. Also used was the *Violent Incident Form*, a one-page checklist focusing on the key aspects of the violent event, such as time, place, perpetrator, activity and consequences⁶. Flannery⁵³ gathered patient assailant and staff victim data from ASAP report forms at the time of each incident.

Participants contributed to the program evaluation by providing feedback relating to satisfaction with program length, content relevance, clarity and comprehension, quality of course materials and delivery methods and suggestions for improvement^{3, 14, 62, 65, 77, 127}. For example, Walters and Kay¹⁴² described nursing staff feedback of an aggression management program as an attainment of a feeling of increased confidence and personal empowerment through the program content, applicability of the knowledge in the workplace, and satisfaction that the program was supplied in response to their requests and with ongoing opportunities to refresh skills.

Evaluation findings

Noak et al.¹¹³ conducted an evaluation of violence policies in organizations and found that most policies included a statement of the employing organization's responsibility; however, they did not identify who was responsible for ratifying, monitoring, and evaluating the policy. Most policies expressed a commitment to training, but less than half mentioned the need for refresher training, and fewer still specified how frequently refresher training should be taken.

Studies that measured program impact on managing aggressive behaviour generally found positive changes in test scores and observed behaviour following training (Table 6 highlights the key findings). For example, Gadomski ⁵⁷ found significant changes in the knowledge, attitude, beliefs, and behaviours of health care providers who followed a multifaceted intervention. However, it was difficult to attribute the changes to any one component of the intervention or to individual demographics or experiences.

Table 6: Key findings of evaluation studies

Findings	Number of Studies (N=35)
Increased violence/aggression	3
Decreased violence/aggression	12
No change in violence/aggression	2
Increased knowledge	8
Increased confidence	7
Increased tolerance/positive attitude change	6
Decreased tolerance	1
Increased communication skills	2

Some findings suggest a positive shift in attitude toward the elderly following the program. For example, participants were less likely to agree to the statement “residents are like children” ^{62, 124}. The effect of zero tolerance policy is inconclusive. In a study by Middleby-Clements and Grenyer ¹⁰⁸ of a zero tolerance approach, one intervention resulted in decreased rigid attitudes toward the management of aggression while another intervention significantly increased rigid attitudes toward the management of aggression and decreased tolerance for aggression.

Increased knowledge levels following workplace interventions are reported in evaluation studies. Positive learning outcomes included: number of identified risk factors ¹⁶; informed attitudes changes ¹⁴; knowledge of behaviour or aggression management ^{22, 65, 77}; and de-escalation knowledge and awareness ³⁴.

Training programs have contributed to increased feelings of confidence in managing aggressive clients ^{1, 30, 65, 97, 104} or feelings of self-efficacy ⁵⁸. Needham et al. ¹¹² found the severity of attacks as recorded by the SOAS-R remained unchanged while the subjective severity as recorded on the visual analogue scale significantly declined after training the staff. This may indicate more confidence of the nursing staff in handling aggressive incidents or perhaps this demonstrates some change in attitude. This subjective decrease in the perceived severity of aggressive incidents is a possible reflection of the positive way in which the nurses responded to the training course.

Communication skills training has been evaluated by observation methods. Bourgeois ¹⁹ reported positive differences in specific effective skills: “Announce care when entering resident’s room”, “Address the resident by name”, “Introduce self by name”, “Announce for every activity”, and “Wait five seconds before helping”. Significant differences occurred in effective instructions: “Use short and clear instructions”, “Use positive feedback” and “Social talk about resident’s life”. These changes impact interactions and care-giving practices. In another study, a nursing assistant abuse prevention program did not result in detectable differences in overall job performance or overall relationship with residents according to supervisor evaluations ⁶².

Only a few studies were found that examined the long-term effects of training programs.

Bourgeois et al.¹⁹ found that seven of eight trained behaviours were maintained or exceeded post-training rates three months later. However, Gage and Kingdom⁵⁸ determined that benefits for perceived self-efficacy declined over six months.

Results of two studies that examined differences in overall burnout scores before and after their respective programs showed no significant differences^{62, 63}. On the other hand, based on a pre- and post-course general health questionnaire, Paterson, Turnbull, and Aitken¹²⁰ found a significant effect of reduced stress among subjects.

Workplace violence incidence

According to evaluation study findings, not all violence interventions result in reduced numbers of violent episodes. Participants in the intervention group of a structured program for regular discussion of workplace violent incidents reported an improved awareness and management skills; however, they also reported a greater number of violent incidents than the control group⁶. The sessions may have served as a form of encouragement to report violent events by creating a more accepting, non-punitive attitude regarding violence towards staff. Similarly, Martin⁹⁷ found an aggression management program was followed by fewer aggressive incidents that required physical management of patients and less injury to staff, despite an increase in total number of aggressive incidents.

Other evaluation studies found a decreased incidence of assaults on health care workers following program implementation. Goodykoontz and Herrick⁶³ concluded that the ability to intervene appropriately was evidenced by fewer incidence reports during the 4-month period following the communication skills and 'Non-violent Crisis Intervention' program. In another study, pre- and post-course evaluations of an Aggression Management program showed reductions in the number of aggressive incidents, the number of days lost due to workplace assaults and the number of vacancies¹⁴². Similarly, Whittington and Wykes¹⁴⁸ determined that violence incidence fell after a 'Psychological strategies for coping with violent patients' training. Burgio²² found that decreased agitation after a comprehensive behaviour management skills training program was maintained at the 3- and 6-month follow-up assessments. In terms of post-assault crisis intervention, Flannery et al.⁵² found a decline in the rate of assaults following implementation of the Assaulted Staff Action Program.

Study Limitations

Several methodological limitations of the evaluation studies were identified. Sample sizes were small and often self-selected. In addition, study settings were typically small-scale and often involved only one or two organizations as study sites. As Anderson³ reported, the small sample setting and use of volunteers eliminated the ability to compare assumed high-risk or low-risk areas to select from a random pool of participants. With the additional limitation of low response rates, generalization outside assessed groups was usually not possible, especially as there may be a biased tendency for assaulted staff to respond to surveys of this type because the topic has higher salience for them¹⁴⁹.

Other research design issues were discussed in the reviewed studies¹³¹. Allen and Tynan¹ reported the inability to use a strict experimental design involving the random allocation of participants or the matching of participants in the initial trained and untrained groups. This resulted in a number of potential differences that could have explained the between-group

differences on the study measures. Martin and Daffern's study ⁹⁸ was descriptive and used a questionnaire that was not validated. The use of a cross-sectional survey design implied that the study could not correlate and control for other risk factors ⁵⁹. Beech and Leather ¹⁶ claimed their study had limitations in that skills were measured as self-assessed judgments of competence rather than being assessed by an independent rater.

CONCLUSIONS/RECOMMENDATIONS

Policy Recommendations

Establish, publicize, and enforce a written policy on workplace violence. A clear organizational policy towards workplace violence is a necessary antecedent for a prevention program to be maximally effective. The presence and publication/dissemination of a policy lets the employees know that management is committed to reducing violence in the workplace and should include all of the components mentioned earlier:

- A clear statement of unacceptable behaviours
- Directive to perform risk assessment
- A statement regarding expectations for training in risk identification and aggression management
- Methods for ensuring that employees are aware of the options available to them when confronted with violence
- A statement of support from management
- The procedure for reporting incidents
- Directions to obtain post incident counseling and debriefing.

Although zero-tolerance policies have been recently adopted by several health care organizations, caution should be taken in this approach. There is difficulty with fully implementing the 'zero tolerance' approach as it implies an attitude of punishment toward any aggressive behaviour, thereby negatively impacting aggression management.

In addition, the great diversity of health care itself requires that the development of a policy towards workplace violence encompass all of employment situations. For example, policies specific to field workers (e.g., homecare nurses) should be developed to deal with their particular risks ⁷⁸.

Risk Assessment and Environmental Modifications

Prior to the implementation of any workplace violence prevention program, a risk assessment should be completed. For organizations that are identified as having security risk factors and other risk indicators, the integration of effective threat and risk assessments will help to ensure that any interventions that are employed will be best suited to the particular situation ⁷⁴. They can also highlight any necessary environmental modifications that may curb violence, and address how management and administrative practices can reduce violence. The increased frequency of assaults associated with work reassignments may be the result of a broad range of factors, from patient expectations to providers through coworker support or individual fatigue associated with hours ⁷³. The appropriate staffing levels necessary to ensure security of employees may also become apparent; short staffing and temporary staffing have been associated with increased incidents of violence in health units ⁷⁸.

A risk assessment can also highlight the importance of accurate documentation of incidents. This documentation is invaluable to substantiate the need for novel programs and the identification of action plans. Some staff members view incident reporting as an implicit admission of professional failure. Risk assessment and a commitment from management demonstrate that the antidote to denial and resistance to incident reporting is a continual effort to learn from incidents and to provide timely feedback. However, incident tracking and high-risk patient identification are only part of a larger violence reduction initiative and requires organizational commitment to coordinate the components⁴¹.

Training/Educational Strategies

Nurses need to be empowered to build confidence in their ability to manage potentially violent situations. This is best accomplished through aggression management programs that involve several components:

- Methods for recognizing and identifying potentially violent situations
- De-escalation strategies and other verbal engagement strategies for defusing potentially violent situations
- Where appropriate, physical self defense techniques and patient restraint methods
- Incorporation of aspects of risk assessment (i.e., environmental security processes)

Often it is presumed that once staff members complete a training program, they are fully equipped with the necessary skills and knowledge to manage aggression. This may not be the case; brief yet comprehensive context specific training with frequent refreshers are needed^{77, 98}. Management should ensure that work schedules accommodate attendance at education/training sessions⁷⁸ and have training regularly provided to high-risk groups such as new nurses and PSWs in the long-term care sector. In addition, management must not shift the responsibility of preventing workplace violence onto the shoulders of staff after equipping them with the skills. Other prevention programs must be accompanied with the training.

To be effective, the organization must provide leadership training to supervisors as well. This includes training in recognizing conflicts and in conflict resolution skills, the importance of early intervention and supervisory/coaching skills.

Organizational Intervention

- Organizations need to take on a more active role in organizational change including staffing, workload, work culture and climate. High priority should be given to organizational intervention in preventing workplace violence.
- Work design modifications include increasing autonomy, enhancing communication about job duties and expectations, and clarifying supervisory chains of command.

Horizontal Violence

As Wiskow¹⁵² has suggested, preventative strategies should be designed according to violence type. A workplace violence preventative policy is thus not comprehensive without addressing horizontal violence as it is a significant source of emotional abuse at work. Although a good work

climate is known to be a prevention and reduction factor to co-worker violence, there is a lack of detailed guidelines for violence initiated by co-workers. A number of factors have been identified that affect the work climate and that may contribute to bullying and harassment in the workplace, and they should be included as part of guidelines in addressing horizontal violence:

- Lack of role clarity
- Low job control or autonomy
- Poor social support
- Poor communication (between co-workers, or between employees and management, or both)
- Ineffective leadership/supervision
- Strained and/or competitive work environments
- Major impending changes in the workplace have all been associated with higher levels of staff conflict (including bullying and harassment), stress/burnout, turnover, and psychological and physical health complaints

Future Research

There are recommendations that can be directed specifically at the research component. Several of these recommendations should be addressed in any future research:

- There is a need to collect longitudinal measures in order to assess the extent to which training effects may dissipate over time; this would be particularly helpful in identifying optimum periods for providing refresher training ¹.
- Future research should address the relative effects of staff management and training criterion features, and measure related maintenance effects over longer periods of time ¹⁹.
- Future research needs to investigate effects of training on the number, type and severity of aggressive incidents, the number of assaults and injuries to staff as well as financial costs to organizations as a result of sick leave and overtime to replace injured staff ⁷⁷.
- There is the necessity of sophisticated studies based on designs employing larger samples and control groups, and allowing for the use of advanced statistical techniques so as to properly examine the effectiveness of prevention programs ¹¹².
- Develop a national database using consistent operational definitions of workplace violence events.
- Little is known about the effectiveness of prevention programs in the long-term care setting, the health care workers of which are as prone to violent and aggressive violence as psychiatric nurses. There is a necessity of evaluation of prevention programs in this sector.
- Training is the most frequently studied prevention program among all. Other types of violence prevention programs have not received the same level of attention and little is known about their effectiveness. Evaluation research of prevention programs needs to extend to other programs and conduct comparative studies on their relative impact. For instance, research on the impact of management commitment is largely absent, so is research on the impact of environmental changes or staffing changes.

Other Recommendations

Lastly, several implications that are highlighted in the reviewed studies, and that can be considered in development of recommendations for workplace violence prevention programs, are as follows:

- *Human Resources.* Positive results of interventions should be considered within a broader context of human resources. Studies have suggested a relationship between reduction in aggressive incidents and human resources policies. Reduction in aggressive incidents and resultant reduction in staff injury may be attributed to support and educative initiatives such as clinical supervision. An increase in regular permanent staff may be a factor in the reduction of aggressive incidents¹⁴². Toleration of aggressive behaviour is associated with experience as experienced staff members tend to display greater tolerance attitude, which can in turn develop as part of a growing confidence in dealing with aggressive patients¹⁴⁹. Management can benefit from retention strategies considering the subsequent costs to orient new staff prevention programs resulting from staff turnover.
- *Faculties of Nursing.* The literature has, for the most part, focused on nurses who are already in the workforce. However, given the high likelihood that student nurses will be exposed to workplace violence (either during their educational program or once they graduate), it would be prudent for nursing programs to develop awareness training in the identification and management of workplace violence¹³⁰.
- *Post-Incident Strategies.* Monitoring, reporting, and accessing to appropriate support structures (e.g., critical incident stress debriefings, counseling services, confidential grievance processes) should be made easily accessible to nurses⁷⁸.
- *Sector-specific interventions.* Some prevention strategies need to be sector specific, especially for sectors such as long-term care, where violence incidence rate is high, and the home care sector, where violence against home visit nurses has started to rise. These workers are not as prepared as nurses in the hospital, such as psychiatric nurses.
- *Violence-type specific interventions.* Develop programs that are violence-type specific so as to prepare health care workers to handle different types of violence situations ranging from assault, emotional abuse, to sexual harassment. For example, a zero-tolerance policy, inappropriate for external violence, may be effective in the case of horizontal violence. The policy could include any unique reporting procedures for coworker violence, formal conflict resolution procedures, and internal disciplinary actions toward the aggressor.

This study provides researchers, educators and policy makers with information regarding suggested workplace violence intervention programs and their effectiveness in reducing workplace violence in the health sector and in nursing practice in particular. The study findings help policy makers formulate initiatives and strategies on workplace violence, and administrators and managers in the various health sectors to design prevention programs that are appropriate to their work environment so that they can implement effective intervention strategies to prevent violence either from patients, relatives, co-workers, or physicians. The study also offers nursing educators some insights into workplace violence prevention programs so as to better prepare nursing students to address possible violence once they enter the workforce following graduation. Suggestions were also made regarding the possible direction of future research regarding workplace violence prevention programs.

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APPENDIX A: KEY NVIVO NODES AND NUMBER OF ARTICLES WITH CODED TEXT

Description of Tree Node	Number of coded sources (N=35)
Study evaluation aims	
Evaluate post violence support	2
Evaluate behavioural training	6
Evaluate educational impact	21
Evaluate study instruments	3
Explore attitudes	7
Monitor violence	7
Participants	
Care recipients	5
Other health workers (e.g. medical staff, unit clerks)	11
Nursing assistants/aides	11
Staff nurses (registered and/or practical nurses)	17
Student nurses	3
Settings	
Hospital – Psychiatry/Mental Health	22
Hospital – Emergency Dept	4
Hospital – Other (ex. geriatrics)	2
Community Care	4
Long-term care/nursing home	7
Nursing school	2
Aims of program/intervention	
Aggression management skills	16
Delivery of training	28
Identifying high risk pts	3
Manager support/supervision	2
Monitoring violence	3
Organizational practice	6
Post violence support	6
Practical skills application	13
Data collection methods	
Evaluation or feedback	7
Focus groups or class discussion	4
Pre post intervention	21
Questionnaire	24
Control subjects used	8
Violence report/monitoring	10
Caregiver results (impact of program)	
Increased violence/aggression	3
Decreased violence/aggression	12
No change in violence/aggression	2
Increased knowledge	8
Increased confidence	7
Increased tolerance/positive attitude change	6
Decreased tolerance	1
Increased communication skills	2

APPENDIX B: EVALUATION STUDY AUTHORS AND PROGRAM NAME/DESCRIPTION

1. Allen & Tynan 2000- Management of Aggression Training Program
2. Anderson 2006- 3 hour online training program
3. Arnetz & Arnetz 2000- structured program for regular discussion with staff of specific violent incidents registered at the work-place & use of the Violent Incident Form (VIF),
4. Beech & Leather 2003- 3-day training program for student nurses on prevention and management of workplace aggression
5. Beech 1999 - structured educational unit on aggression and violence towards health professionals.
6. Bourgeois et al. 2004- communication skills intervention program
7. Burgio et al. 2002- comprehensive behavior management skills training program
8. Collins 1994- 'The Prevention and Management of Aggressive Behaviour Program'.
9. Cowin et al. 2003- de-escalation project
10. Drummond et al. 1989 - staff incident reporting.
11. Flannery 2003-Assaulted Staff Action Program (ASAP)
12. Flannery et al. 1998- Assaulted Staff Action Program (ASAP)
13. Gadomski et al. 2001 -multifaceted domestic violence management program
14. Gage & Kingdom 1995 – A systematic evaluation and training approach used to begin a process of organizational renewal of their caregivers in the management of aggressive behavior
15. Goodridge et al. 1997 - CARIE abuse prevention program
16. Goodykoontz & Herrick 1990 - "talking the patient down" and "Nonviolent Crisis Intervention"
17. Grenyer et al. 2004 - comprehensive aggression and violence minimization training program
18. Hunter and Love 1996- total quality management (TQM)
19. Hurlebaus & Link 1997 - "Managing Aggressive Behavior"
20. Ilkiw-Lavalle et al. 2002 - INTACT Aggression Management Program
21. Infantino and Musingo 1985- aggression control techniques (ACT)
22. Lee 2001 - aggression management training
23. Martin & Daffern 2006 - management of aggression training program
24. Martin 1995 - Aggression Management Program
25. McGowan et al. 1999 - safe physical restraint module
26. Menten and Ferrario 1989 - Calming Aggressive Reactions in the Elderly (C.A.R.E.)
27. Middleby-Clements & Grenyer 2007 - aggression minimization (Zero tolerance)
28. Mortimer 1995 - control and restraint techniques (C&R)
29. Needham et al. 2004 - a risk-prediction procedure and a standardized aggression management intervention
30. Paterson et al. 1992 - training in the management of violent incidents
31. Pillemer & Hudson 1993 - abuse prevention curriculum for nursing assistants in long-term care.
32. Rice et al. 1985- comprehensive crisis prevention and intervention training program
33. Shah & De 1998 - educational package about aggressive behavior
34. Whittington 2002 - 'Zero tolerance' policy
35. Whittington & Wykes 1996- Psychological strategies for coping with violent patients



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